www.dbe.off-line.readings1

Fügen Gülsen & Gaye Tolungüç

METU PRESS©

Department Of Basic English
Middle East Technical University

FOR OUR STUDENTS
PAST, PRESENT AND FUTURE

To our students,

People are not born readers and reading is a skill that can be learned and improved. If you are already a good reader in your native language, all you need to do is to approach reading in a foreign language with the same enthusiasm. If you think you are not good enough at reading, then take this book as a chance for a new start. You have to read a lot for your studies in your department of the university, and this book may show you the ways to deal with reading. You already know that the biggest difficulty when reading in a foreign language is the vocabulary, so try to do your best to increase your knowledge of words as much as possible.

This book is for you. We hope it will help you enjoy reading in English!

F. Gülsen & G. Tolungüç

To our colleagues,

The book is intended for our post-beginner-level DBE students, who have had a minimum of 70 – 80 class hours of instruction covering the preliminaries of the English language. The purpose is to help them enjoy reading in English, increase an awareness of reading, develop and improve their reading skills and provide them with the basic vocabulary necessary for academic reading.

The units in the book have readings which try to cover different aspects of the same topic with a variety of exercises. Before each unit, there is a "Skills Section," the aim of which is to familiarize the students with the basic reading skills and give them the chance to practice these skills. In this way, they will hopefully be more aware and successful when dealing with the readings in the units. Each unit starts with a "Think And Talk Before You Read" section. The purpose is to make students uncover their background knowledge and thus prepare them for reading. The exercises in "Do While You Read" sections usually aim for an overall understanding of the text, while "Read, Understand And Answer" sections require a more careful and critical reading. "Just For Fun" sections are intended as breaks for students if there is extra time to do them. "Go On Reading"s can be used in many ways, as outside reading material for the students who have enjoyed the topic or as additional practice or quiz material for the teachers who want to use them. As for the final unit, the "Consolidation" tries to bring together the various pieces of reading as a skill and provide an overall understanding of reading as a natural process.

Piloting feedback supports our initial recommendation of five hours for each unit including the Skills Section. Yet, slight changes in timing should be allowed for because the book has been purposefully designed in such a way that both the content and the length of the units vary to avoid monotony. The time allotted does not include "Go On Reading"s. The book also has a "Teacher's Manual," which provides the answer key and our suggestions on the vocabulary to be pre-taught.

Special emphasis has been given to vocabulary development, practice and recycling throughout the book. The vocabulary list of the book covers over 750 of the most frequent words of English necessary for academic reading. It is based on international word lists with frequency counts, namely GSL (General Service List), revised by J. Bauman and B. Culligan, 1995, and UWL (University Word List), revised by A. Coxhead, 2000, as AWL (Academic Word List). It has also been checked against the word lists of the PSR (Physical Science Reader) Series by S. Öniz, T. Cross and A. Toppare, 1981, which is a course book used for many years in the department. Vocabulary which is necessary for comprehension has been suggested as items to be pre-taught in the "Teacher's Manual." These items have not been included in the final vocabulary list unless they are of the required frequency, and sometimes a particular item may appear more than once in different lists to be pre-taught so that the students remember the word before they start reading. Depending on the level and the needs of the class, teachers should feel free to make changes in our lists. Please remember that any kind of feedback would be most welcome!

A final word on the references. Technology and the Internet enabled us to create the book in a --relatively-- short time by making it easy for us to reach various sources and do a lot of reading to learn about different topics before writing the texts and the exercises.

We would like to note once more that the starting point of the book is the wish to provide our students with newer, more up-to-date and hopefully more interesting material. We believe that our colleagues can come up with much better products and strongly hope that many other books will soon follow ours.

We hope that working with **www.dbe.off-line.readings1** will be an enjoyable experience both for you and your students.

F. Gülsen & G. Tolungüç

Thanks...

We owe thanks to many of our colleagues, without whose help this book would be lacking in many respects.

Taking this chance, thank you,

Zuhal Sayman, for your continuous support, and for your evaluation, review and constructive criticism of the book,

Steve Riva, for the hours you spent editing the material,

Demet Köksal, Zeynep Alıcı, Sibel Tüzel-Köymen, Işık Arıkan and Asuman Sayıner for the time you spared to proof-read the material with your heavy workload,

Tijen Oktay, Hale Binay, Deniz Atikoğlu, Ömür Aras and Gülsima Baykal, for your hard work and good-will in piloting the material and the valuable feedback you have given us,

The students who wholeheartedly cooperated during the piloting of the material,

Nurcan Tugay-Kandiller, for your help and support to clarify our minds,

Bahar Akçora, for your helpful ideas and contributions to the book,

The writers of some materials included in the book and the owners of many Internet sites who very kindly granted us permission to use them,

And all our colleagues, who encouraged us throughout the year.

TABLE OF CONTENTS

SKILLS SECTION: SURVEYING

STUDY THE SKILL

Before you start a unit, you should survey it. That is, you should look through it to have an idea about what you are going to read and, as a result, get an overall picture. This will help you remember what you already know about the topic, make it easier for you to understand the ideas in the text and increase your reading speed.

It is recommended that you start each unit by looking at:

- the title,
- the headings and subheadings,
- visual information, such as pictures, maps, charts, graphs, tables,
- the types of exercises.

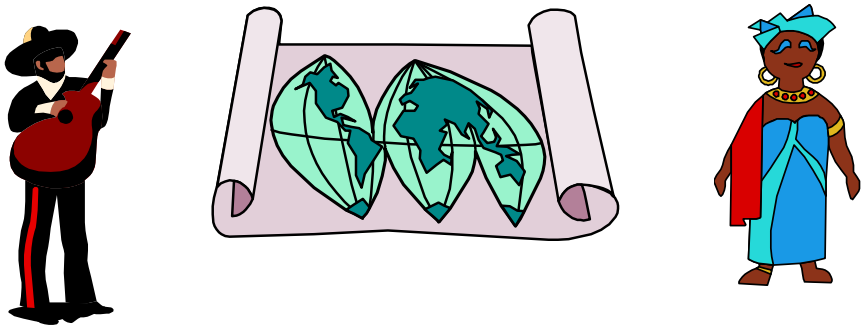
PRACTICE THE SKILL

Now look through Unit 1 and answer the following questions:

1. What is the title?
2. How many readings are there? What are the titles?
3. What type of visual information is there?
4. What types of exercises are there?
5. What is your first impression of the unit?

UNIT 1: COUNTRIES AND CULTURES

A B C D



E F

G H I J

Think And Talk Before You Read

1. Where do these people come from? Match the pictures with the countries.

__ Japan __ Kenya __ Egypt __ Spain __ Saudi Arabia
__ India __ China __ Mexico __ Hawaii __ Russia

2. Which of the following interests you most about another culture? Why?

a. sports
b. life-styles
c. customs and traditions
d. music
e. food
f. languages
g. holidays
h. People

READING 1: THE SNAKE CHARMERS OF INDIA

With its 238 species of snakes, India has a long history of snakes and snake charmers. The snake charmers are poor people. They catch snakes and exhibit them to make a living. It is not uncommon to see snake charmers with their cobras performing at a street corner in India with a circle of watchers. They usually have 2-3 cobras. Cobras are large poisonous snakes. They live in warm climates. They are called *Naya* in India and Sri Lanka. They grow up to 1.7 meters long (5.5 feet) and have gray bodies with black stripes on them. Cobras normally eat rats, mice and frogs. They do not eat people. Snake charmers keep their cobras in baskets. They open the basket and play their bean (a kind of flute) to make the snake dance. However, in reality, cobras are deaf. In other words, they cannot hear because they don't have ears. Actually, the snake charmer moves the lid of the basket in front of the cobra and the snake tries to attack that lid.

Snake charmers do not only perform on the streets, of course. People frequently call them for help to catch the snakes in their gardens and homes. Every charmer has his own technique to catch snakes.

Padmakesharpur is the largest snake charmers' village in India. There are 550 families in this village and each family has around 10 snakes. This makes for a population of more than 5,000 snakes. Children of this village do not play with dolls or toys; they prefer snakes, which they hang around their neck.

Read, Understand And Answer

1A. Read the following statements and choose True (T) or False (F) according to the information in the text.

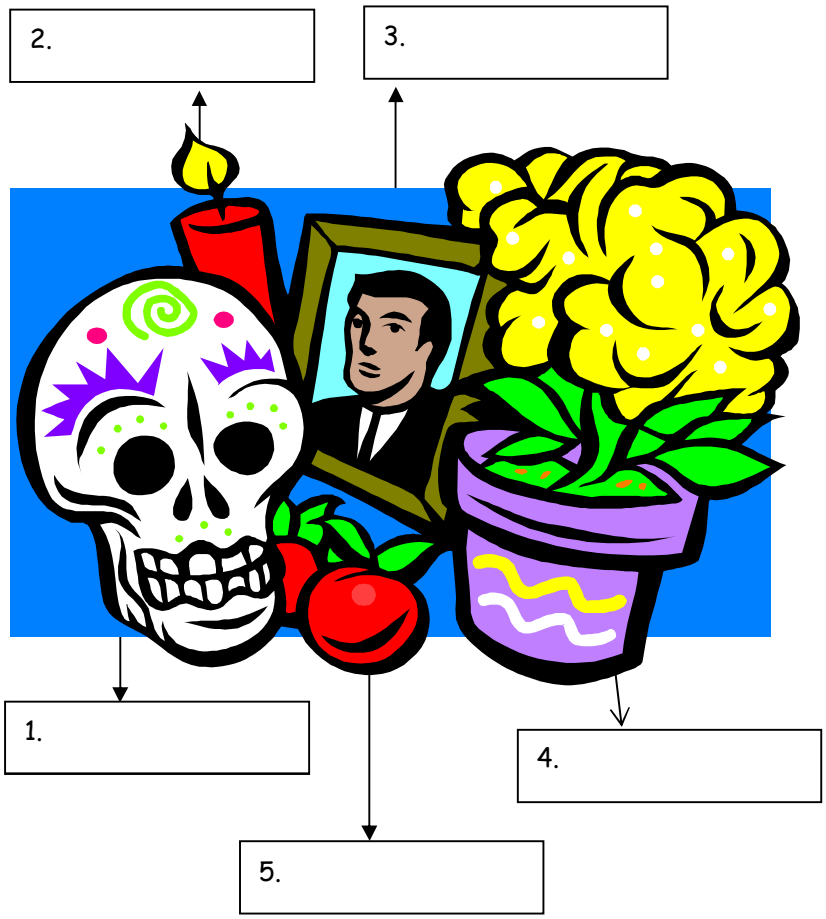
T F 1. There are more than three hundred types of snakes in India.
T F 2. A snake charmer in India makes a lot of money.
T F 3. A snake charmer usually keeps more than one cobra.
T F 4. People in Sri Lanka know cobras as *Naya.*
T F 5. A cobra can be more than 2 meters long.
T F 6. Cobras cannot hear the music of the snake charmers.
T F 7. Cobras attack moving objects.
T F 8. In India, there is always the possibility of finding a snake in your house.
T F 9. The population of the snakes in Padmakesharpur is more than the population of the villagers.
T F 10. Children in Padmakesharpur are afraid of the snakes in their homes.

Think And Talk Before You Read

1. Name some of the holidays and special days that you celebrate in your country.
2. Which one or ones do you think are the most interesting? Why?
3. Do you know any special days of other countries that they celebrate? Which ones?
4. Look at the title of the following text. What do you think the text is about?

READING 2: THE DAY OF THE DEAD IN MEXICO

2A. The following picture shows a typical table that Mexican people prepare for their dead relatives for The Day of The Dead. Label the items on the table and check your answers after you read the text.



Do While You Read

2B. What do the underlined words mean in the text? Read the text carefully and choose the correct alternative.

1. On that day refers to _____.
   a. On a school day
   b. On November the second

2. they refers to _____.
   a. children
   b. Mexicans

3. it refers to _____.
   a. the photo of the beloved relative
   b. the tablecloth

4. those refers to _____.
   a. the favorite food and drink of their relative
   b. atole, mole and tamales

5. he or she refers to _____.
   a. one of their relatives
   b. the dead beloved relative

6. These refers to _____.
   a. the path of flowers
   b. cempasúchit

7. some refers to _____.
   a. candy skulls
   b. marigolds

8. one refers to _____.
   a. a graveyard
   b. the house of a relative

9. there refers to _____.
   a. in the world
   b. in Mexico

On November the second, Mexicans celebrate a holiday as old as Mexican history itself. On that day, children don't have to go to school because, just as they celebrate Mother's Day or Father's Day, they celebrate a special day to remember their dead relatives. How do Mexicans celebrate this special day? Traditionally, they make an offering in the main room of their house. To make an offering, they put a piece of cut-out paper (thin colored paper with a design cut out) like a tablecloth on a big table. They find a photo of their beloved relative and put it in the front. Then they think of that person's favorite food and drink and add those to the offering. If they can't remember, they choose typical Mexican food, atole, mole or tamales. According to the tradition, that night he or she will come to their house to share the dinner with them. To guide the person, they light some candles and make a path of flowers with cempasúchit (marigolds). These have been considered the special flower of the dead since pre-Hispanic times. On this day, Mexican people eat candy skulls and also give some to their friends. In addition to that, they make a kind of delicious bread for this day. This is called the Bread of the Dead. That night, people also go to the graveyards to greet and visit their loved ones. If you go to one, you will see a lot of people singing and bringing flowers and food. This holiday in Mexico is unique in the world. Many foreigners who live there are amazed and enjoy seeing the Mexicans remember their dead with such happiness.

READING 3: WORLD RECORDS FROM THAILAND

Thailand has lots of man-made and natural world records. Tourists can see the world's biggest gold Buddha, the largest crocodile farm and the world's largest fish, the 12-meter Rhincodon typus, there. They can eat at the world's largest restaurant, cross the longest single-span suspension bridge and sleep at the world's tallest hotel, the 89-story Baiyoke II Tower. Below you will read about some of these records.

Largest Tom Yum Kung

On November 18, 1999, at Patty Beach, Chonburi, Thailand, 5,000 litres (1099.85 gallons) of tom yum kung, a type of Thai soup, was made from shrimps, vegetables, and spices. The Department of Industrial Promotion organized the creation of the largest tom yum kung because they wanted to promote the shrimp-farming and shrimp-processing industry in Thailand. The organizers also wanted tourists to learn about this aromatic, spicy, tasty seafood dish. It took 12 chefs to prepare the giant bowl of soup, and thousands of tourists enjoyed it.

Largest Restaurant

The Royal Dragon (Mang Gorn Luang) restaurant in Bangkok, Thailand, opened in October 1991. The restaurant employed 1,200 staff. The staff included 541 waiters and waitresses wearing roller-skates for fast service. The restaurant can seat 5,000 customers and can offer 1,000 dishes on the menu to suit all tastes: Chinese, Japanese, Thai, and Western. In 1995, the restaurant served nearly 9,979 kilos of seafood every day. Now, it can produce 3,000 dishes in an hour when necessary.

Longest hair

The world's longest hair belongs to Hoo Sateow, a tribal medicine man from Chiang Mai, Thailand. On November 21, 1997, his hair measured 5.15 meters (16 feet 11 inches). Hoo Sateow began growing his hair in 1929. He believes his long hair is the key to his healing powers. He says he once fell sick after he cut his hair when he was 18 years old, and decided not to cut his hair again. Following in his footsteps, his younger brother Yee Sateow has also grown his hair, to a length of 4.92 meters (16 feet 2 inches). The brothers wash their hair annually (once a year) with detergent, and wear it wound up in a fashionable beehive. Hoo says, "It keeps my head nice and warm."

Read, Understand And Answer

3A. Answer the following questions according to the information given in the text.

1. Give an example of Thailand's natural world records.

   _____

2. What are the ingredients of tom yum kung?

   _____

3. Who was the organizer of the creation of the giant bowl of tom yum kung?

   _____

4. The organizers wanted tourists to learn about this delicious Thai seafood. Did they succeed in doing this? Why?

_____

5. Write two reasons why the service at the Royal Dragon is fast.

_____

6. Imagine you are at the Royal Dragon to have dinner but you do not like Thai food. What alternatives do you have?

_____

7. What does Hoo Sateow do?

_____

8. How did he feel when he had a haircut?

_____

9. Who is Yee Sateow?

_____

10. Why do you think they wash their hair with detergent?

_____

3B. The following words are from Readings 2 and 3. Read the sentences and fill in the blanks with suitable words.

share	produce	annually	tradition	measure	man-made
decide	prepare	add	remember	greet	belong

1. Why don't you _____ a room to your house? It is very small for your big family.
2. Thanksgiving dinner is an old _____ in North America.
3. Children usually _____ their toys with one another.
4. When I met the president, she _____ed me in a very friendly way.
5. We _____d to go on holiday in Italy in August.
6. That factory _____s shoes and slippers.
7. The floor of this room _____s 4 meters by 6 meters.
8. The bike _____s to my brother, so I cannot lend it to you.
9. Plastic is a _____ substance.
10. The chemist _____d some chemicals to test as a new product.
11. My friend _____ed my birthday by giving me a surprise party.
12. They travel to France _____ to visit their grandparents.

Think And Talk Before You Read

1. What can you say about the life-styles of the people in your country? Are there great differences between regions?
2. What do you know about the problems of Africa? In what conditions do the Africans live?

READING 4: THE PEOPLE OF KENYA

Jambo! Welcome to Kenya. Kenya is home to many different cultures and ethnic groups, each with different languages, dialects, and customs. 97% of Kenya's population is African, but they are from 70 different **tribes**. These are groups of people with a common past and customs living together. The most well-known ones are Kikuyu, Kamba, Gusli, Luhya and Luo. The people of Kenya have different life-styles. In Nairobi, Kenya's capital, and other large cities, the life-style is modern and it is the same as that in Western cities. People in the cities live in modern houses or apartments. They wear modern clothes like jeans and t-shirts. Outside the big cities, people have a totally different life-style. Most of Kenya is a **desert**, land with very little water. In these **remote** areas, there are no **modern conveniences**. There are no roads, no cars or buses, no electricity or running water, no telephones, no schools, hospitals or shops. People living in these areas are **nomads**; they don't live in one place for a long time but they travel to find food and water. They build **temporary**

homes, live there until there is no more food or water and leave to find a better place. Their homes are made of **thatch** (dry tree branches, leaves and grass). They also use mud and animal waste. The land is poor and **arid** -- very dry -- so people cannot grow anything. Many people are **herders** of sheep, goats, cows and camels. They give their babies milk from the sheep, cows, goats and camels. They also drink it themselves. When they don't have enough milk, they mix the milk with the blood of the animal and drink it. They think this will make them strong. They also make soups from some plants and eat meat if they can find it. Kenya has two great lakes, called Lake Turkana and Lake Victoria. Around these lakes people can fish. These people wrap brightly-colored material around their bodies and wear a lot of **jewellery** like necklaces, bracelets and earrings.

Do While You Read

4A. The following words are all from the text above. Try to guess their meanings.

1. Example: **tribes** are groups of people with a common past and customs living together.
2. **Desert** is land with _____

3. **Remote** areas are _____ big cities.
   a) inside or near b) outside and far from
4. _____ and _____ are just two examples of **modern conveniences**.
5. **Nomads** travel from one place to another to _____
6. **Temporary** means _____.
   a) for a short time b) for a long time
7. **Thatch** is dry tree branches, _____ and _____
8. **Arid** means _____
9. **Herders** keep and feed animals. _____ and _____ are two of these animals.
10. _____ and _____ are two examples of **jewellery**.

Read, Understand And Answer

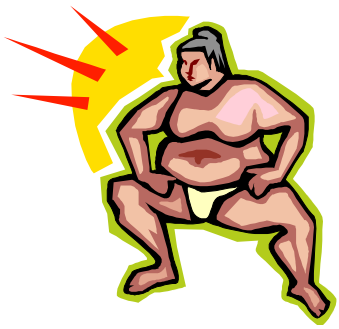
4B. Give short answers to the following questions.

1. What are Kikuyu, Kamba, Gusli, Luhya and Luo?
   _____
2. a. Why are people outside the big cities nomads?
   _____
   b. What is their main diet?
   _____
3. Compare your country with Kenya. What are the similarities or differences?
   _____

Think And Talk Before You Read

1. Wrestling is a traditional sport in Turkey. What do you know about the wrestlers? Where do they have the tournaments? What prizes are there for the winners?
2. Look at the picture. How would you describe a sumo wrestler? How is he different from a Turkish wrestler? Do you know anything about the rules of the sport?

READING 5: SUMO WRESTLING IN JAPAN



Sumo wrestling is an ancient sport dating back 1500 years. Every year there are six Grand Sumo Tournaments in Japan. A tournament lasts for fifteen days, and each wrestler fights once every day with a different person. The winner of the tournament takes the Emperor's Cup on the final day after the last match. To get a prize, the wrestler must win at least eight of his fifteen matches.

There are no weight limits in sumo wrestling so wrestlers are usually huge and overweight men. Being big and strong is an advantage. Because there are no weight limits, a wrestler can find himself against another wrestler twice his own weight. Sumo wrestlers also have long hair and they tie it at the back of their head. This is not just for tradition. It is also to protect the head if they fall down during the match. The matches take place in a ring. There are many rules. The wrestlers cannot pull each other's hair. They cannot touch the vital organs like the eyes, ears or throat, or kick in the stomach or chest. During the match if a wrestler touches the ground with any part of his body, his knee or even his finger, he loses the match.

The tournament opens with ceremonies. After traditional dances and greetings, the referee calls out the names of the wrestlers. Each wrestler has a sumo name other than his real name. Wrestlers often choose traditional names ending in –yama (mountain), -gaura (river) or –umi (sea). The referee, then, gives the start signal for the match, but the wrestlers do not start immediately. There are symbolic movements. The two wrestlers look at each other angrily, go back to their corners, get some salt, throw it around, come back and look at each other again. This is like a cold war. In the past there was no time limit on such ceremonies, so the wrestlers could do them for many hours or even days. Today after four minutes, wrestling starts. During the match the referee follows the movements of the wrestlers closely. There are also five judges for all the matches. They sit around the sides of the ring and check that the referee is making the correct decisions. Each match and also the tournament end with ceremonies again.

Do While You Read

5A. Choose a suitable ending for each sentence according to the information given in the text.

1. Sumo wrestlers try to put on weight because _____.
   a) they have to win at least eight matches
   b) being big is an advantage in matches
2. During a tournament, a wrestler has 15 matches and _____.
   a) has to be successful in eight of them
   b) fights the same person in eight of them

3. While fighting, it is against the rules to touch the other wrestler's hair or _____.
   a) kick the vital organs
   b) hit the ground
4. The wrestlers want protection for their heads so _____.
   a) they keep to the tradition
   b) they grow their hair long
5. Sumo names ending in –yama, -gaura or –umi are common because _____.
   a) they are real names
   b) they are traditional
6. The referee gives the start signal but _____.
   a) the wrestlers call out their sumo names
   b) the match begins after some time
7. For all the matches there is a referee to _____.
   a) watch the wrestlers
   b) check the decisions
8. In the past, the beginning ceremony could take many days but _____.
   a) today there is a time limit of four minutes
   b) today there is still no weight limit

5B. Look through the text and find the different forms of the following words and then use the most suitable form to complete the given sentences.

Example:

wrestle	wrestler	wrestling

1. The children **wrestle** d for many hours on the grass and enjoyed it a lot.
2. Professional _____ is entertainment as well as a sport.
3. Years of training are necessary to be a successful _____.

win	

4. The _____ of this match will play in the semi-finals.
5. The tennis player tried hard and deserved to _____ the match.

weigh		

6. What _____ can this lorry carry safely?
7. They will _____ your luggage before you get on the airplane.
8. Because he was _____, his doctor advised him to lose ten kilos.

tradition	

9. Visiting friends and relatives on special days is an old _____ in Turkey.
10. "Manti" is a _____ Turkish dish.

move	

11. Young children cannot sit still; they need to _____ around all the time.
12. _____ of traffic is very slow during rush hours.

decide	

13. The judge has come to the _____ that the man did nothing wrong.
14. Shall we leave or stay here? I cannot _____.

JUST FOR FUN!

5C. Can you match the following facts and the countries?

Brazil	Germany	Japan	Greece
Thailand	Australia	Canada	Egypt

1. There are more dinosaur bones in _____ than in any other country.
2. _____ is the only country that is also a continent.
3. The seasons in _____ are opposite from those in North America. Therefore, it is cooler in July than it is in December.
4. Restaurants in _____, called tavernas, usually serve their food warm, not hot. Dinner usually begins around 9:00 pm and can last until midnight.
5. In _____ it is polite to greet one another by bowing.
6. _____ is the "Land of Smiles." It is a very friendly and beautiful country.
7. People invented papyrus, an ancient form of paper, in _____. It was made from a reed plant that grew along the Nile River.
8. _____'s many famous people in history include classical composers (such as Bach, Beethoven, and Brahms) and the Grimm brothers, authors of famous fairytales, including Hansel and Gretel, Sleeping Beauty, and Snow White and the Seven Dwarfs.

UNIT 1 VOCABULARY LIST

add	mix
against	move
ancient	movement
annually	natural
area	necessary
arid	organize
attack	organizer
be called	perform
be made of/from	population
believe	power
belong	prefer
choose	prepare
climate	produce
common	promote
consider	promotion
correct	protect
culture	pull
custom	record
cut	remote
deaf	same
decide	share
decision	similar
desert	species
different	staff
enough	suit
employ	taste
exhibit	tie
fight	touch
follow	tradition
greet	traditionally
greeting	tribe
ground	uncommon
grow	unique
guide	vital
hang	weigh
huge	
include	
immediately	
kind	
land	
man-made	
material	
measure	

UNIT 1 - GO ON READING

CHINESE NEW YEAR

Chinese people all over the world celebrate the Lunar New Year, which falls between mid-January and mid-February. The celebration can last for 15 days. The traditions of this holiday are very old and come from a story about a monster, called Nihn or Nien. The monster would hunt and eat at the end of each year. The Chinese tried to protect themselves when he was looking for food. They found out that the monster was afraid of fire, loud noises and the color red, so they lit many candles and lanterns. They beat their drums or gongs, exploded bamboo firecrackers and painted many things with bright red paint or dye.

Modern celebrations of Chinese New Year include firecrackers and fireworks displays that begin on New Year's Eve. People think that these frighten away evil spirits. The preparations for the festival begin the day before, when people clean and scrub their homes, throw away old clothes, and pay old bills. They never do the sweeping on New Year's Day because they believe that this will sweep or wash away good luck.

The Lunar New Year marks the beginning of the Year of the Dragon. There are twelve animal symbols used to name the years, and Chinese horoscopes or predictions of the future depend on what year you were born in. The dragon is the symbol of the Emperor and represents harmony and unity within a nation or country. In the Chinatowns of North America, the Chinese celebrate the New Year with lion and dragon dances in the streets. The paper dragons can be as long as a full city block. There is also the custom of giving red envelopes. They fill the red envelopes with money and the older, married adults and bosses give them to children and young people. The red is for good luck, and the money is a wish for prosperity.

UNIT 1 – GO ON READING

WHIRLING DERVISHES FROM TURKEY

"Come, whoever you are, come
Whether you are unbeliever, idolator or worshipper of fire,
Whether you have broken your oath a thousand times,
Our convent (Dergah) is not the convent of despair,
Come, whoever you are, come again"

These are the well-known words of *Mevlana Celaleddin Rumi*. This great scholar lived in Anatolia in the 13th century. After his death, his followers founded the Mevlevi school of thought. In the beginning the Mevlevis were an independent branch of Turkish-Islamic philosophy. Today they survive mostly as a cultural brotherhood. Throughout history the Mevlevis wrote about love of Allah, tolerance, forgiveness and enlightment. They produced masters in all forms of art. The religious rituals of the Mevlevis, *sema*, still continue today, and the performing Mevlevis are called Whirling Dervishes by the Western world. The ritual begins when the musicians, the dervishes and the sheyh (the representative of Mevlana on Earth) have taken their places in the *semahane*, the ceremonial hall. There is religious singing and then a recital of the ney-flute. The music is not for pleasure but for cleaning the mirror of the heart. The dervishes walk three times around the hall to show their respect to their sheyh. They wear tall conical hats and black mantles over their white shirts and long, wide skirts. The hats represent the headstone of their own graves and their mantles represent their graves. Then begins the actual *sema*. The dervishes kiss the hand of the sheyh and receive his permission to start the ritual dance. They take off their mantles and start whirling around the hall at the same time turning around on their own axis. Through their whirling they aim for a union with Allah. Their arms are open, with the right hand turned upwards and the left downwards. This represents the Mevlevi principle: "We take from Allah and give to man. We have nothing, we are nothing but an image." Towards the end, the sheyh also joins the whirling. When he goes back to his seat, the dancers stop. The ceremony closes with prayers from the Koran.

SKILLS SECTION:

UNDERSTANDING REFERENCES

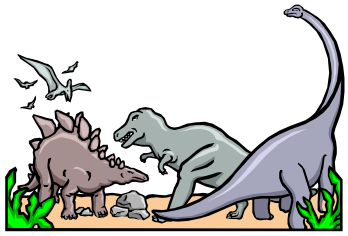
STUDY THE SKILL

In order not to be repetitive or boring, writers use pronouns (it, they, this, these, there, then, one, etc.) instead of using the same words or groups of words again and again. This helps them present their ideas in a more natural way. To understand the ideas in a text clearly, you need to understand what pronouns refer to.

A text looks like this when pronouns are not used:

T-rex, short for Tyrannosaurus Rex, was a huge meat-eating dinosaur. T-rex lived during the late Cretaceous period. The late Cretaceous period was about 85 million to 65 million years ago. The climate was mild and the environment was semi-tropical during the late Cretaceous period. T-rex lived in forests because it was easier to find food in forests. T-rex weighed about 7 tons; T-rex was about 12 meters long and T-rex was 4 to 6 meters tall. Compared to T-rex's huge body, T-rex had tiny arms, each arm about only a meter long. T-rex had a long, pointed tail. The fact that T-rex had a long, pointed tail helped the animal to make quick jumps.

Now study the following text and compare it with the first one. Obviously it looks more natural because pronouns replace the repeated words or word groups:



T-rex, short for Tyrannosaurus Rex, was a huge meat-eating dinosaur. It lived during the late Cretaceous period. This was about 85 million to 65 million years ago. The climate was mild and the environment was semi-tropical then. T-rex lived in forests because it was easier to find food there. It weighed about 7 tons; it was about 12 meters long and 4 to 6 meters tall. Compared to its huge body, this meat-eater had tiny arms, each about only a meter long. T-rex had a long, pointed tail. This helped the animal to make quick jumps.

PRACTICE THE SKILL

What do the following words refer to?

1. Giant pandas are black and white Chinese bears. <u>These large mammals</u> have a big head, a heavy body, rounded ears, and a short tail.
   These large mammals: _____

2. The Chinese call the panda "Da xiong mao." <u>It</u> means "giant bear cat" in Chinese.
   It: _____

3. The panda is a symbol of peace in China. There are roughly 1,000-1,500 pandas living <u>there</u>.
   there: _____

4. Pandas eat about 18 kilos of bamboo each day. Although the pandas eat <u>this plant</u>, they cannot digest it very well.
   this plant: _____

5. Bamboo plants grow in only a few places. <u>This</u> limits the range of pandas tremendously.
   This: The fact that _____

6. Pandas usually eat while sitting in an upright position. Sitting <u>this way</u>, they can use their front paws to hold their food.
   this way: _____

7. Pandas have very thick, oily, woolly fur. <u>It</u> keeps <u>them</u> warm in their cold, wet mountain habitat.
   It: _____
   them: _____

8. Female pandas give birth to one or two cubs, but usually only <u>one</u> survives.
   one: one _____

9. Panda cubs are white at birth. <u>Their coats</u> take on adult coloring about a month after birth.
   Their coats: The coats of _____

10. The giant panda evolved during the late Pliocene or early Pleistocene period. During <u>those times</u>, the giant panda's range extended throughout southern China.
    those times: _____

SKILLS SECTION:

GUESSING VOCABULARY

STUDY THE SKILL

There may be many new words in the text you are reading, but you do not have to know the meanings of all these words to understand the text. Some words or word groups give additional information and you can still understand the text even if you do not know their meanings. In this case, you can ignore them and just read past.

Study the examples below and read past the words or phrases in brackets. Can you understand the sentences without them?

- Butterflies are beautiful, flying insects with two large (scaly) wings, six (jointed) legs, and three body parts.
- The butterfly's body has (tiny sensory) hairs.
- Butterfly fossils are not very common. The most ancient butterfly fossils are from (the early Cretaceous period) about 130 million years ago.

Sometimes, however, you feel that knowing the meaning of a word is necessary for you to understand the text. There are two ways to deal with such words. The first way is to look them up in a dictionary. However, it may not always be possible to use a dictionary or perhaps there is not enough time to do this. The second way is to try to guess the meanings of the words you do not know. This is an important skill, which helps you understand texts better and increase reading speed. In every text, there are various clues which give you the meanings of the unknown words, and you can use these small pieces of information to make good guesses.

Study the examples below and note how various clues can be used to guess the meanings of words we do not know:

- Punctuation

  Examples: commas [,], brackets [( )], dashes [--]

  There are about 28,000 **species** -- kinds -- of butterflies all over the world.
  Clue: -- --
  Therefore, **species** means <u>kinds</u>.

  The caterpillar **molts** (loses its old skin) many times as it grows.
  Clue: ( )
  Therefore, **to molt** means <u>to lose the old skin</u>.

- Connectors:

Examples: and, or, but
in other words, that is, i.e.
for example, such as, like

When butterflies **age**, or get old, the color of their wings **fades**. In other words, the wings lose their color and become pale.
Clue: or
Therefore, **to age** means <u>to get old</u>.
Clue: In other words
Therefore, **to fade** means <u>to lose color and become pale</u>.

The largest butterfly in the world lives in New Guinea and its **wingspan**, i.e., the distance between the two ends of the wings, is 30 centimeters.
Clue: i.e.
Therefore, **wingspan** means <u>the distance between the two ends of the wings</u>.

Some butterflies, such as the **coppers** and **small blues**, live for only a few days.
Clue: such as
Therefore, **coppers** and **small blues** are examples of <u>butterflies which live for a very short time</u>.

- Grammar:

Examples: the verb "be" and structures like "be called"

Most butterflies live on **nectar**. Nectar is the sweet liquid in plant flowers.
Clue: be
Therefore, **nectar** is <u>the sweet liquid</u> in plant flowers.

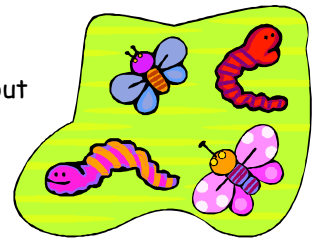
Butterflies undergo a complete change during their life. This change is called **metamorphosis.**
Clue: be called
Therefore, **metamorphosis** means <u>a complete change</u>.

- Context:

Examples: information around the word, repeated information, words which look similar, opposites.

Many butterflies **migrate** to warm areas because they cannot live in **adverse** environmental conditions such as cold weather. Most butterflies travel only short distances, but a few migrate thousands of miles to find better conditions to live.
Clues: information around the word (to warm areas, travel, short distances, thousands of miles)
Therefore, **to migrate** means <u>to travel to a different place</u> to find better conditions to live.

Clue: such as and information around the word (cold weather, better conditions)
Therefore, **adverse** conditions are the opposite of <u>good conditions</u>.



In the larva state, the butterfly **hatches** from an egg. When it comes out of the egg, it starts eating leaves or flowers.
Clue: repeated information (from an egg, out of the egg)
Therefore, **to hatch** from an egg means <u>to come out of an egg</u>.

Butterflies can live in all types of environments, hot and cold, dry and **moist**, at sea level and high in the mountains.
Clue: opposites (hot and cold, at sea level and high in the mountains)
Therefore, **moist** is the opposite of <u>dry</u>.

Butterflies are very good **fliers**, but different kinds have different flying speeds. The fastest ones can fly at about 30 miles per hour or faster. Slow ones fly about 5 miles per hour.
Clue: words which look similar (flying, fly)
Therefore, **flier** comes from the word <u>fly</u>.

PRACTICE THE SKILL

Guess the meanings of the following words and note the clues.

1. Female pandas are called **sows** and males are called **boars**.
   Clue: _____
   Sows are _____
   Clue: _____
   Boars are _____
2. Giant pandas are white with black patches around the eyes, ears, shoulders, chest, legs, and feet. This black-and-white coloring may **camouflage**, or hide, the panda in the snowy, rocky environment.
   Clue: _____
   To camouflage is to _____
3. The largest pandas grow to be about **250 pounds** (115 kilos), about the weight of a large adult human.
   Clue: _____
   250 pounds is _____
4. Giant pandas eat bamboo, but today the number of bamboo forests is not enough for the pandas. This causes **starvation** among giant panda populations. In other words, today pandas have very little or no food.
   Clue: _____
   Starvation is the state of having _____

5. Because pandas spend most of their time eating tough bamboo, strong teeth and jaws are very important to a panda's **survival**; that is, they need them to continue to live. Giant pandas have large **molars** because they use these flat teeth to break their food into small pieces. They also have a few sharp teeth, which they use to bite tough bamboo stalks.
   Clue: _____
   Survival is the ability to _____
   Clue: _____
   Molars are _____. Pandas use them to break their food into small pieces.
6. The **habitat** of giant pandas, i.e., the natural environment they live in, is cool, wet, cloudy mountain forest land where bamboo grows. Today, giant pandas live in evergreen temperate forests, between 900-3,200 meters in **altitude**. In the past, pandas lived at lower altitudes, but farming and land development have pushed the pandas high into the mountains.
   Clue: _____
   The habitat of an animal is _____ it lives in.
   Clue: _____
   Altitude most probably means height _____ sea level.
   a) above b) below
7. Giant pandas are mostly **solitary** animals. They spend most of their lives alone.
   Clue: _____
   If an animal is solitary, it _____
8. The giant panda's **lifespan** in the wild has not been accurately documented, but Chinese scientists report that some pandas in zoos have lived to be 35 years old. Hsing-Hsing, who lives in the National Zoo, turned 30 in 2000. Most animals live longer in captivity than in the wild.
   Clue: _____
   Lifespan most probably means _____
   a) an amount of time b) a place to live
9. Panda **cubs** are small, white, blind, furless, and helpless at birth. Like new-born human babies, panda cubs cry when they are hungry or need their mother.
   Clue: _____
   A cub is a _____ panda.
10. Just like **marsupials**, such as kangaroos, giant panda cubs are very small when they are born.
    Clue: _____
    A kangaroo is an example of _____
11. Humans are the giant panda's greatest enemy. **Poachers** still hunt giant pandas for their fur, which they sell. Also, leopards sometimes kill cubs.
    Clue: _____
    A poacher is most probably a _____.
    a) kind of a leopard b) hunter

VOCABULARY DEVELOPMENT:

IDENTIFYING PARTS OF SPEECH

Understanding the text you are reading is very difficult if you do not know most of the words in it. The dictionary is of great help to you while reading; however, you should try to increase your knowledge of words regularly. Developing your vocabulary does not mean learning the meanings of isolated words, because this does not help you much in reading. It involves expanding your knowledge of how, with which other words and in which contexts the words are used. Increasing your awareness in such aspects helps you learn and remember more words, guess the meanings of unknown words more easily and thus understand the texts you are reading better. Therefore, when you are learning new words, you should consider the parts of speech, different meanings, synonyms and antonyms, derivatives, collocations and connotations.

Knowing what kind of work any unknown word does in a sentence (that is, identifying whether the word is a noun, verb, adjective or adverb) can help you understand a problematic sentence in the text you are reading. Adding up clues in this way, you will be able to make better guesses and improve your comprehension.

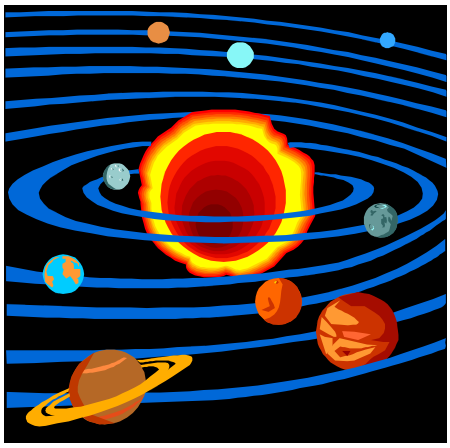
Example:
My daughter has a **parrot** as a pet. The **talkative** bird keeps repeating what we say all day long. Sometimes it really makes me mad and I find myself shouting **furiously**: "Don't **parrot** everything I say."

Because there is the article "a" in front of the word **parrot,** we can understand that it is a noun, the name of a thing. The next sentence tells us that this thing is a bird and it can repeat what we say. In the last sentence, the same word is used with the auxiliary "don't" so it must be a verb. From the context it is clear that the word **parrot** means "repeat." The word **talkative** also gives us information about a parrot. The word comes after an article and before a noun so it must be an adjective. Adjectives give us information about nouns. You can easily recognize the simple word 'talk' in 'talkative' so you can guess that 'a talkative bird' talks a lot. The word **furiously** comes after a verb and ends with -ly. It must be an adverb. Adverbs give us information about verbs. The context tells us that furiously must have a negative meaning because the person is shouting and is angry with the parrot.

Read the following short paragraph and say whether a verb, noun, adjective or adverb should go in each blank. Then try to guess the missing words.

Did UFOs (Unidentified Flying Objects) start life on earth? A (1)_____ _ of scientists is working (2)_____ to answer this question. They (3)_____ a balloon into space to collect air samples in the (4)_____. They will analyze the (5)_____ organisms from the samples to see if they (6)_____ similar to the first life forms on earth. Perhaps UFOs landed on earth billions of years ago and brought (7)_____ kinds of bacteria from space with them. Life on earth evolved (8)_____ from these bacteria.

UNIT 2: ASTRONOMY



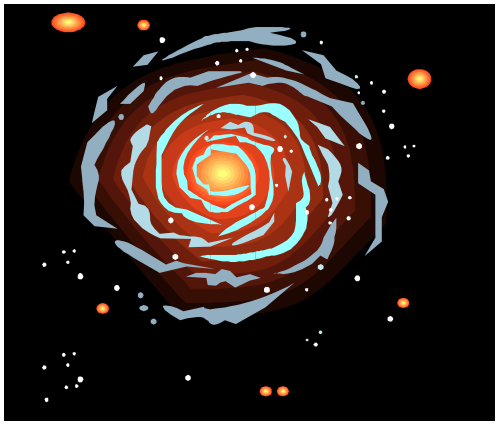
Think And Talk Before You Read

1. What makes space so attractive?
2. What is a scientist who studies space called?
3. Have you heard about the Big Bang before? Do you know what it is?
4. What are the names of the planets? Do you remember them?
5. Would you like to be an astronaut and travel in space? How do we travel in space?
6. Check whether you know the meanings of these words.

comets	the sun	the solar system
the universe	asteroids	the planets
stars	meteors	the Milky Way Galaxy
the moon		

READING 1: THE UNIVERSE

YOU ARE HERE SOMEWHERE!



(1) Astronomy is one of physics' most fascinating subjects.. It studies many interesting things in the universe, like galaxies, solar systems, planets, meteors, comets and asteroids. Astronomy also tries to explain the formation of the universe. The simplest explanation is called the Big Bang theory. This theory says that in the beginning, the universe was the size of a molecule and all the matter in the universe had a very tiny volume; that is, the universe was very small and dense. Then, something unknown caused the universe to explode 15 billion years ago. This explosion created matter, energy and also space and time in a few seconds. We cannot talk about the period before the Big Bang because there was no before; there was no time or space then.

(2) The universe became very hot because of the explosion and it began to expand. As the universe continued to grow, it cooled off. When the universe was about 500,000 years old and was cool enough, the first hydrogen atoms began to form. These atoms made up the stars and the galaxies. One of these stars was on the edge of the Milky Way Galaxy. It had nine planets. Life started on one of these planets. We call this planet the Earth.

(3) Today the universe still continues to expand. Some scientists say that it may just continue to expand forever until it gets dark and cold. Others say that the Big Crunch, the opposite of the Big Bang, may be the end of the universe. The universe may turn around and collapse in another big explosion.

Read, Understand And Answer

1A. Read the following statements and choose True (T) or False (F).

T F 1. The universe was very big in the beginning.
T F 2. The cause of the Big Bang is still a mystery.
T F 3. Time and space started with the Big Bang.
T F 4. The universe began to grow before the Big Bang.
T F 5. The first hydrogen atoms formed immediately after the explosion.
T F 6. The star on the edge of the Milky Way Galaxy is our Sun.
T F 7. Some scientists say that the universe may become very dark and cold in the end.
T F 8. The Big Crunch theory says that the universe will never end.

1B. Write what the following words in the text refer to.

1. It (Paragraph 1): _____
2. This theory (Paragraph 1): _____
3. then (Paragraph 1): _____
4. These atoms (Paragraph 2): _____
5. Others (Paragraph 3): _____

1C. Find the different forms of the following words in the text and fill in the table. What is the difference between these forms?

form	**formation**
	cause
explode	
	creation
	expansion
	growth

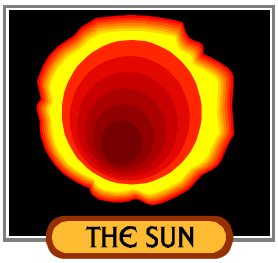
1D. Read each sentence and underline the correct form.

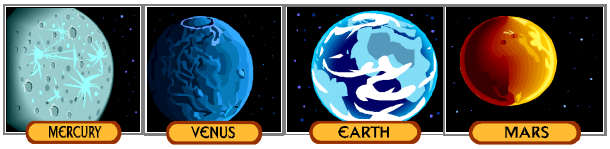
1. The **formation / formed** of the school committee took several days.
2. Before they began the game, the children **formed / formation** a circle.
3. The **cause / caused** of the forest fire was a cigarette as usual.
4. Many people died in a gas **explosion / exploded** in a coal mine in Beijing, China last month.
5. Picasso was a great artist; he **created / creation** many famous works of art.
6. A bomb **explosion / exploded** at one of London's busiest railway stations this morning.
7. Human babies don't **grow / growth** easily. They need love, care and attention.
8. He is a careless driver; he **cause / caused** three accidents in one month.
9. The statue of Venus is a great artistic **creation / created**.
10. Rain is necessary for the **grow / growth** of trees.
11. Metals **expansion / expand** when you heat them.
12. **Expansion / expand** into new areas of research is possible if we all work hard.

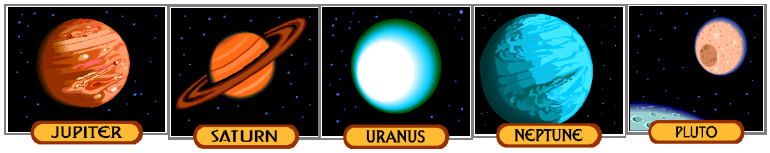
READING 2: ALL ABOUT OUR SOLAR SYSTEM

2A. Read the text quickly and study the graphs and the pictures. What are they about? Choose the alternative which best summarizes the given information.

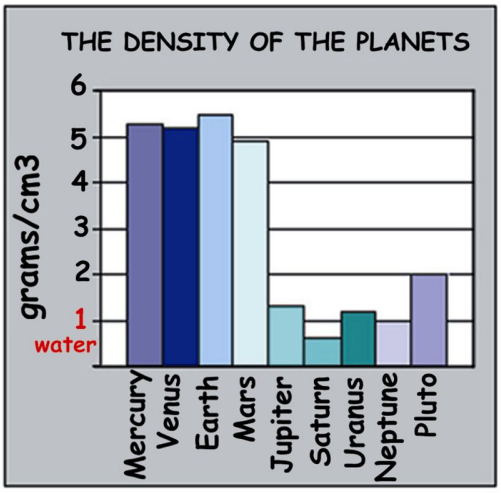
a. the sun of our solar system
b. a day on each of the planets
c. the sizes and temperatures of the planets
d. asteroids, comets and meteors
e. categorization of the planets
f. the planets in the solar system
g. the planets with rings and moons
h. comparison of the inner and outer planets

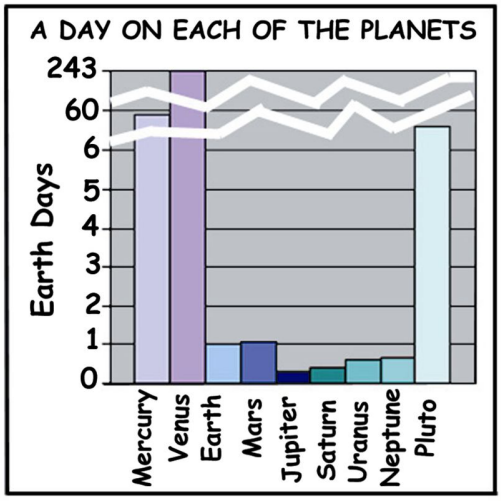






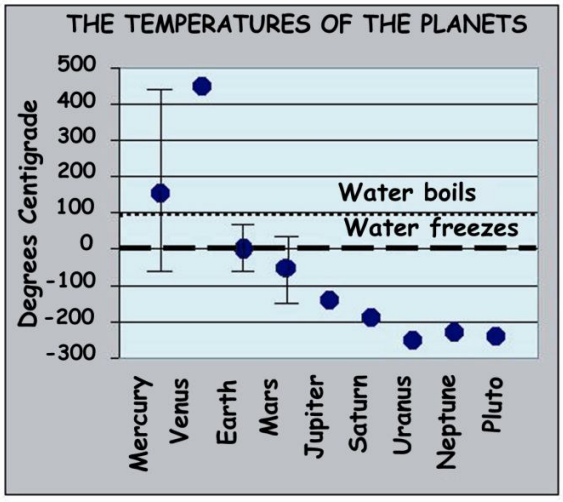
Our solar system consists of the sun, nine planets, an asteroid belt and many comets and meteors. The sun is the center of our solar system; the planets, over 61 moons, the asteroids, comets, meteors and other rocks and gas all orbit the sun. That is, the sun sits in the middle while the planets travel in circular paths around it. These nine planets travel in the same direction. The solar system is made up of two parts. The inner solar system contains Mercury, Venus, Earth and Mars. These four planets are closest to the sun. They are relatively small. They are very heavy and they move slowly. They are composed of rock and metal and they have few or no moons. The outer planets include Jupiter, Saturn, Uranus, Neptune, and Pluto. They are huge and made up of gas. These planets are light for their sizes -- they are like big air balloons -- and they move quickly. They have rings and lots of moons. Pluto is an exception among outer planets because it is small and rocky and has one moon.

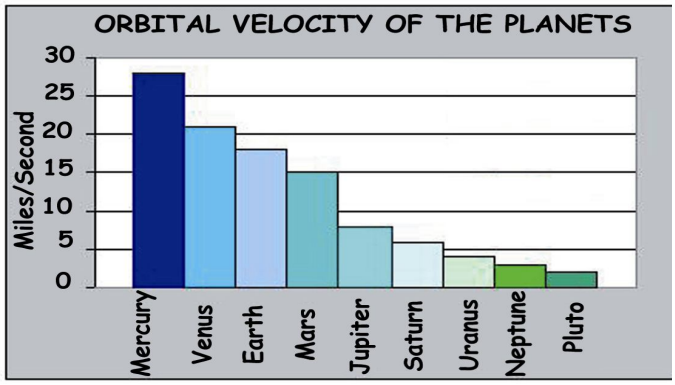




Here are some interesting facts about the planets!

- You can put all the other planets inside Jupiter and they will fit in nicely.
- Venus is very close to Earth in size, so scientists call Venus the sister planet.
- A year on Mercury takes only 88 Earth days.
- Pluto is smaller than our moon.
- A day on Jupiter is only 9.8 Earth hours.
- Saturn is the least dense planet. It can float on water (if you can find a body of water big enough, of course!).
- The planet with the longest day is Venus; a day on Venus takes 243 Earth days. A day on Venus is longer than its year; a year on Venus takes only 224.7 Earth days.
- The Great Red Spot on Jupiter is a storm 28,000 km long and 14,000 km wide. It is the size of two Earths and it has lasted for hundreds of years so far.
- On other planets you weigh a different amount than you do on Earth. This is because of the differences in gravity. For example, a 60-kilogram person weighs 152.4 kilograms on Jupiter.





2B. Look through Reading 2, including the graphs and the pictures. Give short answers to the following questions.

1. Which is the largest planet? _____
2. Which is the hottest planet? _____
3. Why is Pluto an exception among outer planets? _____
4. What are inner planets made up of? _____
5. Why is Venus called the sister planet? _____
6. Why can Saturn float on water? _____
7. How many Earth hours is a day on Jupiter? _____
8. On which planet does a year take 88 Earth days? _____
9. Which planet has the longest day? _____
10. Which is the most dense planet? _____
11. Which planet travels the fastest around the sun? _____
12. On which planet is there a storm? _____

2C. Match the words and the dictionary definitions.

1.	to consist of	__ to have as a part
2.	to orbit	__ very big
3.	to include	__ a natural force pulling objects towards any other object
4.	huge	__ speed
5.	exception	__ to travel in a fixed and curved path around a planet or star
6.	to fit	1__ to be composed of; to be formed from something
7.	to last	__ to continue to exist
8.	to boil	__ to be the right size and shape
9.	velocity	__ something unusual or different
10.	gravity	__ to heat a liquid until it reaches a high temperature and turns into gas

2D. Fill in the blanks with one of the words in 2C.

1. Basketball players are very tall, but Jim is a/n **exception** ; he is short.
2. All news programs _____ weather reports.
3. His family _____s of his mother, a sister in Florida and himself.
4. The Pyramids are _____ structures which have _____ for thousands of years.
5. Objects fall to earth because of the force of _____.
6. Light travels at a very high _____ in the universe.
7. I don't think this refrigerator will _____ in our kitchen. It is too big.
8. Before you give water to a small baby, you should _____ it and then cool it.
9. Telecommunications satellites _____ the Earth.
10. The committee usually meets at six, but today is a/n _____; they are meeting at four.

JUST FOR FUN!

2E. What is your age on other planets?

A planetary year is the length of time it takes a planet to revolve around the sun. The planets revolve around the sun in different amounts of time, so a "year" on each planet is different.

Study the table and the example. Now find out how old you are on any one of the planets.

Planet	Year
Mercury	87.96 Earth days
Venus	224.68 Earth days
Earth	365.26 Earth days
Mars	686.98 Earth days
Jupiter	11.862 Earth years
Saturn	29.456 Earth years
Uranus	84.07 Earth years
Neptune	164.81 Earth years
Pluto	247.7 Earth years

EXAMPLE

A 45-year-old person on Earth is 0.18 years old on Pluto.

247 Earth years x 365 = 90,155 Earth days
45 x 365 = 16,425 Earth days the person has lived
16,425 ÷ 90,155 = 0.182 The person's age on Pluto

QUESTION

How old is an 18-year-old person on Venus?

_____

_____

_____

Think And Talk Before You Read

You have already learned some facts about Pluto in Reading 2: All About Our Solar System. Let's see if you still remember them. If you have difficulty in answering the questions, go back to Reading 2 and check your answers.

3A. The following sentences are about Pluto. Choose True (T) or False (F).

T F 1. Pluto is a very big planet.
T F 2. It does not have a moon.
T F 3. It is one of the five outer planets.
T F 4. It travels in its orbit slowly.
T F 5. It is less dense than Earth.
T F 6. A day on Pluto is about a week on Earth.

READING 3: PLUTO

Pluto is the ninth and the smallest planet in our solar system. An astronomer called Clyde Tombaugh discovered it in 1930. It is very far from the sun, so you cannot see Pluto without a telescope. We know little about this small planet because no spacecraft has visited it yet.

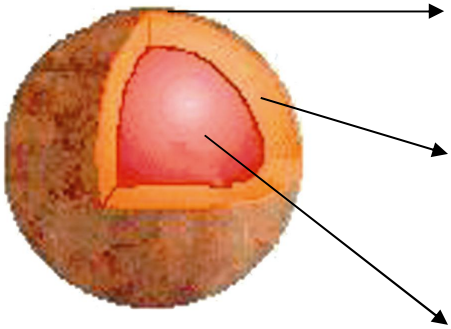
Pluto is very very cold. The average temperature is –236° C, and this makes the planet unsuitable for human beings. There may be methane ice together with frozen nitrogen and carbon dioxide on the cold rocky surface called the crust. The second layer, the mantle, consists of 70% rock and 30% water ice. Finally, there is some water ice inside the rocky core in the center.

It is hard to believe that Pluto has an atmosphere, but it does. Pluto changes its place with Neptune and becomes the eighth planet every 20 Earth years. When the planet moves closer to the sun, frozen methane on the surface evaporates because of solar heat and the atmosphere forms. When Pluto moves to its original position, methane freezes again. Besides methane, there are nitrogen and carbon dioxide in Pluto's atmosphere. This is another reason why human beings cannot live on Pluto.

Pluto has one moon, Charon. It is very small. Pluto and Charon are almost the same size, and they act like a double planet. Jim Christy, an astronomer, first saw Charon in 1978.

3B. Label the diagram using the information in the text.

Inside Pluto:



1. _____
Rocky surface covered with methane, nitrogen and carbon dioxide ice

2. _____
Rock and water ice

3. _____
Perhaps some water ice within core

3C. Fill in the gaps using the information in the text.

Pluto is the smallest of the nine planets in our solar system. Scientists think that Pluto is not a suitable planet for (1)_____ to live on because it is (2)_____, -236° C, and its atmosphere contains (3)_____.

When Pluto moves close to the sun, (4)_____ evaporates and Pluto's (5)_____ forms.

Pluto's moon is called (6)_____. Jim Christy discovered it in (7)_____. The sizes of Pluto and its moon are nearly the (8)_____.

READING 4: COMETS

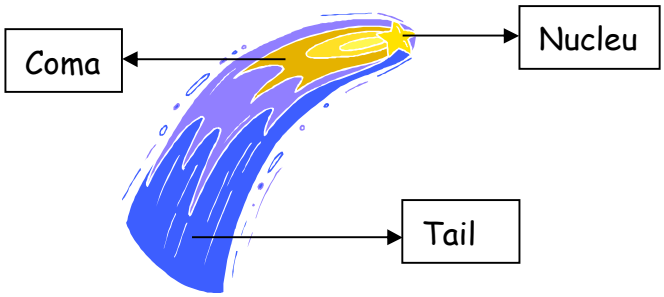
Do While You Read

4A. Try to guess the meanings of the following words using the clues in the text.

1. We use **to be made up of** to talk about the parts of a comet. There is another word in the text which is used to talk about the parts of its tail. What is this word? _____
2. **A coma** is _____
3. 80% of a comet is gas and water. 20% remains. Therefore, **remaining** is the adjective form of the verb _____
4. **Chunks** are _____
5. **Oval** is a synonym of _____
6. **To vary** means _____
7. **To increase** means "to become greater." It has an opposite in the same sentence. What is it? _____
8. If something is **visible**, we can _____ it.
9. **To disappear** means _____ anymore.
10. A group of comets travels very close to the sun. We call them _____
11. **To crash** is another word for _____

A comet is a small member of the solar system. It **is made up of** a nucleus, a **coma** (a cloud of gases around the center) and a tail. The tail consists of two parts, the gas tail and the dust tail. The tail of a comet can be up to 250 million km long. A comet is like a dirty snowball. 80% of a comet is made up of gas and water. The **remaining** 20% is **chunks**, or small pieces, of metal and rocky material. The outer layer of the comet is made of ice, but when it passes by the sun, it begins to evaporate.

Cross Section of a Comet



A comet travels around the sun in an **oval** shaped path. In other words, it has an elliptical orbit. The time it takes can **vary**, i.e., change, from 7 years to millions of years. The velocity of a comet **increases** when it is near the sun and decreases at the outer orbit. A comet is **visible** only when it is near the sun, but we cannot see it if it is far from the sun. Each time a comet passes close to the sun, it loses some of its material. In the end it **disappears** completely; that is, it doesn't exist anymore. There is a group of comets called **sungrazers**. They are called sungrazers because they get very close to the sun. Some of the sungrazers **crash** into the sun. Some others don't hit the sun, but just burn up.

Comets have always been of great interest to mankind, and some of them, such as the Great Comet of 1843, the Great Comet of 1884, the Hale-Bopp Comet, Donati's Comet, and the Shoemaker-Levy 9 Comet, have become quite famous.

4B. Do you remember the answers to the following questions? If you don't, go back to the text and find them quickly.

1. What are the parts of a comet's tail and how long can it be?

   _____

   _____

2. What happens when a comet passes by the sun?

   _____

   _____

3. What are the names of some famous comets?

   _____

   _____

Think And Talk Before You Read

1. What is life on a spacecraft like?
2. What does an astronaut do in space every day?
3. Can you see these things on a spacecraft?

__ Food on a table
__ A place to store food for a long time
__ Beds and pillows
__ Toothbrushes and toothpaste
__ An exercise machine such as a rowing machine
__ A piece of cake and a glass of cold drink
__ A cooker and a refrigerator
__ A shower

READING 5: LIVING IN SPACE

(1) Astronauts, when they live in space, do many of the same things that they do on Earth. They eat, sleep, work, wash and have fun. However, they have to do certain things differently.

(2) Eating in space is the most difficult of all. Astronauts have to be careful because their food can float away. Sticky foods are the best, and crumbly food is not sent to space because crumbs will float around on the spacecraft. Dry foods, because they weigh less and take up less room, are ideal to have in space. When they want to have something hot, astronauts add hot water to their food.

(3) Sleeping in space is an adventure, too. Some astronauts like to sleep floating free on the spacecraft, although there is always a chance of bouncing off a wall. Other astronauts sleep better if they are in a sleeping bag because this feels more like sleeping in a bed on earth. They can even fasten a pillow to their heads with a strap!

(4) Staying clean is harder in space, too. There is no shower on the spacecraft, so astronauts have to take a bath with the help of a sponge. They can brush their teeth as they do at home, but they have to be very careful and quick because the drops of toothpaste can float away. The astronauts have to put all the waste and garbage in bags and have to bring them back home to Earth. They cannot dump them into space! Going to the bathroom is not very difficult in space. The toilet on the spacecraft just uses airflow to carry waste away from the astronaut's body.

(5) One of the most important things astronauts must do every day in space is exercise. Without gravity, the human body becomes weak. Therefore, to keep their bodies strong, astronauts must exercise regularly by using special machines like the rowing machine.

Do While You Read

5A. Look for these words in the text, find them and write them in the blanks.

1. How do you feel when you touch chewing gum, glue or jam? Your hands become **sticky**. (Paragraph 2)
2. These are very small pieces of food. (Paragraph 2) _____.
3. When food breaks into very small pieces easily, we call it _____. (Paragraph 2)
4. If something moves slowly and easily in air or on water, it _____s. (Paragraph 2)
5. When we say there is _____ for something, we mean there is enough place or space for it. (Paragraph 2)
6. _____ are vehicles for travelling in space. (Paragraph 3)
7. When a ball moves quickly up, back and away after it hits something, it _____s. (Paragraph 3)
8. You attach one thing onto another thing when you _____ it. (Paragraph 3)
9. What happens to the things that we don't want or use anymore? We _____ them. (Paragraph 4)
10. Can you find another word for **waste** in the text? (Paragraph 4) _____

5B. Now categorize these words according to their part of speech in the box below. Then use them to fill in the blanks in the following exercise.

sticky (adj)

1. Don't sit on the chair! I have painted it; it is still wet and **sticky**.
2. What food has _____? Cake, bread, biscuits, etc.
3. When you get in a car, you must _____ your seat belts.
4. He _____d the ball twice before he kicked it.
5. Travelling by bus is always difficult for me because there isn't enough _____ for my legs.
6. The cheese dried and became _____.
7. The piece of wood was _____ing down the river.
8. It is risky to _____ nuclear waste in oceans.
9. Rockets are _____.

Read, Understand and Answer

5C. Choose the best alternative.

1. When they are in space, astronauts _____.
   a) do not brush their teeth
   b) have to sleep without a pillow
   c) do not do the things they do on Earth
   d) have to change their way of doing things

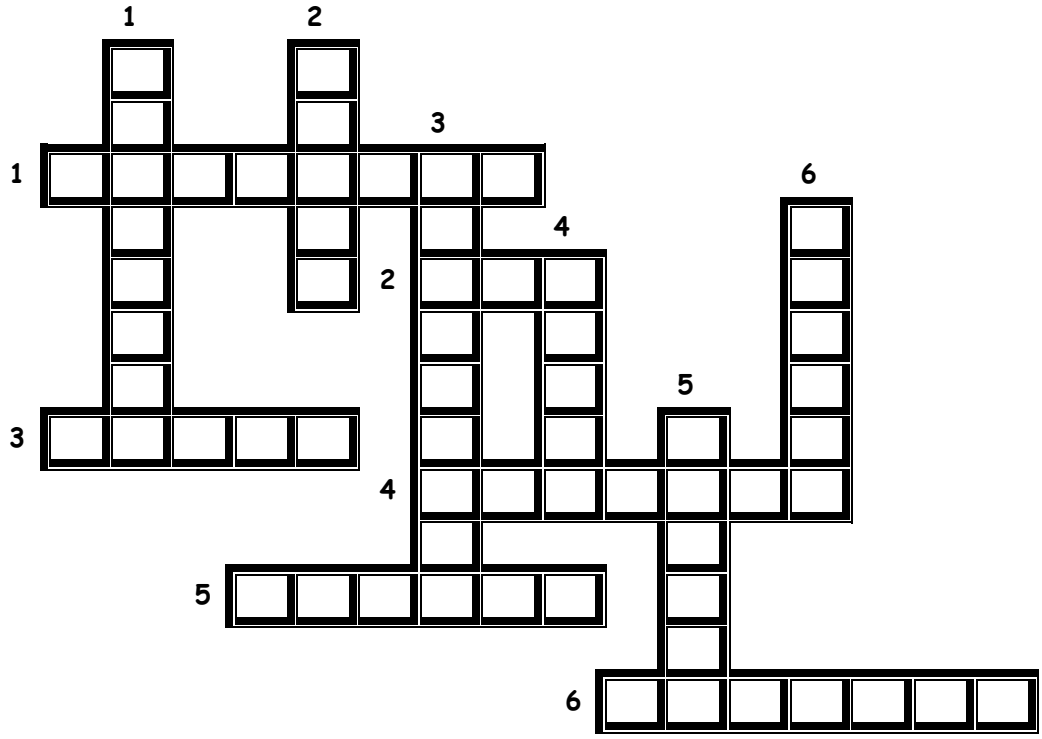
2. On a spacecraft _____.
   a) all sorts of sticky food float
   b) astronauts have crumbly food
   c) most food is dry or sticky
   d) astronauts always have to have cold food

3. Because there is no gravity on a spacecraft, astronauts _____.
   a) cannot keep their bodies clean
   b) have to sleep in a sleeping bag
   c) must exercise regularly to keep their bodies fit
   d) must bring their garbage back to Earth with them

4. Which of the following is **TRUE** according to the text?
   a) Dry foods are difficult to store on a spacecraft.
   b) Astronauts take a shower everyday in space.
   c) Astronauts use water to clean the toilets.
   d) It is possible to find some exercise machines on a spacecraft.

CROSSWORD PUZZLE

5D. Complete the sentences with words from the unit and write them in the boxes.



ACROSS

1. Columbus _____ed America in 1492.
2. The lemonade hasn't got enough sugar. _____ some more.
3. St Bernards are huge dogs. They _____ about 100 kilos.
4. The _____ temperatures are 25° to 30° C in the summer.
5. Water _____s at 0° C.
6. Sending an e-mail is an easy _____.

DOWN

1. The film is not _____ for children. They cannot see it.
2. A computer can _____ a lot of information.
3. Water _____s from the surface of the ocean and goes into the air.
4. The earth is the most _____ planet.
5. The three states of _____ are solid, liquid and gas.
6. What is the _____ of the tank in this car?

UNIT 2 VOCABULARY LIST

adventure	garbage
amount	gravity
average	heat
be composed of	hit
be made up of	ice
boil	increase
bounce	layer
burn up	machine
cause	make up
change	matter
close to	orbit
collapse	original
consist of	pass
contain	period
continue	planet
crash	position
create	reason
creation	relative
decrease	relatively
dense	remain
density	remaining
disappear	rock
discover	shape
drop	solar
dump	space
earth	speed
evaporate	store
exception	subject
exist	surface
expand	tiny
explain	universe
explanation	unsuitable
explode	vary
explosion	velocity
fact	visible
fasten	volume
fit	waste
float	
form	
formation	
freeze	
frozen	

UNIT 2 – GO ON READING

METEOR SHOWERS

The difference between a meteor and a meteorite is whether it makes it to the ground or not. Outer space is filled with trillions of very small rocks and dust particles, and this space dust constantly hits the Earth. Scientists tell us that we run into 400 tons of this dust every day.

When these specks of dust hit the Earth's atmosphere, they burn up and cause the "shooting stars" that we sometimes see at night. Most of these specks are tiny, usually as big as a grain of sand. Some of them are bigger rocks. If a rock burns up completely before reaching the Earth's surface, it is called a meteor. Very rarely a big rock doesn't burn up completely when it hits our atmosphere, and it ends up on the Earth's surface. In other words, it survives the trip through our atmosphere and lands on the ground. Then it is called a meteorite.

Most of the time, you just have to be lucky and be watching the sky when a meteor or meteorite hits our atmosphere and burns up. If you are lucky, you will see a beautiful sight as it streaks across the sky.

There are some meteor "showers" that happen the same time every year. The most famous of these is the Perseid meteor shower that occurs every August. These annual showers are caused when the Earth goes through the tail of an ancient comet.

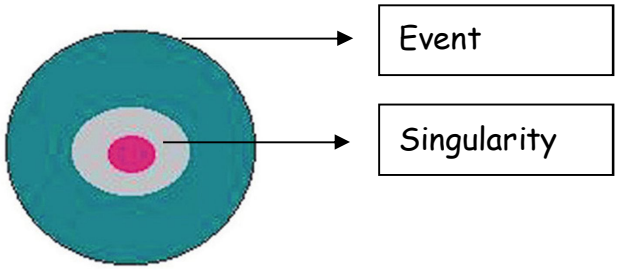
When a comet makes its journey through our solar system, the Sun's heat melts a small part of the comet's nucleus, or center. When this happens, the dust in the nucleus is left drifting in space along the path of the comet. When the Earth goes through this path, the particles of dust collide with our atmosphere, burn up and put on a show that we know as a meteor shower.

UNIT 2 – GO ON READING

BLACK HOLES

When a giant star dies, a black hole forms. At this point, both space and time stop. It is very hard for us to imagine a place where mass has no volume and time does not pass, but that's what it is like at the center of a black hole.

The point at the center of a black hole is called a singularity. Within a certain distance of the singularity, the gravitational pull is very strong so nothing -- not even light -- can escape. That distance is called the event horizon. The event horizon is not a physical boundary. It is the point-of-no-return for anything that crosses it. When people talk about the size of a black hole, they are referring to the size of the event horizon. The more mass the singularity has, the larger the event horizon. The structure of a black hole is something like this:



Many people think that nothing can escape the gravity of black holes. If that were true, the whole universe would get sucked up. When something (including light) gets close to the black hole, it will not be able to escape; but faraway things do not get sucked in. Stars and planets at a safe distance will circle around the black hole, like the motion of the planets around the Sun.

Black holes are truly black. Light rays that get too close bend into and are trapped by the gravity of the black hole. Trapped light rays will never escape. Since black holes do not shine, they are difficult to detect.

SKILLS SECTION:

NOTE-TAKING

STUDY THE SKILL

Note-taking is a study skill which helps you pinpoint important details and ideas when reading to learn. As you read through a text, you should also try to establish a frame by underlining and by using symbols, marks and abbreviations. This will increase comprehension and it will also be of great use while writing outlines and summaries. Although there are a number of standard symbols and abbreviations, everybody has their own way of writing down their notes and it is important that you develop your own note-taking system if you haven't got one.

The following are a few useful techniques for effective note-taking:

- Survey the text and the visual information to see what you will read.
- Look through the paragraphs to get a general idea of what they are about.
- While reading, underline or mark important points that you want to take notes on.
- Remember that economy is important in taking notes:
  a) Keep content words (nouns, adjectives, adverbs and verbs).
  b) Ignore some function words like articles (a, the), auxiliaries (be, have, do), prepositions (to, in, at), pronouns (my, his, them), repeated words and information and some of the examples.
- Depending on your preference, you may take notes in the form of tables, charts, outlines or summaries.
- Use standard symbols and abbreviations or create your own ones. The following list gives you the most common ones:

Symbol or Abbreviation	Meaning	Example
&	and	fats & proteins
@	at	meeting @ 10 a.m.
/	per	60 km/hr
p, pp	page, pages	read pp. 20-25
+	plus, in addition, also	read + answer
-	minus, without	- problems
=	equal to	women = men
x	times	10 x the price
≅, approx.	about, approximately	≅ 100 billion
>	greater than	spending > income
<	less than	eating < needed
%	percent	80% of METU students
#, #s, no, nos	number, numbers	leave out # 5
e.g.	for example	capitals, e.g. Ankara, London, Paris
i.e.	that is	budgerigar, i.e., well-known pet bird
etc.	et cetera, and so on	nutrients like vitamins, proteins, etc.
re:	regarding, about	see me re: exam
esp.	especially	bad habits, esp. smoking

N.B.	note well, take special note of	N.B. don't forget the bill
max.	maximum	max. 5 people
min.	minimum	min. 10 ft.
∴	therefore	alcohol ∴ accidents
b/c, b/c of	because, because of	floods b/c of too much rain
b/4	before	finish b/4 noon
asap	as soon as possible	respond asap

PRACTICE THE SKILL

Read the text and study the sample outline following it. Part of it has been done for you. Complete the rest of the outline by taking your own notes.

The Layers Of The Earth

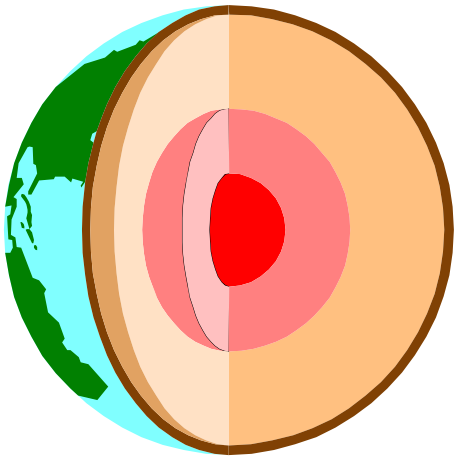
The earth is made of four layers. We live on the earth's crust, the top layer of the earth. It is made up of rocks broken into small pieces. The continents, ocean floors, mountains, and valleys of the earth's surface are in the earth's crust. The crust contains two segments, the oceanic and continental crusts. The oceanic crust is the thinner crust. It is made up of basalt and contains the oceans. The continental crust is the thicker of the two crusts. It is made up of granite and contains the landmasses. Under the crust is the rocky mantle. It is composed of silicon, oxygen, magnesium, iron, aluminum, and calcium. The mantle is about 2,750 km thick. It gets warmer with depth; the top of the mantle is about 870° C; towards the bottom of the mantle, the temperature is about 2,200-3,700° C. The outer core is the third layer. It is a liquid and contains sulphur and oxygen. It is about 2,260 km thick. The inner core is at the center of the earth and is the deepest part. It is solid, has a radius of about 1,228 km and a temperature of about 3,000 – 6,500° C.

Sample Outline:

layers of earth

7. crust
   - top layer
   - small pieces of rock
   - continents, ocean floors, mountains & valleys

   A. oceanic crust
      - thinner
      - basalt
      - contains oceans



B. continental crust
- thicker
- granite
- contains landmasses

II. mantle
- Si, O, Mg, Fe, Al, & Ca
- ~2,750 km thick
- top temp: ~870° C
- bottom temp: ~2,200-3,700° C

III. _____
- _____
- _____
- _____

IV. _____
- _____
- _____
- _____
- _____

VOCABULARY DEVELOPMENT:

DICTIONARY USE

In the dictionary, you may find information about the pronunciation, the part of speech, the different forms, and the derivatives in addition to the definition of words. Most of the time, words have more than one meaning. The part of speech, the context in which the word appears and the examples will help you choose the suitable meaning.

Example:
Geology is not my **field**, so I cannot answer your questions.

Dictionary entry:

main entry | part of speech | definitions

field (noun)
1. a limited area of land with grass <the corn fields> 2. an area used for playing sport <a football field> 3. competitors in a race or activity <a race with a field of eleven> 4. an area of study, activity or interest <the field of medicine> 5. the background of a painting or flag <white stripes on a field of red>

forms

field (verb) fields, fielding, fielded
1. to put a team on a field to play 2. to answer questions <he fielded our questions> 3. to catch the ball in a game of baseball or cricket

fielder (noun)

derivatives

The word **field** in the above sentence is a noun because the pronoun 'my' comes before it. The examples and the context show that it means 'an area of study' here.

Identify the part of speech of the words in bold. Then study the dictionary entries, find the meanings of the words and write them down in the space provided.

Ever heard of Chinguetti, a city in the Sahara desert close to the North African country of Mauritania? No? Well, most of the world did not, either, until anthropologists discovered that this desert city had the world's oldest living library. That is to say, a library with Islamic **manuscripts**, which had remained **intact** for several centuries.

Chinguetti is located on the Adrar plateau 500 km into the Sahara desert. It is a ghost town today and is **sinking** into the sands **gradually**. Only a few people stay on as its **residents**. However, it was **once** a very important city, and **pilgrims assembled** there before they travelled to Mecca. Also, caravans of thousands of camels carrying salt, tea, wool and other goods **halted** there on their way to trade with other regions, across the Sahara. Because the city was so important, many **invaluable** Islamic manuscripts found their way into the library of the city.

1. manuscript: _____
2. intact: _____
3. to sink: _____
4. gradually: _____
5. resident: _____
6. once: _____
7. pilgrim: _____
8. to assemble: _____
9. to halt: _____
10. invaluable: _____

DICTIONARY ENTRIES

assemble (verb) assembles, assembling, assembled
1. bring people or things together <assemble a collection> 2. join parts together <she assembled a doll's house> 3. come together in a group or place <assemble outside the exit> 4. translate a computer program into machine code
assembler (noun)
assembled (adjective)
gradual (adjective)
happening slowly or by small steps <a gradual increase in prices>
gradually (adverb)
gradualness (noun)
halt (verb) halts, halting, halted
1. stop <the car halted at the traffic light> 2. pause or hesitate while speaking or writing
halt (noun)
halting (adjective)
haltingly (adverb)
intact (adjective)
1. whole, not in pieces <the eggs remained intact> 2. not damaged <his reputation is still intact after the scandal> 3. in the original state <the building survived the bombing intact>
manuscript (noun)
1. a typed document before it is printed <the manuscript sent to the editor> 2. a hand-written text or handwriting <old manuscripts from the 15th century>

once (adverb)
1. occurring one time only <I told him what to do just once> 2. occurring in the past <I once visited my hometown many years ago>
once (conjunction)
when, as soon as <Once he understood, he did what they told him>
pilgrim (noun)
a person who travels a long way to visit a holy place for religious purposes
pilgrimage (noun)
reside (verb) resides, residing, resided
to live in a place
residence (noun)
residency (noun)
resident (noun)
1. a person who lives in a certain area <a resident of Ankara> 2. someone in a final training period to become a doctor
sink (verb) sinks, sinking, sank, sunk
1. to go or fall below the surface of water, mud or sand <the boat sank> 2. to go into a worse or different physical state <he took drugs and sank slowly into bad health> 3. to push something into the ground <they sank dynamite into the hill> 4. to cause to fail, ruin, or destroy <the banks would not give our company any more money, and this sank us; we went out of business> 5. to fall slowly <she sank to her knees; she was so tired> 6. to become disappointed or sad <his heart sank when he saw his girlfriend with another man> 7. to spend money on something, to invest <don't sink any more money into your old car>
valuable (adjective)
1. having worth, value <valuable gold coins> 2. useful, helpful <a valuable piece of information>
valuables (noun)
valuableness (noun)
valuably (adverb)
invaluable (adjective)
extremely valuable, worth a great deal <your help was invaluable>
unvaluable (adjective)
not valuable, worthless

VOCABULARY DEVELOPMENT:

COLLOCATIONS

Collocations are words or word groups which are often used together. They sound natural to native speakers, but for non-native speakers it is not very easy to understand why certain words or word groups go together while others do not. For example, 'a fight breaks out' NOT 'happens', 'a volcano erupts' NOT 'explodes', 'a car goes fast' NOT 'quickly' or 'it rains heavily' NOT 'strongly'. Learning collocations rather than individual words is very important in improving reading comprehension because the brain perceives and stores information in chunks, that is, as groups of words, not as single items. As a result, while reading, if you divide chunks in the wrong place, the meaning will be lost. Moreover, it is always easier to remember a word with other words around it than remember it by itself.

Collocations can be of any type:

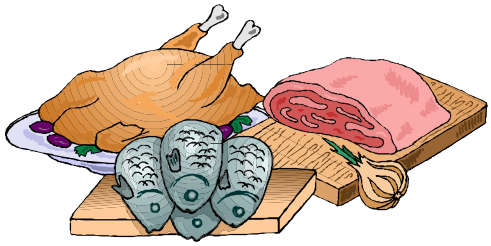
- noun + verb: < a fight broke out >
  < the volcano erupted >
- verb + noun < run a machine >
  < collect data >
- adjective + noun: < heavy rain >
  < a strict teacher >
- noun + noun: < ground water >
  < a railway station >
- verb + adverb: < speak simply >
  < help greatly >
- adverb + adjective: < extremely difficult >
  < terribly sorry >
- noun/adjective/verb + preposition: < an advantage of something >
  < be good at doing something >
  < look forward to doing something >
- combinations of all: < the political situation in Turkey >
  < perform an illegal operation >

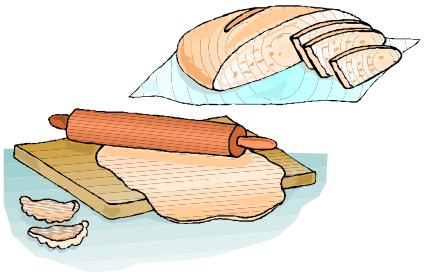
Read the following paragraph and find the words or word groups you can use to fill in the blanks.

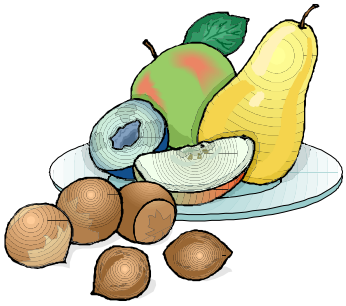
A volcano is a mountainous vent in the Earth's crust. When a volcano erupts, lava, ashes, and hot gases come out from deep inside the Earth. Volcanologists study and classify volcanoes according to their activity. There are three different classifications of volcanic activity: active, dormant or extinct. An active volcano has erupted in recent history or will possibly erupt soon. A volcano that has been quiet for a long time is called a dormant volcano. In other words, it is a *sleeping* volcano, but it still has signs of activity. An extinct volcano is one that has not erupted for thousands of years. Sometimes it is hard to tell if a volcano is dormant or extinct.

1. a mountainous vent
2. in _____ crust
3. a volcano _____
4. _____ from deep _____
5. classify _____ their activity
6. three _____ volcanic activity
7. _____ volcano
8. in recent _____
9. for _____
10. _____ words
11. have _____ activity
12. it is _____

UNIT 3: FOOD AND NUTRITION







Think And Talk Before You Read

1. What foods do you like most and eat in large quantities?
2. Do you snack? Is it a healthy habit?
3. What foods and food groups do you see in the pictures?
4. What do they try to show?
5. Does the body need food or the necessary substances in food? What do we call these substances?

READING 1: A BALANCED DIET

Do While You Read

1A. Answer the following questions by completing the sentences.

1. Plants can _____.
2. **To absorb** means _____ in.
3. them refers to _____.
4. The opposite of **simple** is _____.
5. This amount refers to the amount of _____ our brain uses.
6. 1 pound **is equal to** 456 grams. Therefore, does equal mean the same or different in amount, number or size? _____
7. Fats solid at room temperature are called _____.

8. **To transport** means _____ from one place to another.
9. Finish the sentence. You don't _____.
10. If protein is _____ in our body, it means there is a lot of protein in our body.
11. The first refers to the first _____.

Nutrients are substances in food necessary for good health. Unlike[1] plants, our bodies can't make nutrients. We get them from food when we eat. During digestion, the body breaks food into its nutrients, absorbs[2] (takes) them into our bloodstream and carries them[3] to every cell. There are more than 40 nutrients with specific functions. We can group them as carbohydrates, fats, proteins, vitamins, and minerals.

Carbohydrates are the body's main source of energy. They are either simple[4], called sugars, or complex, called starches. We can get carbohydrates from cereals, rice, potatoes, bread, spaghetti, fruits and vegetables. Our bodies need carbohydrates to use fats effectively. We also need them for our brains. The brain can't work properly without carbohydrates because it uses a lot of simple carbohydrates each day. This amount[5] is equal to[6] 1/3 pound (150 grams) of sugar per day. Carbohydrates should make up about 40% of your diet.

Fats are of two kinds. Saturated fats are solid at room temperature[7]. Butter, cheese, milk, cream, chocolate, and ice-cream contain saturated fats. Unsaturated fats are liquid at room temperature. Nuts, oils and fish such as tuna contain unsaturated fats. Many people think that fats are totally bad for you, but the body actually needs them. Fats transport[8], i.e. carry, nutrients and they are a part of some body cells. They help to keep the body warm and active because they are an important source of energy. In fact, they contain more energy than carbohydrates and proteins. They provide a place for the body to store Vitamins A, D, E, and K. With all these uses, you may think you need a lot of fat but you don't[9]. The body has almost no requirement for saturated fat. To stay healthy, limit the amount of fat down to 10% of your diet.

Protein is the second most plentiful substance in our bodies[10]. The first[11] is water. Almost 20% of our weight is protein in our bodies. Our muscles, hair, nails, skin and eyes are mostly protein.

12. **essential** means _____.

13. Foods high in protein **means foods with** _____.

14. To regulate **and** _____ **are similar in meaning.**

15. **internal** starts with "in," so these chemical reactions take place _____ the body.

16. One vitamin cannot take the place of another _____.

17. **eyesight** starts with the word "eye." It means the ability _____.

18. If your **resistance** to cold increases, do you catch cold easily? _____.

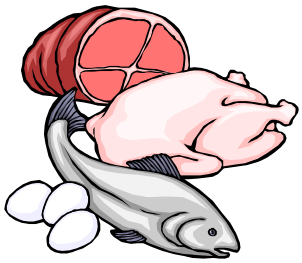
19. Cheese and yogurt are examples of dairy products. Can you guess what they are made from? _____.

20. <u>they</u> refers to _____.

21. **To maintain** means _____.

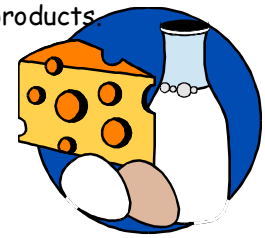
22. Another verb in the first part of the sentence is a synonym of **to require**. What is it? _____.

It is very important because it builds and repairs the body cells,



and it is also essential[12] (necessary) for growth. When the body doesn't have enough fat or carbohydrates, it often uses protein as energy. Foods high in proteins[13] are eggs, milk, soybeans, rice, meat, fish, potatoes, corn and peanuts. Protein should make up about 20% of your daily diet.

Vitamins are necessary for many different body processes. The body needs them in small amounts to regulate[14], or control, internal chemical reactions[15]. Vitamins do not provide energy, but they help our bodies use the energy from foods. Each vitamin has a specific job in the body so one vitamin cannot replace <u>another</u>[16]. To give a few examples, Vitamin A is necessary for healthy skin and good eyesight[17]. We can get it from milk, vegetables and fruit. Vitamin C from vegetables and fruit increases our resistance[18] to cold. Vitamin D makes our bones and teeth strong. Dairy products[19] such as cheese and yogurt are rich in this vitamin. Vitamin B12 helps with the formation of red blood cells. We can get it from meat and dairy products.



Minerals, like vitamins, are necessary for internal chemical reactions and <u>they</u>[20] form body structures. For example, calcium from milk, cheese and yogurt helps build and maintain[21] (keep in good condition) strong bones and teeth. We get iron and zinc from meat, vegetables, fruit, bread and cereals. Hemoglobin (a substance which carries oxygen to cells) needs iron, and several body enzymes require[22] zinc. Magnesium is necessary for a healthy nervous system. Milk, vegetables, fruit, bread and cereals contain this mineral. Vitamins and minerals together should make up about 30% of your diet.

Read, Understand And Answer

1B. Fill in the table according to the information given in the text.

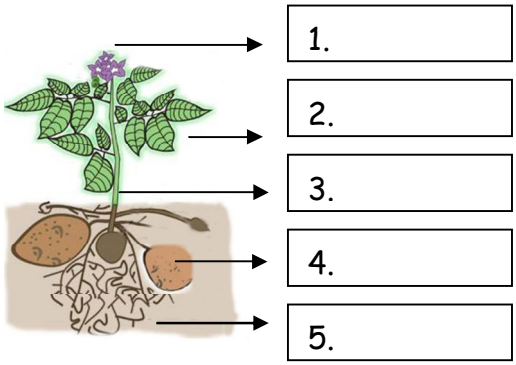
NUTRIENT	KIND or EXAMPLE	SOURCE	USE
Carbohydrates	1. _____	2. _____ _____ _____	to use fats effectively, 3. _____
	Complex		
Fats	Saturated	butter, cheese, milk, cream, chocolate, ice-cream	6. _____ _____ _____ _____
	4. _____	5. _____ _____	
7. _____		eggs, milk, soybeans, rice, corn, meat, fish, potatoes, peanuts	build and repair body cells, 8. _____
9. _____	A	10. _____	11. _____
	C	vegetables, fruit	resistance to cold
	D	12. _____	strong bones and teeth
	B12	meat, dairy products	13. _____
14. _____	Calcium	15. _____	16. _____
	Iron	meat, vegetables, fruit, bread, cereals	17. _____
	18. _____		for body enzymes
	Magnesium	19. _____	20. _____

Think And Talk Before You Read

1. How often do you eat potatoes? How do you like them prepared?
2. How about broccoli? Have you ever eaten any? If you have, how do you usually eat it?
3. Would you be surprised to hear that these vegetables have a lot of Vitamin C? Do you know what other kind of nutrients they have?

READING 2: VEGETABLES, VEGETABLES…

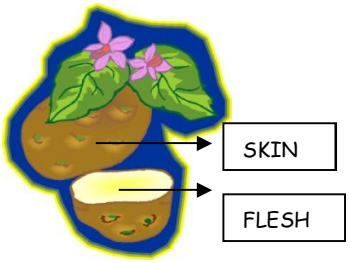
2A. Look through the text and find the paragraph which gives you information about the potato plant. Then read the paragraph and label the parts of the potato plant.



POTATO

It is thought that potatoes came from the Andes Mountains of Peru, and the Incas planted them thousands of years ago. Peruvians, the people of Peru, were very proud of their potatoes. They decorated their houses with potato figures. The Quechua Indians also live in this region now, and they have more than 1,000 different names for potatoes. The word potato comes from the Caribbean word batata. It meant sweet potato.

Potatoes are a necessary part of a healthy diet because they are nutritious. Potatoes are high in Vitamin C and potassium. Just one medium potato has 45% of the Vitamin C and 21% of the potassium our bodies need every day for good health. One medium potato has almost three times more potassium than one medium orange. Potatoes are also a good source of fiber. Just one serving of potatoes has 12% of the fiber we need every day. Potato skin also has nutrients. It contains fiber, potassium, iron, zinc, phosphorus and B vitamins. That's why it's best to eat potatoes with their skins.



Potato plants grow quickly in about 20 days, but it takes longer for the potatoes, 100 to 140 days, to develop under the ground. The plants do not like very cold or very hot temperatures, but today you can find potatoes any time because people grow them all over the world. Potato plants have flowers, leaves, stems, tubers and roots. The flower of the potato plant is perfect. It contains both male and female flower parts. The color of the flower depends on the variety or type of potato. It can be white, lilac, purple or violet. The stem is the central part of a plant, above the ground. Potato plants have a different stem system. Their stem system is both aboveground and underground. Leaves and flowers grow from the part of the stem above the ground. The underground stem system, on the other hand, has tubers and roots. We eat the tubers of the plant and call them potatoes.

Do While You Read

2B. Study the outline of Reading 2. Parts of it are incomplete. Read the text and fill in the missing parts with your own notes.

POTATO

history
- from Peru, Incas 1000s of yrs. ago, plant p
- p figures in houses
- today Quechua Indians: > 1000 names
- p from batata: Caribbean

nutrition
- healthy, nutritious
- 1 medium p: 45% 1) _____
  21% 2) _____
  (3 x 1 medium orange)
  3) _____ fiber
- 4) _____
- nutrients e.g. 5) _____
- eat with skin

p. plant
- grow: 20 days; p: 6) _____
- not v. hot or cold temp

parts

flower
- perfect: both 7) _____ parts
- colors: 8) _____
  depends on 9) _____

leaves

stem
- above & underground stem system
- above: flowers & leaves
- under: tubers & roots

tubers
- in stem system
- eat tubers

roots

BROCCOLI

2C. Write one question about broccoli in the space provided and then look through the text. Does the text answer your question?

Question: _____

Broccoli is a vegetable with green leaves and from the same family as cabbage and cauliflower. It has been around for more than 2,000 years. It was a favorite food of the ancient Romans. Then, the Italians grew and ate broccoli during the sixteenth century. They also gave the plant a name. The word broccoli comes from the Italian "brocco," meaning arm or branch. People in other countries learned about it later, in the 1920s.

Unfortunately, broccoli cannot be grown all over the world because it needs a cool climate and moist soil. Over 90% of broccoli is grown during the winter months, from November to March. It takes 100 to 120 days for broccoli seeds to grow into plants. The broccoli plant has roots underground, like all plants, a stem, and large dark green leaves. The head of the plant has bunches of flowers, and we eat these bunches before they turn into yellow flowers.

Broccoli is rich in vitamins and minerals and it is a good source of fiber. It contains Vitamins A and C, potassium, iron and calcium. One serving of broccoli has as much calcium as milk, provides 220% of your daily Vitamin C and 15% of your daily Vitamin A. This vegetable is important because it has phyto-chemicals and anti-oxidants. What is so important about phyto-chemicals and anti-oxidants? Well, they prevent carcinogens (cancer-causing substances) from forming and stop these from getting to our body cells. They also slow down the ageing process. In short, broccoli does not only have a good nutritional value but it also helps you lead a healthier, longer life. It gives you many ways to help fight and prevent diseases such as heart disease, cancer, diabetes, diseases of the bone, arthritis, Alzheimer's and hypertension (high blood pressure).

Do While You Read

2D. Now read the text on broccoli carefully, underline the important points and take your own notes.

2E. Choose the best alternative using the information in the notes on both texts in Reading 2.

1. Potatoes have been around _____.
   a) for a shorter time than broccoli
   b) since ancient Romans
   c) since the Incas
   d) for 2,000 years

2. You can collect and eat the potato and the broccoli _____.
   a) after 20 days
   b) in over 100 days
   c) all the year
   d) only in the summer

3. We can eat the _____ of the broccoli plant.
   a) roots b) leaves c) tubers d) flowers

4. Broccoli is richer in _____ than the potato.
   a) Vitamin C b) potassium c) Vitamin A d) iron

5. Both potatoes and broccoli contain _____.
   a) calcium b) fiber c) zinc d) B vitamins

6. Broccoli makes us healthier because _____.
   a) it contains carcinogens
   b) it helps the ageing process
   c) it has phyto-chemicals and anti-oxidants
   d) it stops body cells from forming

READING 3: FOOD SAFETY FACTS

3A. Choose a suitable title for each paragraph.

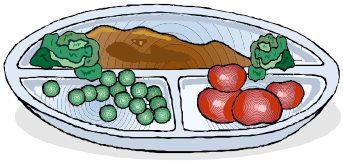
A. KEEP EGGS IN THE FRIDGE AND NEVER EAT THEM RAW!
B. KEEP COLD FOODS COLD!
C. THROW FOOD AWAY WHEN YOU ARE NOT SURE!
D. KEEP HOT FOODS HOT!
E. ALWAYS WASH YOUR HANDS, BEFORE AND AFTER HANDLING FOOD!
F. WASH FRESH FRUITS AND VEGETABLES!
G. THAW FOODS SAFELY

Every year, millions of people **suffer** from foodborne illnesses. These people do not even know that it was food that caused their illness. Therefore, if you know the basics of food safety facts, this will help you not to become victims of foodborne illnesses.

1. _____

If you are not going to eat food immediately after you cook it, you should keep it hot. However, bacteria can grow well at temperatures between 10°C and 40°C. Therefore, you should never keep cooked food at these temperatures for more than two hours to **prevent** illness.

2. _____



Cold salads, dairy products and meat require refrigeration. You should always keep them cold (below 10°C) because if they warm up, bacteria may grow to dangerous **levels**.

3. _____

Our hands naturally carry bacteria on them. If we transfer those bacteria to the food, they will **rapidly** grow there. Similarly, some food, especially raw food, contains a certain amount of bacteria in it as well. Therefore, it is important not to let the bacteria from raw foods stay on our hands when we handle, i.e., touch or hold, food. If we do so, we may transfer them to our mouth or other foods.

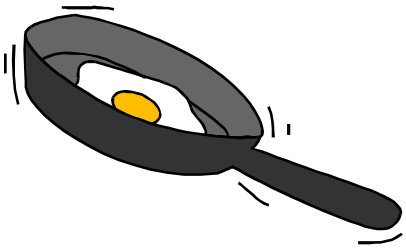
4. _____

Never thaw (melt) frozen raw meat and poultry by leaving them on the counter at room temperature. The **proper** way to thaw such products is to either thaw them in the refrigerator or thaw them in a microwave oven.

5. _____

Because we grow fresh fruits and vegetables outside, they may come in contact with different kinds of bacteria. Most of these bacteria are not **harmful**, but do not forget to wash fresh fruits and vegetables well under running water before you **consume** them.

6. _____



Eggs may contain the bacteria Salmonella in their yolks, and so it is very important not to leave eggs at room temperature. The Salmonella begins to **multiply** and grow at room temperature. Because there may be Salmonella in eggs, you should also always cook your eggs well before you eat them.

7. _____

Never taste food that has gone bad. If you think that a food is unsafe to eat, do not eat it. Even reheating the food cannot **destroy** the toxins of some bacteria. Never eat canned food if the can has a leak. The **consequences** of foodborne illness are not worth the money you will save!

Do While You Read

3B. Identify the part of speech of the words in bold. Then look them up in the given dictionary entries. Choose the meaning suitable for the context and write it in the blanks provided.

1. to suffer: _____
2. to prevent: _____
3. level: _____
4. rapidly: _____
5. proper: _____
6. harmful: _____
7. to consume: _____
8. to multiply: _____
9. to destroy: _____
10. consequence: _____

DICTIONARY ENTRIES

consequence (noun)
an often bad result of a particular action or situation ‹have disastrous consequences›
consequential (adjective)
consequently (adverb)
consume (verb) consumes, consuming, consumed
1. to destroy by fire 2. to use up, spend ‹the search consumed most of our time› 3. to eat or drink up ‹consumed a whole gallon of ice cream›
consumable (adjective)
consumer (noun)
consumption (noun)

destroy (verb) destroys, destroying, destroyed
1. to cause damage to <bombs destroyed the city> 2. to kill <destroy an animal>
destruction (noun)
destructive (adjective)
destructively (adverb)
harm (verb) harms, harming, harmed
to hurt, injure, or damage <a speeding car could harm her>
harm (noun)
injury, damage <no harm came to the girl>
harmful (adjective)
causing damage <a harmful chemical>
harmfulness (noun)
harmfully (adverb)
level (noun)
1. a device used (by a carpenter) to make a horizontal line or surface 2. a horizontal line or surface usually at a height <placed at eye level> 3. an amount of something especially in comparison with something else <production is at a low level this year> 4. the amount of a substance in a body fluid (like blood) <high level of sugar in the blood>
level (adjective)
multiply (verb) multiplies, multiplying, multiplied
1. to increase in number, make or become more numerous 2. to produce offspring <rabbits multiply rapidly> 3. to add a number to itself a particular number of times <multiply 7 by 8>
multiplier (noun)
multiplication (noun)
prevent (verb) prevents, preventing, prevented
1. to keep from happening <prevent accidents> 2. to hold or keep back; stop <bad weather prevented us from leaving>
preventable (adjective)
prevention (noun)
preventive (adjective)
proper (adjective)
1. correct, right as to how to do something <the proper way to fix that engine> 2. having good manners, correct behavior <she is proper in the way she behaves> 3. suitable, not inferior <a proper raincoat and boots> 4. in a specific area, not outside it <she lives in Paris proper>
properly (adverb)
rapid (adjective)
quick or sudden <a rapid response to the question>
rapidity (noun)
rapidness (noun)
rapidly (adverb)
quickly or suddenly <the number of children grew rapidly>
suffer (verb) suffers, suffering, suffered
1. to feel pain 2. to experience something unpleasant like an illness <suffer from cancer> 3. to experience loss or damage <the business suffered during the recession>
sufferable (adjective)
sufferably (adverb)
sufferer (noun)

3C. Now fill in the blanks with the words from the box below. You can use some words more than once.

consume	destroy	harmful	level	proper
prevent	rapidly	suffer	multiply	consequence

1. You should not smoke near people who _____from asthma.
2. The water _____ in the lake is much higher after heavy rain.
3. Giving up smoking can _____ heart disease.
4. The number of home computers is increasing _____.
5. This group of chemicals is _____ to people.
6. If you _____ 7 by 15, you get 105.
7. That's the trouble with those big powerful cars -- they _____ too much fuel.
8. Hunters _____ the balance of nature by killing animals.
9. Vaccines _____ diseases like polio and smallpox.
10. Turkish people _____ a lot of bread with every meal.
11. In warm weather, germs _____ quickly.
12. I couldn't do the job because I didn't have the _____ equipment.
13. What was the _____ of the government's refusal to put enough money into health care?

JUST FOR FUN!

3D. Guess the answers!

1. Why do lions eat raw meat?
2. What is this? You throw away the outside of it and then cook the inside; then you eat the outside and throw away the inside!

READING 4: PLANT NUTRIENTS

Plants grow and survive, i.e., continue to live, using 16 chemical elements. We can group these elements as non-mineral and mineral nutrients. Non-mineral nutrients are hydrogen (H), oxygen (O) and carbon (C). In a process called photosynthesis, plants use energy from the sun to change carbondioxide (CO_2) and water (H_2O) into sugars and starches. These sugars and starches are the plant's food. Since plants get carbon, hydrogen and oxygen from the air and water, there is little farmers and gardeners can do to control the amount of non-mineral nutrients. Some plants get and use a lot of these nutrients; others get and use only a few.

The remaining 13 nutrients are minerals and they come from the soil. The plant's roots absorb them with water. Nitrogen (N), phosphorus (P) and potassium (K) are the three major ones. There are not always enough of these nutrients in the soil for a plant to grow healthily. In addition, plants use large amounts for their growth and survival so the soil usually lacks (doesn't have) these. As a result, many farmers use fertilizers. Fertilization adds these minerals to the soil. Other minerals like calcium (Ca), magnesium (Mg) and sulphur (S) are usually plentiful in the soil, so there is no need for fertilization to provide these nutrients. For example, plants get sulphur when organic matter in the soil decomposes, i.e., dies and breaks into pieces. Gardeners never throw out dead grass and leaves for this reason. Plants need some nutrients such as boron (B), copper (Cu), iron (Fe) and zinc (Zn) in very small quantities. The needed amounts are available in the soil; the plants can get them easily.

Plants use all these nutrients for a variety of purposes. To give a few examples, nitrogen is essential for photosynthesis, energy transfer and seed and fruit production. Phosphorus produces rapid growth. Plants fight diseases using potassium. Similarly, calcium makes plants stronger. Sulphur helps with root development. Plants need boron for sugar production and iron for the formation of chlorophyll (the green matter necessary for photosynthesis). Zinc also helps plant growth.

Read, Understand And Answer

4A. Answer the following questions according to the information in the text.

1. Why can't farmers provide non-mineral nutrients?

   _____

2. How do plants get mineral nutrients?

   _____

3. Why does the soil usually lack nitrogen, phosphorus and potassium?

   _____

4. What do farmers do when the soil lacks some mineral nutrients?

   _____

5. Why are dead grass and leaves necessary?

   _____

6. Which minerals can plants get easily from the soil?

_____

7. Plants need nitrogen and iron for the same reason. What is it?

_____

8. If a plant can't grow tall, which minerals does it need?

_____

9. How can farmers help a plant give more fruit?

_____

10. List all the nutrients plants use during photosynthesis.

_____

4B. The following words are from the readings in the unit. One of the alternatives does not go with the given word. Find the odd one out.

1. ORGANIC	matter	substances	~~elements~~
2. RAW	food	meat	water
3. CHEMICAL	temperatures	reactions	substances
4. ENERGY	transfer	function	production
5. PLANT	growth	nutrient	diet
6. HARMFUL	bacteria	substances	storage
7. HEALTHY	diet	growth	fats
8. BODY	vitamins	cells	processes
9. RAPID	development	growth	amount

JUST FOR FUN!

4C. Here are some facts about food and nutrition. Try to fill in the blanks choosing the right piece of information from the box. If you cannot guess the answers, ask your teacher!

Every day, birds eat half their own weight in food! So why do people say that a poor eater eats like a bird? If this were the case, a thirty-kilo child would consume (1) _____ of food a day.

Lemons contain more (2) _____ than strawberries.

Americans spend more on (3) _____ every year than they spend on baby food.

Turkey has the highest (4) _____ consumption in the world.

Lachanophobia is fear of (5) _____.

To make half a kilo of cheese, a dairy cow must first eat (6) _____ of food.

Apples are more efficient than (7) _____ in keeping people awake in the mornings.

caffeine	vegetables	sugar
15 kilos	1.5 kilos	cereal
	dog food	

UNIT 3 VOCABULARY LIST

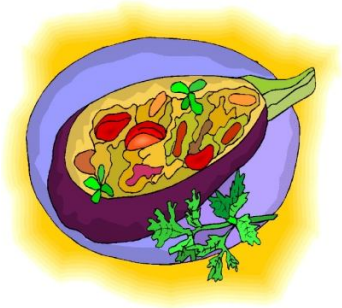
absorb	product
active	production
actually	proper
available	properly
cell	provide
complex	purpose
consequence	quantity
consume	rapidly
contact	raw
decompose	region
depend on	regulate
destroy	repair
develop	replace
development	require
disease	requirement
effectively	resistance
equal	root
especially	safety
essential	seed
female	several
flesh	simple
function	skin
handle	soil
harmful	solid
illness	source
important	structure
lack	substance
leak	suffer
let	survival
level	survive
liquid	thaw
maintain	totally
major	transport
male	unfortunately
melt	unlike
moist	value
multiply	variety
nutrient	victim
nutrition	
nutritional	
nutritious	
per	
plentiful	
prevent	
process	

UNIT 3 – GO ON READING

TURKISH CUISINE DURING THE OTTOMAN PERIOD

(Adapted from N. Halici, The Historical Evolution Of Turkish Cuisine, Image Of Turkiye, Issues 42-43, 1991)

During the Ottaman Period, in the kitchens of the palace and in the homes of nobles and officials, cooks developed a high level of specialization in cooking. Thus, Istanbul cooking or palace cooking, which is known as Turkish cuisine today, was created.



When Sultan Mehmet II conquered Istanbul in 1453, the first thing he did was to have a new palace built for him. Later on, when the palace was completed, Sultan Mehmet and his officials made a statement and set out the rules for table manners in Topkapi Palace. There were also other rules that the cooks in the kitchen had to obey about how to prepare and serve food.

During Mehmet II's time, the palace kitchen was made up of four main areas. The most important of these was the Kushane, named after a small cooking pot. In this kitchen, only food for the sovereign was prepared, in small quantities and in small vessels. The second kitchen was the Has Mutfak. There, the cooks prepared food for the mother of the sultan, the princess and the important members of the harem. The other kitchens were used to make food for the other members of the harem and members of the palace household according to their ranks. During this period, the kitchen staff included bakers, dessert cooks, helva makers, pickle makers and the chief yogurt maker.

During the 15th century, all the staff in the palace kitchens tried hard to come up with new ideas to improve existing dishes. The nobles and officials entertained each other regularly and competed to provide the best food. The sultans honored the people who were famous for their kitchens by paying them a visit. Just as in the palace kitchens, all Ottoman grand houses employed staff who specialized in particular aspects of culinary art.

In this period, various chefs' guilds were organized in the capital, and to this day they continue to play an important role in improving old recipes. Under Ottoman rule only the best ingredients were brought to Istanbul, and the sale of inferior foods was strictly forbidden. This fact, together with the lively competition between the cooks, ensured that high standards were always maintained. The soup shops and street vendors are some interesting elements of Turkish cuisine which have originated from this era.

UNIT 3 – GO ON READING

ANOREXIA NERVOSA

Anorexia nervosa, more commonly known as anorexia, is one of the most common eating disorders. Anorexia tends to occur in teenage girls and young women, and it is characterized by a very intense fear of being fat. When a person has anorexia, she hardly eats at all -- and the small amount of food that she eats becomes an obsession for her. A person with anorexia may weigh food before she eats it, or count the calories of everything she puts in her mouth. She will often feel the need to exercise for a long time each day to burn off calories. Just feeling fit or trim isn't enough for a person who has anorexia. She wants to become as thin as possible, at any cost. Although she may lose weight at a dangerous rate, someone with anorexia doesn't see herself as thin. When a girl with anorexia looks in the mirror or pictures herself in her mind's eye, she still sees a girl who is fat and needs to lose weight.

No one is really sure what causes eating disorders like anorexia, although there have been some good ideas as to why they occur. Most girls who develop an eating disorder are between the ages of 11 and 14. At this time in their lives, many girls don't feel as though they have much control over anything; the changes that come along with puberty can make it easy for even the most confident person to feel a bit out of control. By controlling their own bodies, people with eating disorders feel as though they can regain some control -- even if it is done in an unhealthy way. Even though it's completely normal for girls to gain some additional body fat during puberty, some girls respond to this change by becoming very fearful of this weight and feel compelled to get rid of it any way they can. Some girls who develop eating disorders are depressed or have low self-esteem, and their anorexia gives them some way to handle the stresses and anxieties of being a teenager.

SKILLS SECTION:

SKIMMING

STUDY THE SKILL

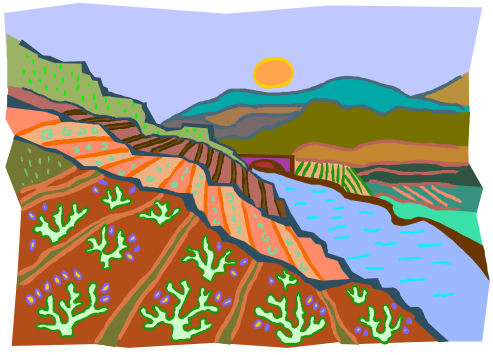
Skimming is reading a text very quickly without pausing to study the details. The aim is to get a general idea about the overall content of the text and to determine what type of information is included in each paragraph. Thus, when you need to answer questions, you can easily predict where you can find the answers. Skimming is preparation for detailed reading and can help you get through the material faster. In this way, you can understand:

- what the text is about, what kind of information each paragraph has: names, dates, numbers and key words, and whether it is relevant to what you are looking for.
- what type of text it is: a report, a letter, an article or a scientific text.
- who the audience is: children, adults, general public or professionals.
- what the writer's purpose is: to describe, to inform, to explain, to instruct or to persuade.
- how the writer feels or what his attitude is: angry, sad, critical, happy, agreeing or disagreeing.

A basic skimming technique is to read the first sentence, look through the text for the key words (content words like nouns, verbs, some adjectives and adverbs) and perhaps read the last sentence. You should never stop and spend time to understand the details.

Example:

Water makes a journey from the land to the sky and back again. The sun's heat causes water to evaporate from the earth's surface. Plants also lose water into the air (transpiration). The water vapor then condenses and forms tiny drops in clouds. When the clouds meet cool air, precipitation (rain or snow) starts and water returns to the land or the ocean.



What is the paragraph about?

a) Solar energy
b) Evaporation
c) Formation of clouds
d) The water cycle

The correct answer is (d), the water's journey from the land to the sky and back. Reading the first sentence and looking through the rest of the paragraph very quickly will give you the key words. Words like evaporate, form, clouds, return to land will help you get the answer. Difficult words like transpiration or precipitation are not necessary so you can just read past them.

PRACTICE THE SKILL

Skim the following short paragraphs and answer the questions as instructed.

Which is the oldest living tree in the world? Is it the tall redwood tree, called giant sequoia? Botanists say it is 4,000 years old. How about the Wollemi Pine? The Wollemi Pine is only a few million years old. The answer is the Nightcap Oak. This oldest tree is 90 million years old. It is still alive in the Nightcap Range rainforest, 650 km from Sydney, Australia, after so many centuries. The Nightcap Oak is a rainforest tree with dark green leaves, small nuts and small white flowers. It is a living fossil but it looks like any other tree.

Choose the best alternative.

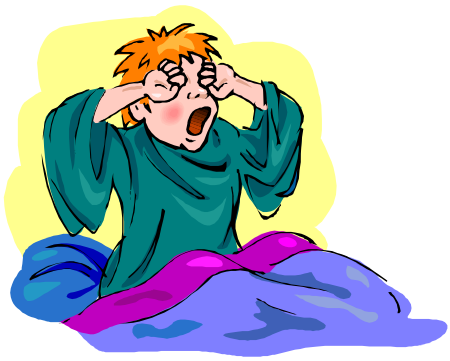
1. The paragraph is mainly about _____.
   a) rainforests in Australia
   b) giant sequoia, the redwood tree
   c) the oldest tree in the world
   d) botanists and trees

2. The paragraph is from _____.
   a) a storybook
   b) a scientific lab report
   c) a textbook
   d) a personal letter

3. The writer's purpose is to _____.
   a) give information
   b) make an excuse
   c) give instructions
   d) make a suggestion

A yawn does not mean that you are bored or tired but just the opposite! It means your body needs more oxygen. Most people think that a yawn signals sleep but it actually makes the body ready for action. Studies show that we yawn before a big event - athletes yawn before a race, pilots yawn before take-off and students yawn before an exam. Why, then, do we yawn before bedtime? Most probably our body wants a change; enough of TV, it is time to go to bed!

Most people do not remember their first yawn. Although yawning is contagious -- if you see someone with his mouth open, you too will do the same thing -- children do not begin to copy other people's yawns until the age of four. They need time to learn to copy their parents' behavior and studies show that quick learners start yawning earlier.



Give short answers to the following questions:

4. What is Paragraph 1 about?

   _____

   Which words helped you determine the content of the paragraph?

   _____

5. What is Paragraph 2 about?

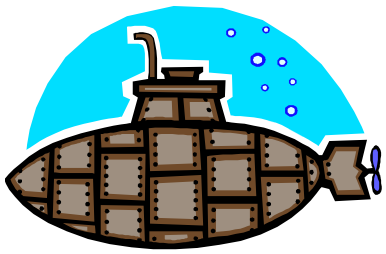
_____

Which words helped you determine the content of the paragraph?

_____

Choose the best alternative.

6. The text is for _____.
   a) professionals
   b) university students
   c) parents
   d) the public



The Kursk, a Russian nuclear-powered submarine, sank in the Barents Sea near the Arctic Circle and its crew, 60 people inside, died after staying underwater for over a week. This was one of the most serious accidents of our time. The Kursk was a big submarine, as big as a football stadium. It was ultra-modern, technically excellent and used nuclear fuel. It could carry up to 28 torpedoes and missiles. It had enough stocks of food and oxygen. However, these factors did not help to save the lives of the 60 people inside. The Russian government made a big mistake and said "no" to all offers of foreign help. As a result, many days were lost in the beginning. When finally British and Norwegian help arrived, it was already too late. The Kursk disaster should make all of us ask the same question again: Are we using technology in the right way?

7. Circle the type of information you can find in the text.
   You may have more than one answer.
   a) Place names
   b) People's names
   c) Numbers
   d) Statistics
   e) Questions
   f) Dates

Choose the best alternative.

8. The text is about _____.
   a) the death of 60 people
   b) modern technology
   c) the Russian government
   d) the Kursk disaster

9. The text is part of _____.
   a) a letter
   b) a school textbook
   c) a novel
   d) a newspaper article

10. The writer is _____.
    a) excited
    b) happy
    c) critical
    d) surprised

SKILLS SECTION:

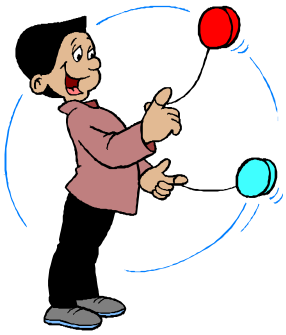
SCANNING

STUDY THE SKILL

Scanning is an important reading skill which helps you find specific details within a large body of information given in a text. While scanning, you look through the text quickly to find the information you need or to find out whether the text has the information you need. Scanning increases reading speed and flexibility. There are some techniques that you can use while scanning:

- Skim the text to determine what it is about and what information each paragraph contains.
- Read the questions and underline the key words. If there are no questions, determine what you are looking for in your mind.
- Using the key words, try to guess which paragraph includes the information you are looking for and scan that paragraph.
- Use all the available clues in the text -- capital letters, hyphens, italics, dates, numbers, special symbols, titles and subtitles, to find the answers to your questions as quickly as possible.

Example:



1. What percent of children played with yo-yos in 1962?
2. What is special about June 6?
3. Where did yo-yo originate?
4. What does the word yo-yo mean?
5. Which French king played with yo-yo?
6. When did Pedro Flores begin the first yo-yo company?

Children all over the world have played with yo-yo, a simple toy, for centuries. It is believed that the yo-yo originated in China. Ancient Greek kids (500 BC) played with a similar toy and archaeologists have found samples in many other countries including Egypt. From China the yo-yo moved to Europe. A 1789 painting of French King Louis XVII shows the four-year-old playing with the toy. By 1791, it had spread to Britain.

It was in the Philippines that the yo-yo came to be called yo-yo! The yo-yo means comeback, which is what the toy does. In 1920, Pedro Flores from the Philippines decided to manufacture the toy so he moved to the United States and in 1928 began a yo-yo company in California, which made the toy world famous.

In 1962, the toy became so popular that 80% of children had yo-yos. By 1965, the term yo-yo had become a part of the language and people started to celebrate June 6 as National Yo-Yo day. On April 12, 1985, astronauts took the yo-yo into space on the Space Shuttle Discovery as part of a project and tested it out.

For Question 1, you need to look for the symbol (%), which gives you the answer.
For Question 2, you use the date 'June 6' to find the answer.

For Question 3, you need to look for capitalised place names. The key word 'originate' helps you to choose 'China' among others.
For Question 4, the key word 'mean' and the word in italics help you to find the answer.
For Question 5, you need to look for the name of a French king, which is obvious with its capital letter and the number following.
For Question 6, to choose the right date among others, you use the key word 'company'.

PRACTICE THE SKILL

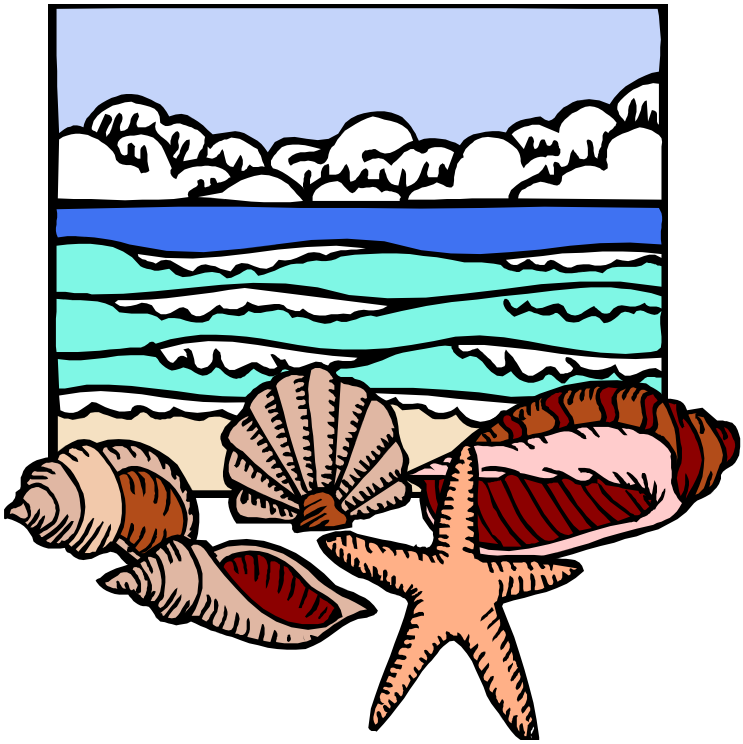
Read the questions, determine the key words and then look through the text to find the answers as quickly as possible.

1. How many meters does a player run during a football match? _____
2. What does UEFA stand for? _____
3. What happened in 1908? _____
4. What is the size of a football field? _____
5. What did Pele call football? _____
6. What is the weight of the ball? _____
7. Which game did the Romans play? _____
8. Who made the first rules of football? _____

FACTS ABOUT FOOTBALL

- Football, which is actually called soccer, is the most popular sport in the world.
- The Chinese played football about 2,000 years ago.
- The Romans played a game called harpastum, which was probably the origin of modern football.
- The London Football Association developed the first set of rules in 1863.
- Because of its European origin, football arrived in the United States quite late, towards the end of the 19th century.
- In 1908 football became an Olympic event.
- Pele, one of the greatest football players, called it the beautiful game.
- During a football match a player runs approximately 1,000 meters.
- A football field is rectangular. It is 91 to 118 meters long, and 45 to 90 meters wide.
- The ball weighs between 435 and 497 grams.
- The Turkish team Galatasaray won the UEFA (Union Of European Football Associations) cup in 2000.

UNIT 4: THE OCEAN



Think And Talk Before You Read

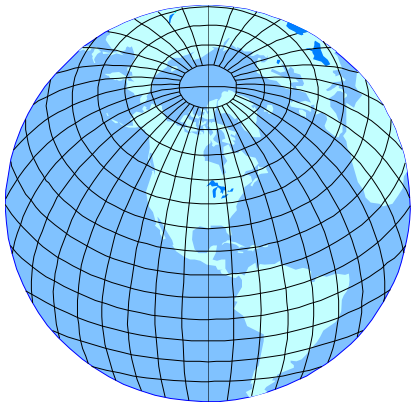
1. What films have you watched about oceans, large marine animals like sharks, whales and dolphins or life in the seas? Tell your friends about the ones you remember.
2. Would you like to travel across the ocean? Why?
3. What is the difference between the ocean and the sea?
4. How many oceans are there on our Earth? Which one is the biggest?
5. Do you know the names of these animals?

READING 1: THE EARTH'S OCEANS

Do While You Read

1A. Read each paragraph quickly to understand what it is about and note the key words.

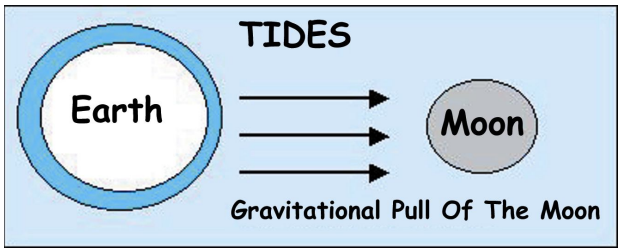
1. _____
2. _____
3. _____
4. _____



(1) The oceans are central to existence of life on our planet. They cover about 70% of the Earth's surface and contain approximately 97% of the Earth's water supply. The largest creatures on earth (whales) and the smallest ones (bacteria and viruses) live in the oceans. We rely on the oceans for many things. We get food, minerals and energy from the oceans. We also use them for transportation and recreation (e.g., swimming, surfing and sailing). The oceans affect the weather and temperature. They moderate the Earth's temperature by absorbing solar heat. The ocean water distributes this heat energy, i.e. carries and gives it out, around the earth. This heats the land and air during winter and cools them during summer. Unfortunately, the oceans may also change weather and climate and sometimes cause droughts, floods and storms.

(2) Various forces can cause ocean waves (gravitational pull of the sun and the moon, earthquakes, undersea volcanoes, atmospheric pressure) but the most common cause is the wind. As the wind blows across the water surface, air molecules from the wind touch and grab --take or pick up -- the water molecules. This force, or friction, results in small waves called ripples. The movement on the surface makes it easier for the wind to touch and grab a greater amount of water. This adds more energy to the water and increases the size of the waves. Waves of water do not move horizontally; they only move up and down.

(3) Tides are periodic rises and falls of large bodies of water; in other words, they are regular changes in the surface water level of the oceans. Tides are a result of the gravitational pull of the sun and the moon. The force of the moon is greater because it is nearer the earth than the sun. Therefore, the moon plays a larger role in producing tides . Its pull causes the oceans to bulge (come) out and rise towards it in a high tide. At the same time on the opposite side the waters bulge away in an equal and opposite high tide, because the moon also pulls the Earth away from the water on the opposite side. In 24 hours the rotating earth passes through both of these bulges and produces two more high tides with two low tides inbetween them.



(4) The ocean appears blue because it reflects the blue color of the sky. That's why clouds or sunset can alter the water's color. On a cloudy day, the ocean appears gray. The ocean water is blue for 30 to 100 metres under the surface. At about 100 metres it is difficult to see color. After 150 metres the ocean appears black. There are, of course, some seas with odd colors. For example, the Red Sea often looks red because of red algae in this sea. The Black Sea looks almost black because there is little oxygen but a lot of hydrogen sulphide near the bottom. The Yellow Sea is called yellow because rivers carry a lot of yellow mud into it.

1B. Each of the paragraphs in the text answers a question about the Oceans. Match the question with the paragraph and write its number in the box.

☐ A. Where does an ocean wave come from?

☐ B. Is the ocean always blue?

☐ C. What causes tides?

☐ D. Why are oceans so important?

1C. Read the following statements and underline the key words. Then choose True (T) or False (F) by referring to the paragraph that has the information you need.

T F 1. Almost all of our water supply is in the oceans.
T F 2. The difference between high and low temperatures increases because of the oceans.
T F 3. The oceans always have a positive effect on the weather and climate.
T F 4. Natural disasters can cause waves.
T F 5. Ripples are strong waves from deep down in the ocean.
T F 6. The sun is far away from the earth so its pull is weaker than the moon's.
T F 7. Four tides occur every day because the moon pulls the earth as it rotates.
T F 8. The oceans look blue because they mirror the sky.
T F 9. The ocean water is colorless after 30 metres.
T F 10. The organisms, chemicals or mud in the sea can change the color of the water.

Read, Understand And Answer

1D. Read the following questions and choose the best alternative.

1. Use the examples to guess the meaning of recreation (Paragraph 1). It probably means _____.
   a) a kind of a vehicle we use for transportation
   b) a way of enjoying yourself when you are not working
   c) a way of earning money to survive
   d) a kind of food we get from the oceans

2. <u>This</u> (Paragraph 1) refers to _____.
   a) ocean water c) solar heat
   b) oceans heating the land and aird) oceans distributing heat energy

3. You can understand that **friction** (Paragraph 2) is a kind of a/n _____.
   a) wind b) molecule c) energy d) force

4. You can guess that something moving **horizontally** (Paragraph 2) does not move up and down, but moves in the opposite direction. Which of the following represents a horizontal movement?
   a) b)  c)  d) 

5. **Periodic** (Paragraph 3) and _____ in the same sentence are synonyms.
   a) surface b) level c) change d) regular

6. <u>Its</u> pull (Paragraph 3) refers to the pull of the _____.
   a) sun b) tide c) moon d) ocean

7. Clouds in the sky can alter the water's color and make it look gray. Therefore, **to alter** (Paragraph 4) probably means to _____.
   a) change b) produce c) pull d) turn

8. Seawater is usually blue; red, black and yellow are odd colors. We can guess that **odd** (Paragraph 4) means _____.
   a) similar b) dark c) strange d) deep

READING 2: SEAWEEDS

Do While You Read

2A. The paragraphs of the following text are not in the correct order. Read and order them.

Correct order : 1. **B** 2. ___ 3. ___ 4. ___ 5. ___ 6. ___

A. There are about 7,000 types of green algae. These seaweeds need lots of sunlight and therefore are found near the water surface. A common green algae is sea lettuce, or Ulva. It is thin and delicate and often floats near the shore or on the beach. It gets crispy when dried out, but regains its soft, leafy appearance when wet. Ulva is found throughout the world. It is a beautiful and an edible organism. You can add it raw to your salad.

B. Seaweeds are marine algae that grow and live in oceans. Most seaweeds are composed of many cells and are therefore visible to the naked eye. They can be free-floating, but the majority hold on to hard surfaces such as rocks and shells and grow there. Seaweeds live along the shores in the shallow region of the ocean called the intertidal zone. They can be found as far down as 130 feet (40 meters), or even deeper if the sunlight can reach them. Seaweeds are found in all of the oceans except the waters of the tropical western coast of Africa and western Central America.

C. Two of the products from seaweeds are carrageenan and agar. Carrageenan is the most widely used derivative of red algae. It is found in dairy products such as ice cream, milk shakes and sherbets and in beverages like fruit juice, beer and wine. The use of carrageenan is not restricted to food products. Carrageenan is also present in toothpaste, shampoo, air freshener, lotion and shaving cream. Agar is the second most common product from red algae. It is used in many of the same ways as carrageenan. However, it is also used in cosmetics, shoe polish and photographic processes.

D. There are three main groups of seaweeds: they are the green, brown, and red algae. However, they show a wide variety of colors within each group. For example, many red algae are yellow, brown and black.

E. Brown algae can live in deeper water than green algae, but prefer cooler temperatures. They can be found to depths of about 100 feet (30 meters). There are about 1,500 species of brown algae. This group of algae includes the rockweeds and kelp.

F. The last group of seaweeds, the red algae, contains more marine species than the brown algae. There are about 4,000 members in this group. The red seaweeds are found at the greatest depths, from 650 to 1,970 feet (200 to 600 meters). At depths such as this, the water is much calmer and the algae are more delicate. Red algae can be found in warm, temperate and cold waters. Together with the kelp, this group probably contains the most economically important of all the marine algae.

2B. Look through each paragraph and note the key words, which tell you what the paragraph is about.

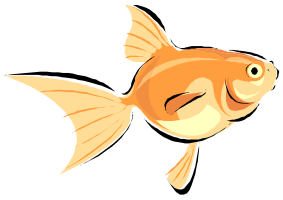
A. _____
B. _____
C. _____
D. _____
E. _____
F. _____

2C. Read each sentence, underline the key words and find the paragraph which has similar key words. Then find the sentence which gives the same information in the paragraph and note the line numbers.

_____ 1. It is possible to see seaweeds on rocks and shells.
_____ 2. Seaweeds need the light from the sun to grow.
_____ 3. Green, brown and red algae are the three most important species of seaweed.
_____ 4. Not all red algae are red in color.
_____ 5. Sea lettuce is a common sight on many shorelines in the world.
_____ 6. You don't have to cook sea lettuce to eat it.
_____ 7. Brown algae can survive in the cool temperatures of deep waters.
_____ 8. Rockweeds and kelp are species of brown algae.
_____ 9. Both kelp and red algae are of economic importance.
_____ 10. Carrageenan and agar are derivatives of seaweeds.
_____ 11. Ice-cream, milk shakes, wine and beer all contain carrageenan.
_____ 12. Just like the carrageenan, agar is also used in some food products.

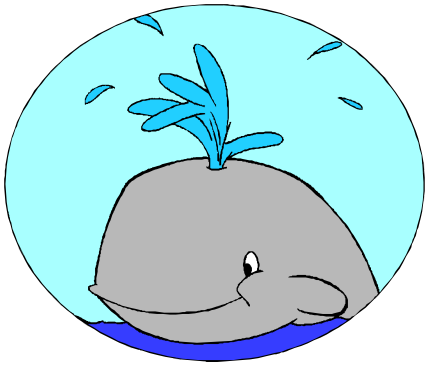
JUST FOR FUN!

2D. Guess the answers!



1. What did the ocean say to the river?
2. Why do fish like salt water?

Think And Talk Before You Read



1. What makes whales different from the other sea or ocean animals?
2. There are various types of whales. Circle the ones that you don't think are types of whales.

Baleen whales	Humpback whales	Bluewhales
Minke whales	Right whales	Acrobatic whales
Pink whales	Beluga whales	Killer whales

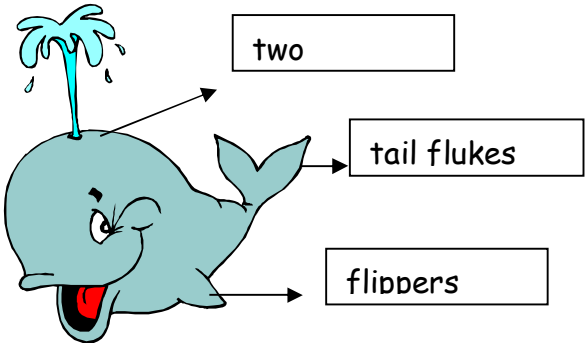
3. Whales are one of the endangered species. In other words, their numbers are decreasing day by day. Do you know why? Are gray whales endangered too?
4. Look at the text and the pictures. What aspects of whales are you going to read about?

READING 3: GRAY WHALES

Do While You Read

3A. Can you guess the meanings of the words in the text? Choose the best alternative.

Physical Appearance:



Adult gray whales are 13 to 15 meters long and weigh 22 to 38 tonnes. The females are larger than the males. When they are born, calves measure about five meters. Gray whales have a long and narrow shape. Their skin is smooth, and it is like a hard-boiled egg without the shell. Their head is quite long, one-fifth the total body length. They breathe through their blowholes, i.e. the openings in the top of their head. Gray whales have brown eyes, about the size of an orange. Their eyes are quite small and far back on their head so there is some uncertainty among scientists about how good their eyesight is. Gray whales steer themselves with their flippers and power themselves with the flukes of their tail. The tail can weigh up to 180 kilos.

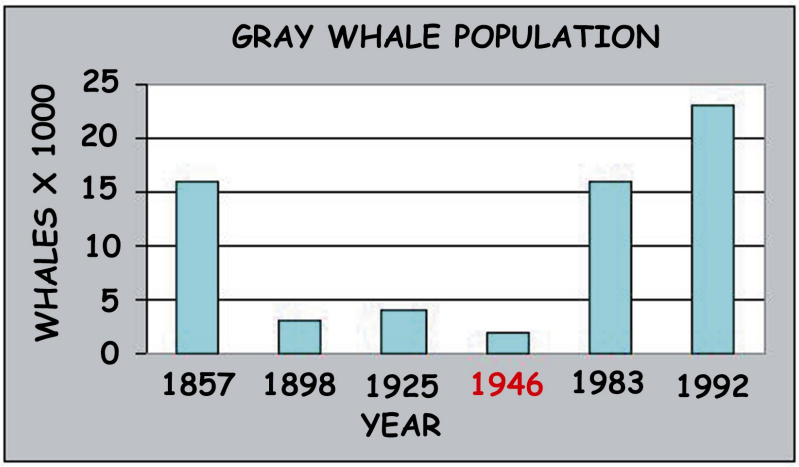
1. **calves (n)**
   a. all the old members of a large family
   b. the young of large mammals
2. **smooth (adj.)**
   a. without roughness or bumps, flat, even
   b. very polite and confident
3. **to steer (v)**
   a. to control the direction of
   b. to run very quickly

Migration:

Gray whales **migrate** south for the winter after feeding in the northern waters. The journey begins in the cold waters of the Chukchi and Bering Seas. These whales spend the summer and a few autumn months in the Arctic waters before they migrate to the south. In late autumn, they start their 5,000-mile journey south to Baja California in Mexico. They take six or seven rests per day, each of which is about half an hour long. They migrate in-groups of one to five, and sometimes in-groups up to 18. Because whales travel close to the coast, many people enjoy going out on boats to view them. Gray whales, also called California whales, head south for two reasons: to find **shelter** and to calve.

4. **to migrate (v)**
   a. to move from one place to another, as animals, birds, and fish do
   b. to stay at the same place for a long period of time
5. **shelter (n)**
   a. an unsafe place; a place full of danger
   b. a place which gives protection from bad weather, danger or attack

Predators:



A natural **predator** of gray whales is the orca, or killer whale. The orcas eat gray whale calves. Gray whales are also **bothered** by small parasites that feed on their dead skin. They can remove these parasites by entering the mouths of rivers (fresh water kills their marine parasites). The most important predator of gray whales has been the human hunters. In 1946, the United States added the gray whales to the **Endangered Species** Act. Since then the gray whale population has started to increase again. In 1994, these whales were removed from the endangered list. Gray whales may also be dying from waste and chemicals dumped into the oceans. Cities dump **sewage**, garbage and chemicals into the oceans, thinking that they will go away. However, it is destroying oceans and the creatures living in them. Fish nets cause another problem for whales. They hold the whales under the surface and as a result they can't breathe. Another problem is the noise pollution -- whales use sounds mainly to observe their world and hearing is the most important sense for them. Gray whales may be affected by the sound of the heavy boat traffic that exists on their migratory **routes**.

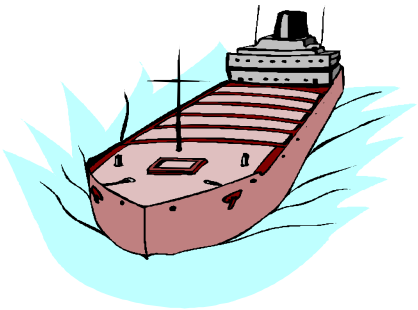
6. **predator (n)**
   a. someone who is always ready to help others when they are in trouble
   b. an animal that lives by killing and eating others; a person who harms others for his or her own benefit
7. **to bother (v)**
   a. to trouble; cause problems for someone or something
   b. to try to find a solution to a problem
8. **endangered species (n)**
   a. a plant or animal whose population is so low that it is in danger of disappearing
   b. a plant or animal which can easily be found anywhere
9. **sewage (n)**
   a. the useful part of something
   b. waste and liquid that goes from toilets to pipes underground
10. **route (n)**
    a. a path along which one travels
    b. a very short journey

Read, Understand and Answer

3B. Answer the following questions according to the information given in the text, the pictures and the graph.

1. How is the skin of a gray whale similar to that of a hard-boiled egg without a shell?
   _____
2. How many blowholes does a gray whale have?
   _____
3. Why do scientists think gray whales cannot see well?
   _____
4. Where do gray whales feed?
   _____
5. How many hours a day do gray whales rest during their migration?
   _____
6. Why do you think gray whales are also called California whales?
   _____
7. Where do gray whales give birth to their young?
   _____
8. Why are killer whales predators of gray whales?
   _____
9. What was the population of gray whales in 1946?
   _____
10. Why do gray whales sometimes enter the mouths of rivers?
    _____
11. Why do you think the US added the gray whales to the Endangered Species Act in 1946?
    _____
12. How do human beings disturb gray whales?
    a. _____
    b. _____
    c. _____
    d. _____

Think and Talk Before You Read



1. Have you ever heard of the Bermuda Triangle?
2. Where is it and why is it called a triangle?
3. What is so strange about it?
4. Why is it still a mystery?

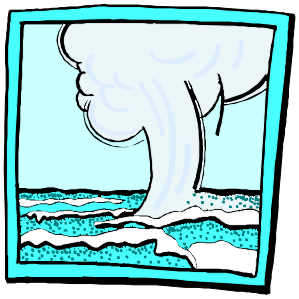
READING 4: THE BERMUDA TRIANGLE

4A. Read the following sentences. Which ones state general truths (i.e., statements you can accept without discussion)? Choose them.

1. The Bermuda Triangle, also called the Devil's Triangle, is a place in the North Atlantic Ocean, near the Gulf Stream.
2. The first recorded disappearance of a ship in the Bermuda Triangle occurred in March, 1918.
3. Some people believe that the cause of these strange happenings is the UFO's.
4. Perhaps, more than one theory applies to the Bermuda Triangle.

4B. Read the first two sentences of the text about the Bermuda Triangle and draw the triangle on the following map.

The Bermuda Triangle, also called the Devil's Triangle, is a strange and **mysterious** place in the North Atlantic Ocean, near the Gulf Stream. It is **roughly** the shape of a triangle and has its three points at Florida, Puerto Rico, and Bermuda. 1)___E___. There have been many unexplained happenings in the area since the mid-19th century. More than 50 boats and 20 planes have **disappeared** there. 2)_____. However, when the rescue teams reached there they could not find any ships or planes or all they could find was an **abandoned** ship. In other words, there was no one on board and so there was no **evidence** to solve the mystery. The first recorded disappearance of a ship in the Bermuda Triangle occurred in March 1918.



There are various explanations of the disappearances in the Triangle. 3)_____. Some others think that there are invisible tunnels in the atmosphere and these pull in the aircraft, the ships and, of course, the people. Scientists, on the other hand, have different theories. According to one theory, the waves in the ocean react with **currents**, winds and other waves and form new waves. These huge and dangerous waves can break up and even **sink** very large ships. 4)_____. Waterspouts are extremely powerful shoots of water that go up into the air. A waterspout may only last

ten minutes, but its force can easily destroy a small ship or a plane. 5)_____. Scientists have found a great deal of seismic activity in this area and they say that in shallow areas, underwater earthquakes have the power to cause disturbances such as the tsunamis of the Far East. The ocean current in the Gulf Stream is the fourth theory, which tries to explain the **phenomena** in the area. 6)_____. This is enough to throw many boaters hundreds of miles off coast or cause ships to sink quickly and without a **trace**. Scientists cannot agree on a single theory to explain the mystery of the things going on in the area. Perhaps, more than one theory **applies** to the Bermuda Triangle.

Do While You Read

4C. The following sentences belong to the text. Read the text and choose a suitable blank for each sentence. Focus on the pronoun reference. It will help you place the sentences correctly.

A. Another theory is the waterspouts.
B. They have sent signals and asked for help.
C. Some people believe that the cause of these strange happenings is the UFO's.
D. This current is extremely strong and it moves faster than 5 mph in some areas.
E. Many ships and planes travel safely through this triangle everyday, but what is the mystery behind it?
F. A third theory is the underwater earthquakes.

4D. The following words are all from the above text. Match them with the words or phrases below which mean the same in the context.

1.	mysterious	_____ a. to cause to go down below the surface of a liquid
2.	roughly	_____ b. strange or unknown
3.	to disappear	_____ c. one or more reasons for believing that something is or is not true
4.	to abandon	_____ d. to leave a place, thing or person forever
5.	evidence	_____ e. rare or unusual facts or events
6.	current	_____ f. to go out of sight; go somewhere where they cannot be seen or found;
7.	to sink	stop being visible
8.	phenomena	_____ g. a movement of water, air or electricity in a particular direction
9.	trace	_____ h. a sign or mark that shows something has happened or existed
10.	to apply	_____ i. approximately
		_____ j. to make use of something for a purpose

4E. Can you remember the words that come before or after the following? Check your answers with the text when you finish the exercise.

1. a strange and mysterious **place**
2. the _____ of a triangle
3. many unexplained _____
4. an abandoned _____
5. no _____ to solve the mystery

6. _____ explanations
7. on the other _____
8. _____ powerful
9. a great _____ of

JUST FOR FUN!

4F. Read the following poem and fill in the blanks with words from the box.

DESTINATION	STORM	TRIP	SHIP	MOVING	U.F.O.
MOONLIGHT	KNOW	SEA	LIPS	TRAGEDY	S.O.S.

THE BERMUDA TRIANGLE
© 1997 by PAUL ALAN SMITH

JUST A PLEASURE 1) _____,
GLASSES TOUCHING 2) _____,
HEARTBEAT MEETING HEARTBEAT ON A 3) _____;
GENTLY 4) _____ ON,
SWEET OBLIVION;
THEY DON'T 5) _____ WHERE,
THEY DON'T CARE WHERE THEY'VE GONE....

IS IT SUCH A 6) _____
TO BE LOST AT 7) _____?
SIPPING CHAMPAGNE IN THE 8) _____
FOR ETERNITY.
THERE WAS NO DISTRESS;
NO 9) _____.
A SHIPFUL OF PEOPLE WITH NO 10) _____ AT ALL.

NOT A 11) _____ CLOUD IN THE SKY,
NOT A NOTE TO SAY GOODBYE;
IT WAS TIME TO NOTIFY THE F.B.I.
WHICH WAY DID THEY GO?
SOME THINK 12) _____.
MAYBE THEY FOUND ATLANTIS - NOBODY KNOWS.

UNIT 4 VOCABULARY LIST

abandon	mysterious
affect	mystery
agree	observe
almost	occur
alter	odd
appear	phenomena
appearance	pick
apply	pollution
approximately	predator
blow	present
bother	pressure
breathe	probably
calm	reach
cover	react
creature	recreation
current	reflect
deep	regain
depth	regular
derivative	rely on
disappearance	remove
disaster	rescue
distribute	restrict
drought	result
earthquake	result in
edible	rise
endangered	rotate
enter	roughly
evidence	sense
except	sewage
existence	shallow
feed	shelter
flood	shore
force	sink
friction	smooth
grab	solve
happening	sound
horizontally	storm
however	supply
hunter	throughout
journey	towards
kill	transportation
main	various
majority	view
marine	wave
migrate	widely
moderate	

UNIT 4 - GO ON READING

SEA TURTLES

The sea turtle, which has been on earth for more than 200 million years, is an animal that returns to the place of its birth, every single year, journeying more than 1,000 km to do so. Sea turtles live mostly in warm waters around the world and are very good swimmers. They have limbs modified into long flippers that enable them to migrate long distances. Among the many natural phenomena that we are yet to understand is the mass nesting by sea turtles.

Each year hundreds of thousands of female turtles lay their eggs on the same beaches where they were born. In Turkey, for example, two species of sea turtle, Chelonia mydas (green turtle) and Caretta caretta (loggerhead turtle), nest on the beaches of the Mediterranean Sea in Belek, Dalyan and Patara. Turtles always return to the same nesting site year after year, even if they have to migrate thousands of kilometres. This has baffled scientists for years now and no one has any clue as to why they do so.

Sea turtles rarely venture out of the deep and they never seem to have a permanent habitat for they are continuously on the move. Unlike the males, who prefer the anonymity and safety of the sea, the females drag themselves to the shore to lay about 100 eggs each. The female turtle lays her eggs in pits and covers them with sand using her flippers. However, the slightest disturbance can result in the female turtle returning to the sea without laying eggs. Her task complete, she heads off to the sea, only to return next year to the very same beach, again during the nesting season. Meanwhile, the eggs are easy targets for predators. Stray dogs often manage to ferret out the catch and gobble up the eggs. Tourism and coastal pollution also endanger turtle populations. It is a pity that most of these turtles that have come all the way die in Mediterranean fisheries and never return to their western Atlantic breeding areas.

UNIT 4 – GO ON READING

J.Y. COUSTEAU

"The reason I love the sea I cannot explain -- it's physical. When you dive, you begin to feel like an angel. It's a liberation of your weight." J.Y. Cousteau

Jacques-Yves was born in Saint-Andre-de-Dubzac, France, on June 11, 1910. Cousteau always loved the water and he spent much of his early childhood near the water, swimming and tinkering with gadgets such as underwater cameras and mechanical toys. In his early teens, Cousteau became fascinated with films. He saved his money and bought a home movie camera. In high school, Cousteau became bored with school and began to cause trouble. As a result, his parents sent him to a strict boarding school. After high school, in 1933, he entered the French Armed Forces. It was during this time that he began his underwater explorations and began working on a breathing machine for longer dives. In 1937, Cousteau married Simone Melchoir, and they had two sons. Two years after their marriage, Cousteau fought for the French in World War II. During the war, he still found time to continue his underwater work. In 1943, he and French engineer Emile Gagnan perfected the aqualung, which allowed a diver to stay underwater for several hours. Divers used the aqualung to locate and remove enemy mines after World War II.

Cousteau was named a capitaine de corvette of the French Navy in 1948, and two years later he bought the boat Calypso, part ocean-going lab and part yacht, which would soon become synonymous with Cousteau and his underwater adventures. To finance his trips and increase public awareness of his undersea investigations, Cousteau produced numerous films and published many books. In 1956, with the help of Calypso and her crew, Cousteau's position as the world's most famous marine biologist was cemented when he received an Academy Award for his undersea documentary, The Silent World.

Because of his many projects, Cousteau retired from the French Navy. In 1957, he became director of the Oceanographic Museum of Monaco and founded the Underseas Research Group at Toulon. In 1968, Cousteau was asked to make a TV series. Of the 120 documentaries Cousteau completed in his lifetime, this television series, called The Undersea World Of Jacques Cousteau, was the most important one. This series brought unforgettable images into millions of homes and contributed to a deeper understanding of a part of the world few people ever visit. In 1974, Cousteau started The Cousteau Society to protect ocean life. The membership of this non-profit group has grown to include more than 300,000 members worldwide. On January 11, 1996, the Calypso sank in Singapore harbor. When Jacques-Yves Cousteau died on June 25, 1997, the world lost more than just an esteemed biologist and oceanographer.

SKILLS SECTION:

FINDING MAIN IDEAS

STUDY THE SKILL

There are many ideas in a paragraph. One of them is the main idea. All the others develop or support it. The main idea is often expressed using the key words in the paragraph, and it often appears as the first sentence. Sometimes, however, writers do not state it clearly or it may come in the middle or at the end of the paragraph. Therefore, you need to look inside the paragraph carefully to find it. Noting down or underlining the key words may help you if the main idea is implied.

Example:
It is difficult to push a box across a carpet because of resistance called friction. When air passes over a wing of a plane, the same thing happens and there is friction. Aircraft designers must understand how to build the wing so that it will have very little friction. Otherwise, the plane cannot fly.

Here is a list of ideas from the paragraph. Circle the main idea!
a) It is difficult to push a box across a carpet.
b) Air passes over the wing of a plane.
c) Resistance force is called friction.
d) Planes can fly if there is little friction over the wings.
e) Some planes cannot fly because of friction.

The answer is obviously d) because the writer uses all the other ideas to explain why there must be little friction to allow a plane to fly.

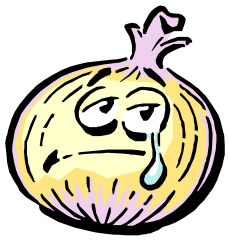
PRACTICE THE SKILL

Read the following short paragraphs and choose the main idea.

It is winter in Finland and temperatures are below zero. Suddenly a group of Finns appears and they make a hole in the ice over a river or lake. Are they going to fish? No! They take off their coats and jump in the freezing water. Brrr! Unbelievable! They are swimming in the icy water. Are these Finns crazy? They aren't, of course! They think skating and skiing are boring old winter sports. Ice-swimming is their popular new sport! Can you believe it? Last winter 80,000 Finns did it at least once a week!

1. The main idea of the paragraph is that _____.
   a) the temperatures can be very low in Finland in winter
   b) Finns do different kinds of sports
   c) Finns often go fishing in their spare time
   d) ice-swimming is the new popular sport in Finland

(1) Every time you blink your eyes, that is, when the eyelids close and open, the eyes produce some water called tears. There is a tear gland -- a kind of bag full of tears -- over the outer corner of each eye. When the eyelids close, tears come out from the tear gland. Normally tears have only one purpose. This is to clean the sclera, the white part of the eye, and so prevent it from drying out. However, when a dangerous substance reaches the eyes, the eyes automatically blink in this situation too, and tears wash away the substance to protect the eyes.



(2) The eyes react in the same way when the smell of an onion reaches them. The onion sends out an eye-irritating smell. The oil inside the onion contains sulphur, which gives out this sharp smell. The eyes react again by blinking and by producing tears to wash away the irritant! This is why we start crying when we cut an onion.

2. The main idea of Paragraph 1 is that _____.
   a) the eyes produce tears
   b) some substances irritate the eyes
   c) the sclera is the white part of the eye
   d) tears protect the eyes

3. The main idea of Paragraph 2 is _____.
   a) that the onion has a special oil
   b) why the onion produces a smell
   c) why the onion makes us cry
   d) that the onion contains sulphur

On some cold spring mornings you can see beautiful drops of water on flowers and leaves and sometimes on the grass. It looks like rain but it is not. It is dew. Unlike rain, dew does not fall from the sky above. It forms on the ground when the conditions are suitable: that is, if a cool cloudless evening and night follow a warm cloudless day. On a clear day, water evaporates (turns into gas) from the warm ground into the atmosphere. When night falls, the ground gives out the day's warmth into the sky. The ground becomes cooler and causes the water vapor to condense (turn into liquid) again. This condensed vapor is dew. On a cloudy night, the clouds send the heat back to the ground, so the ground never gets cold enough and dew cannot form.

4. The main idea of the paragraph is that dew _____.
   a) is drops of water on plants
   b) needs special conditions to form
   c) looks like rain
   d) can be seen on cold spring mornings

(1) Last month the Sri Lankan army caught a group of women guerrillas in Jaffna, in northern Sri Lanka, and 14-year-old Arumuyam Malar was one of them. Now she is in a military camp and has told her heart-breaking life story. Malar lost her parents when she was seven years old. Her uncle took Malar to his home. One day a woman came to their house. She said she wanted to take Malar shopping but instead she took her many miles away from her village to a guerrilla camp in Jaffna. There were other children of Malar's age there, and the guerrillas taught them how to fight and kill.

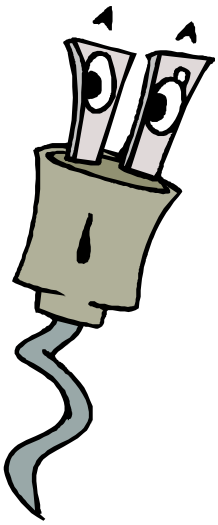
(2) The Sri Lankan government says that there are 1500 to 2000 child soldiers among the guerrillas. The guerrillas take them away from their villages and force them to fight at a very young age. Many children die before they are 10 years old. Some like Malar stay alive but their hopes are dead. They don't have homes or families. They don't know what school, friends, toys, games or fun mean. How can we help these children then? We cannot change their unhappy past but we can perhaps build a new future for them.

5. The main idea of Paragraph 1 is _____.
   a) how children like Malar become guerrillas
   b) what the guerrilla camps in Sri Lanka are like
   c) how the guerrillas are fighting the army in Sri Lanka
   d) what happened to Malar in the army camp

6. The main idea of Paragraph 2 is that _____.
   a) there are many children among the guerrillas in Sri Lanka
   b) many children die at a very young age in Sri Lanka
   c) we must find ways to help children like Malar
   d) some people force children like Malar to fight and kill

SKILLS SECTION:

USE OF CONNECTORS



STUDY THE SKILL

Connectors are a number of words, word groups or structures which join simple sentences and form complex ones. In reading, they act as guides into meaning because they divide long structures into manageable units and show the relationship between parts of a long sentence or text. You can use connectors to guess what kind of information will be given in the next sentence.

Study the following list of basic connectors and note the punctuation:

1. Some connectors signal <u>contrast</u>:
   Examples: but, however, although

   It was a cold but fine morning.
   He had excellent qualifications. However, he could not get the job.
   Although the acoustics in the hall were poor, everybody enjoyed the concert.

2. Some connectors signal <u>addition</u>:
   Examples: and, also, in addition, moreover

   We had dinner and talked about the old days.
   We need a new computer and also a new printer in the office.
   You can find various kinds of goods at that supermarket. In addition, the prices are quite cheap.
   The car was in excellent condition. Moreover, the price was reasonable.

3. Some connectors signal <u>paraphrasing</u>:
   Examples: i.e., that is (to say), in other words

   The politician was economical with the truth. That is, he was lying.
   Most old people are conservative. In other words, they do not accept new ideas very easily.

4. Some connectors signal <u>examples</u>:
   Examples: e.g., such as, for example, for instance

   Most young people prefer to wear casual clothes such as jeans and t-shirts.
   Women generally live longer than men do. For example, in Europe women live 75 years on average, three years longer than men do.

5. Some connectors signal a reason:
   Examples: because, since, as, (in order) to

   1973 marks the beginning of the information age because the microchip was invented then.
   Since the project was too expensive, the government decided to give it up.
   In order to determine our needs, everyone will have to prepare a list.

6. Some connectors signal a result:
   Examples: so, thus, as a result, consequently, therefore

   He is unemployed so he is looking for a job.
   I hate watching TV. Thus, I do not have a TV set.
   The temperature of the gas rises. As a result, it expands in the cylinder.
   They cancelled all the flights. Consequently, most passengers spent the night at the airport.
   Most houses had weak foundations. Therefore, they collapsed in the earthquake.

PRACTICE THE SKILL

Choose a suitable connector from the box to fill the blanks.

however	as a result	because	in other words	in addition
in order to	for example	although	such as	also

I.

1. That sum of money is to cover costs _____ travel and accommodation.
2. _____ cigarette smoking is dangerous to health, millions of people continue to smoke.
3. In certain jobs, there are more women than men. _____, there are far more female than male teachers and nurses.
4. Flats in this part of town are too expensive for one person. _____, a lot of students look for someone to share a flat with.
5. Parents offered to look for funding _____ help the teachers start an after-school club.
6. In Turkey, many people die in road accidents every year _____ they drive carelessly.
7. METU has a high quality of education. _____, it has a beautiful campus.
8. We thought only a few people would apply for the job. _____, there were about 100 applicants.
9. There is an excellent art museum in the town. It _____ has a fine symphony orchestra.
10. Many people in poorer parts of the world starve to death. _____, they do not have enough to eat and die of hunger.

however	as a result	because	that is
for example	in addition	in order to	

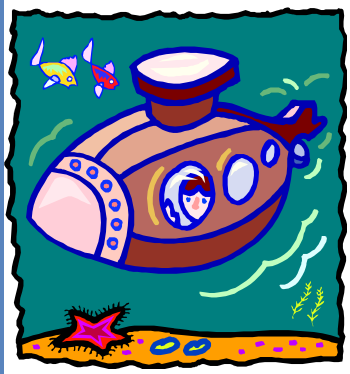
II.

We cry when we are unhappy. (11)_____, we cry when a dangerous substance reaches the eyes. Actually, every time you blink your eyes, (12)_____, when the eyelids close and open, the eye produces some water. Tears come out from the tear gland (13)_____ the eyelids apply pressure onto the tear gland when they close. Normally tears are produced (14)_____ wash and wet the sclera, the white part of the eye, and (15)_____, prevent it from drying out. (16)_____, when a dangerous substance reaches the eyes, they automatically blink again and tears wash the substance out to protect the eyes. The same thing happens when, (17)_____, smoke or a sharp smell reaches the eyes.

however	consequently	because	moreover	although

III.

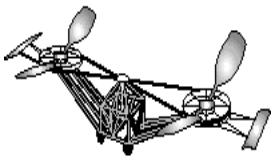
(18)_____ people tried to build a submarine for several hundred years, it was in the 20th century that the first real submarine was invented. An Englishman built an undersea boat with oars 300 years ago! During the American War of Independence in the 18th century, an American, David Bushnell, built another undersea boat. His boat was better (19)_____ it had a steam engine. (20)_____, it could carry a torpedo. The Americans tried to use this boat against the British. (21)_____, it did not help them much. During the early years of the 20th century, Holland and Lake designed the first real submarine. Many countries used their design to develop military models. (22)_____, submarines were used widely as warships during the two World Wars.



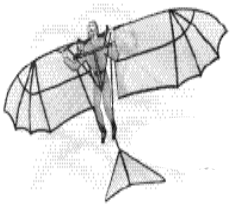
UNIT 5: FLIGHT

Think And Talk Before You Read

1. Why do you think man has always wanted to fly?
2. What do you know about the history of flight?
3. When you hear the word flight, which names do you remember in your country's history?
4. Look at the pictures below and list the names of the aircraft.
5. Go over the following pictures again quickly and number them according to the dates.

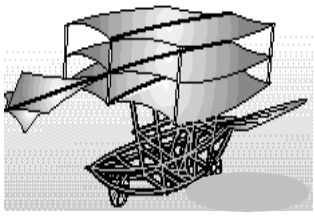


First helicopter
Paul Cornu 1907
A. ____

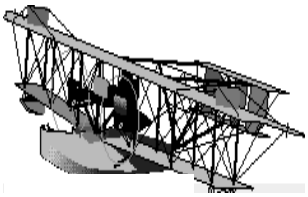


Da Vinci ornithopter
1485
B. ____

First motor-powered
airplane flight
Wright Brothers 1903
C. ____

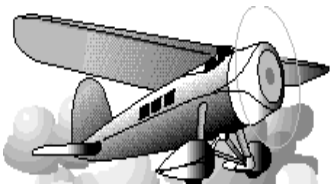


Three-wing glider
Sir George Cayley 1849
D. ____



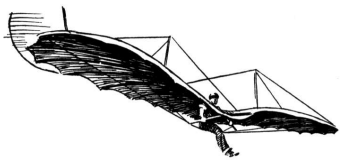
First trans-Atlantic flight
A. C. Reed 1919
E. ____

First hot air balloon
Montgolfier Brothers 1783
F. ____



First solo flight
Hawaii-California
Amelia Earhart 1935
G. ____

The Chinese invent kites
400 B.C.
H. ____



Lilienthal glider
1891
I. ____

READING 1: THE HISTORY OF FLIGHT

1A. Study the following sentences which contain some of the words in the text below, and then match them with their dictionary definitions.

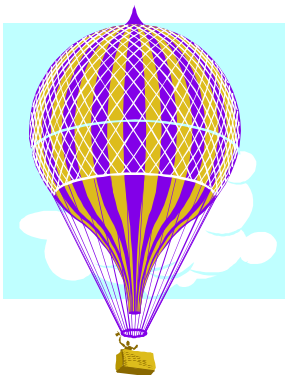
- Charles Babbage was a **pioneer** in computer science. He invented the first calculating machine.
- The **path** to success is full of difficulties.
- It is now possible to **design** lots of things with computers.
- The last **recorded** case of smallpox in the United States was in the 1970s.
- The bowl of water on the fire soon produced lots of **steam**.
- I need a **rigid** box that won't break when it is full of heavy books.
- One of the main **threads** of the film is the development of the relationship between the boy and his uncle.
- That is a **fixed** shelf, so you cannot change its place.
- A **monoplane** is much faster than a biplane, which has two wings, one above the other. However, a biplane has greater maneuverability.
- He's **smart** enough to know that he can't run the business without help.

_____	1. pioneer	a. known
_____	2. path	b. a person who does something for the first time
_____	3. to design	c. the hot gas that is produced when water boils
_____	4. recorded	d. stiff, firm, difficult to bend
_____	5. steam	e. able to think well, intelligent
_____	6. rigid	f. a chain or line of events in a story
_____	7. thread	g. an aircraft with a single pair of wings
_____	8. fixed	h. firmly placed or fastened; unmoving
_____	9. monoplane	i. a set of actions, especially which lead to a goal or a result
_____	10. smart	j. draw sketches or plans for

From the very beginning of time, people have been fascinated by flight. However, the science of flight took hundreds of years to develop. The first people to "fly" tried many things. With these tries, theories developed and these theories turned into real inventions. The historic **pioneers** took several different **paths**. Some jumped with wings and without wings, and others made balloons. Still others **designed** gliders, and then the Wright Brothers made the first airplane.

Throughout history, different people have tried to fly by jumping from tall buildings or high mountain tops. The Chinese Emperor Shin was the first man to "fly." He jumped from a tower using two large hats. In fact, Emperor Shin did not really fly: he was the first parachutist. However, others learned from his jump. Many, many years passed before the next **recorded** jump. A physician, Abbas Ibn-Firmas, tried to fly using wings. He covered himself with feathers, attached wings and flew for some distance. He tried to land like a bird and crashed to the ground, injuring his back.

During Greek times a great mathematician, Archimedes, discovered the principle of buoyancy, i.e., the ability to float. This principle made flight possible many years later. In 1783, two Frenchmen, the Montgolfier brothers, flew a hot air balloon. Their flight is named the first manned lighter-than-air flight. With this flight, practical air travel had begun. For many years afterward, other men built hot air balloons and flew them. However, there was no ability to control the balloons. Therefore, many people studied ways to add power to balloons. Then another Frenchman, Henri Gifford, flew a balloon that moved with **steam**. This was a great thing. It moved at an average speed of 6.7 mph. However, the first really controllable balloon was built by Charles Renard and A.C. Krebs in 1884. About fifteen years later, a German man, Zeppelin, used an engine to fly balloons for the first time. These balloons became very famous. They flew 18 mph and had a **rigid** metal frame. However, the lighter-than-air travel was limited. Therefore, man had to return to his study of birds to find the last **thread** to today's design of aircraft.



The first manned heavier-than-air flight vehicle in history was built by George Cayley. He knew that the only way man could fly was to use a **fixed** wing, so he built his glider with a fixed wing. However, he was not able to control his glider. In 1891 Otto Lilienthal had the first real success in controlled glider flight. The first of his hang gliders were **monoplanes**; later he made gliders with two wings, i.e., biplanes. Hang-gliders of today are based upon Lilienthal's plans.

Then came the Wright Brothers. They were the ones who gave flying the final part: Power! Orville and Wilbur Wright became interested in flight as boys in Ohio. Although they did not go to college, they were **smart** and taught themselves the principles of flight. They designed their own gliders and tested them over and over. In 1902 they made 1,000 glider flights. In 1903 they flew the first airplane for 59 seconds in North Carolina. The name of their airplane was "The Flyer." They had made the engine themselves. It had 12 horsepower. The Age of Flight had begun and the world loved it!

1B. The following is the outline of the passage 'The History Of Flight'. Fill in the missing parts of the outline according to the information given in the text.

THE HISTORY OF FLIGHT

Flight by 1a. _____

- 1b._____ wings e.g. Emperor Shin tried to fly by using 1c._____
- With wings e.g. 1d._____ attached 1e._____ to his body for his jump.s

Flight with balloons

- In 2a._____ the Montgolfier Brothers built the first manned 2b._____ vehicle.
- H. Gifford added 2c._____ power to a balloon.
- C. Renard and A. C. Krebs were able to build a balloon that they could 2d._____
- Zeppelin flew balloons with an 2e._____ in 2f._____.

Flight with 3a._____

- 3b._____ built the first manned 3c._____ vehicle.
- In 3d._____ O. Lilienthal built the first gliders with 3e._____ wings and these vehicles were 3f._____.

Flight with 4a._____

- 4b._____ invented the airplane and they were the first to fly with an engine. Thus, they started the Age of 4c._____.

1C. Match the words that go together. When you finish the exercise, check your answers with the text.

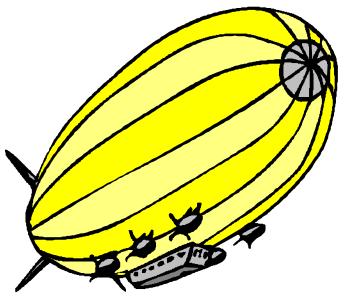
1.	fixed	_____ a. in history
2.	design	__1__ b. wings
3.	a rigid	_____ c. metal frame
4.	historic	_____ d. of flight
5.	develop	_____ e. famous
6.	principles	_____ f. speed
7.	high	_____ g. balloon
8.	a hot air	_____ h. aircraft
9.	become	_____ i. a theory
10.	average	_____ j. mountain tops
11.	for the first time	_____ k. pioneers

Think And Talk Before You Read

B. You can see the picture of a blimp below. Would you like to travel in one? Why or why not?
C. Do we ever see blimps today? Are they still used for traveling?

READING 2: BLIMPS

Blimps and balloons were the first man-made vehicles to stay in the air! Blimps are large balloons stretched out to look like an egg or cigar. They are full of helium gas. This makes them lighter than air.



The problem with the early blimps was that they would bend if there was a heavy weight on them or in bad weather. By adding a wooden keel* along the bottom of the blimp, this problem was solved and larger blimps could be built. Later, a man named Count Ferdinand von Zeppelin designed and built a blimp with a steel frame all around it. This made it possible to make much larger blimps. These larger blimps were able to lift many people and much more weight.

There are four parts to a blimp. The first part is called the "envelope," or skin, where the gas is stored. This is like a large bag. The second part is called the "gondola." This is a large box or room under the blimp for carrying passengers. Some gondolas were big enough to carry more than 100 people. Today, however, most gondolas do not carry more than 7 or 8 people. The third part of a blimp is the power plant, or engines, which are at the end of the gondola. The first engine was steam, but today all of the blimp engines run on gas. The engines are big enough to move the blimp in all directions. Some blimps today can travel up to 50 mph. The fourth part of a blimp is the controls. The controls of the blimp allow it to go up, down and forward smoothly. Controls include propellers, rudders (horizontal movements) and elevators (vertical movements).

In the past, large passenger blimps were very popular. Some of them even carried passengers across the Atlantic Ocean. However, there were many accidents. In 1937 the largest blimp ever built, called the Hindenburg, blew up at the New Jersey Naval Air Station because it was filled with hydrogen gas. Thirty-five people died. After this, passenger-carrying blimps lost their popularity. Today, blimps are filled with helium, which does not burn. They are much safer and are mainly used for advertising, aerial photography, sightseeing, and as a TV platform for sporting events.

---

* the long piece of wood or steel along the bottom of a boat that forms part of its structure and helps to keep the boat balanced in the water

Read, Understand And Answer

2A. Answer the following questions according to the information given in the text.

1. How is the shape of a blimp different from that of a balloon?

_____

2. Why is a blimp lighter than air?

_____

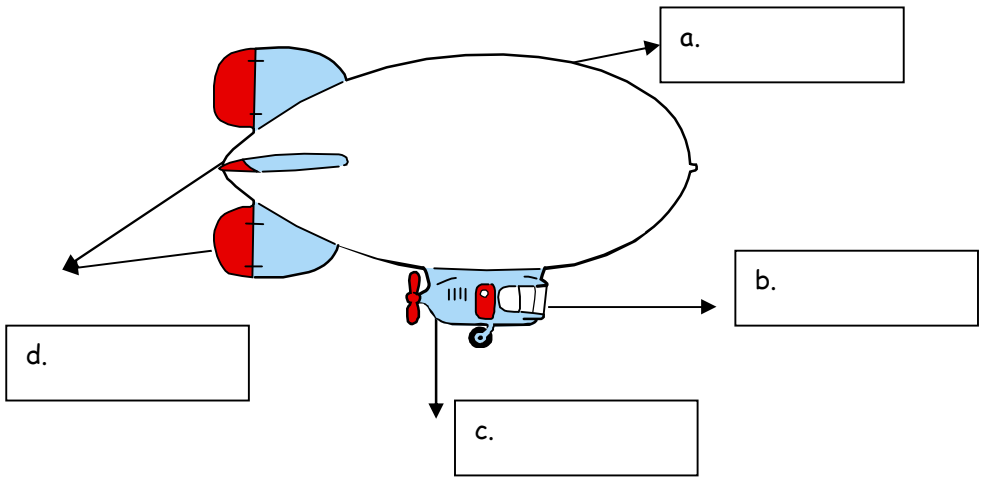
3. Why did they add wooden keels along the bottom of blimps?

_____

4. How was Zeppelin's blimp different from the previous ones?

_____

5. Label the following blimp according to the information given in the above text.



6. What is the function of the envelope?

_____

7. What did earlier blimps run on?

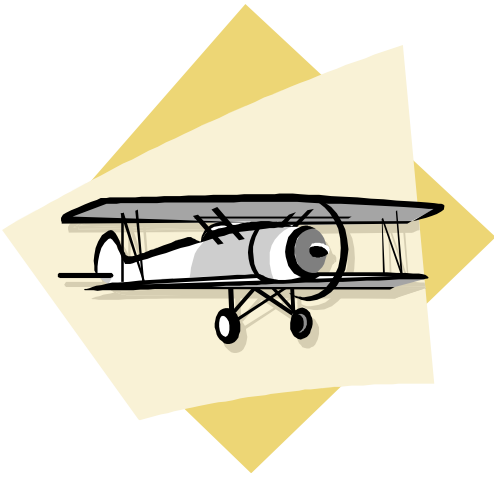
_____

8. Why did passenger blimps lose their popularity?

_____

9. Why are blimps much safer today?

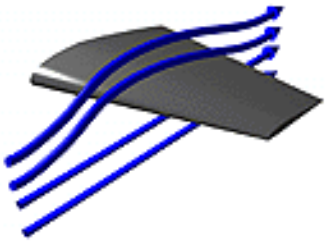
_____



READING 3: FORCES IN FLIGHT

The flight of an airplane involves four forces: lift, drag, thrust, and weight. The lift force pushes upward, opposite to the weight, which pushes downward. The thrust forces the plane forward in the direction of flight and the drag force opposes the thrust. In order for the plane to fly, the lift force must be greater than the weight and the thrust force must be greater than the drag force.

The weight of the aircraft is present because of gravity, the natural force that pulls the plane down towards the earth. Therefore, the direction of the weight is downwards.



On an airplane the movement of the air around the wings creates the lift force, and this force pushes the plane up against the weight. There are two air movements, or air flows, around a typical airplane wing; one travels over the top of the wing, the other moves under it. Modern aircraft have a curved upper surface on the wing so the air moves faster over the top of the wing than it does on the lower surface. Faster air leads to a lower pressure on the upper surface and slower air leads to a higher pressure on the lower surface. A smaller force, on top, pushes downward, and a larger force underneath pushes upwards. When the two forces combine, the net force is lift, which pushes the plane upwards. The velocity of the airplane is the most important element in increasing lift. If the velocity of the airplane increases, the lift will increase greatly. If the velocity doubles, the lift will be four times as large.

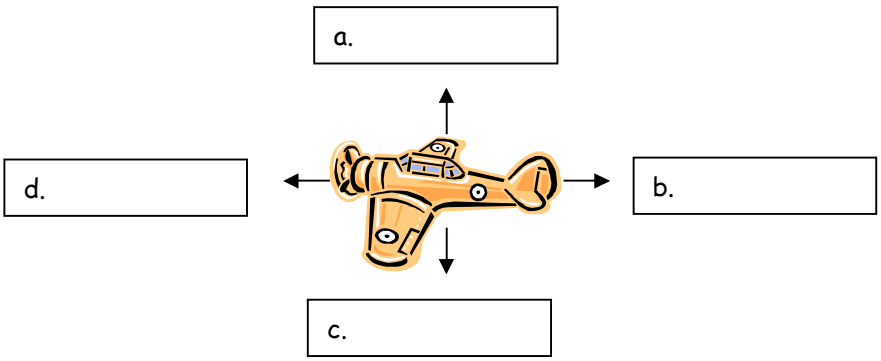
Any force pushing an airplane forward is called thrust. The engines of the airplane produce the thrust. They push fast-moving air out behind the plane, by either propeller or jet. The fast moving air overcomes weight and drag and causes the plane to move forward.

The drag is the fourth of the major forces of flight. It is a resistance force. This force slows down the forward motion of a plane, as it is the opposite of thrust. If the thrust force is greater than the drag force, the plane goes forward, but if the drag force is greater, the plane will slow down and stop. The drag may develop around the body of the plane if it is not smooth or curved enough. It may also develop due to the velocity of the plane, so planes flying at different speeds need different designs. Airplane engineers consider all these points carefully to reduce the drag.

Read, Understand And Answer

3A. Answer the following questions according to the information given in the text.

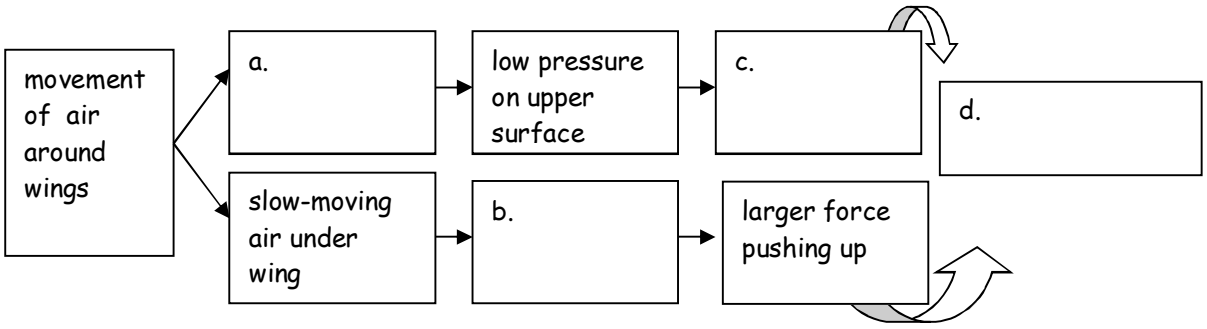
1. What are the four forces in flight? Write them in the boxes below.



2. What conditions are necessary to make the plane fly?

_____

3. Fill in the chart to explain how the lift force is created.



4. a. Which force do you think a bird creates by flapping its wings?

_____

b. An airplane cannot flap its wings. How does it create the same force?

_____

5. a. If you hold your hand out of the window of a fast-moving car, in which direction will your hand be pulled?

_____

b. Which force is this?

_____

6. Which points do airplane engineers consider to reduce the drag?

_____

3B. Fill in the blanks by choosing the correct word.

a. Every pilot knows and uses the four basic (powers/forces) _____ in flight. Aerobatic pilots are continuously (producing/balancing) _____ these forces to design shows for the people watching them. For example, they will deliberately make the plane lose lift and (drop/rise) _____ suddenly. They very carefully fly upside down and balance the new lift force with the (drag /weight) _____ of the plane.

b. Scientists and engineers must understand certain laws of how air (flows/floats) _____ to make flight possible. (As a result/For example) _____ they must understand that when air is heated, it expands and increases in pressure. In the 1700s Daniel Bernoulli (discovered/invented) _____ that when air goes quickly over a surface such as a wing, air pressure decreases. However, when the speed is lowered, the pressure (decreases/increases) _____. He formulated this law into a theory called Bernoulli's theorem. Today wings are designed in this way to increase the streamline _____ (over/through) the top of a wing and reduce it under the wing. This produces (lift/gravity) _____, which keeps the airplane in the air.

Think And Talk Before You Read

1. The boomerang is a symbol of a country continent. Which one is it?
2. Who uses a boomerang? Why?
3. Have you ever played with a boomerang or with a similar object like a frisbee?
4. If you have, do you know how to throw it in the right way?
5. What is special about its flight?

Before you read the text, write one question about The Boomerang that you would like to find an answer to in the text and when you finish reading, say whether the text has answered your question.
Question:

_____

READING 4: THE BOOMERANG

(1) What is the boomerang? Almost everyone will immediately say that it is a curved stick that returns when you throw it. Many people think the boomerang is a weapon. However, the boomerang has mostly been a recreational toy. The real weapon used by Aborigines, Australian natives, was the killer-stick. The killer-stick is like the boomerang, but it does not return! The killer-stick could fly very far to strike and kill an animal or enemy. The boomerang is smaller and lighter than the killer-stick. It was made for a different use or reason. It was used as a toy and for hunting birds. When an Aboriginal hunter saw a flock of birds, he would make the sound of a hawk (a kind of wild bird). He would throw the boomerang above the birds. The birds would see the boomerang and hear the sound. Thinking that it was a hawk, they would fly down to get away and fly directly into the waiting nets of the hunter. The boomerang would then return to the hunter.

(2) The forces of flight make the boomerang return to the thrower. The boomerang looks like two curved wings connected together. As it flies through the air, the air over the upper surface moves faster than the air moving over the lower one. The difference in pressure causes lift. The boomerang also spins or turns through the air like a frisbee or discus. This spin has two effects on the boomerang as it travels through the air. It helps keep the boomerang up in the air longer. Secondly, it results in the curved or turning flight of the boomerang. The turning force comes from the unequal air speed of the spinning wings. The boomerang is spinning and moving forward. Thus, the forward moving wing experiences more lift than the backward moving wing. The backward wing then becomes the forward wing. The net result is a force which turns the boomerang. As the spinning boomerang flies through the air, it begins to turn in a wide circle. As a result, it returns to the thrower. As with anything flying through the air, a boomerang is subject to drag and its own weight. The drag slows the boomerang down and limits the flight time. However, with enough spin and velocity the boomerang may circle above the thrower's head a few times before it lands.

(3) It is important not to throw a boomerang horizontally because then it would climb for some time and simply fall to the ground. Therefore, a boomerang must be thrown almost vertically at an angle of 50° to the right or left, facing the wind. With the proper angle to the wind, the boomerang will return as planned. The boomerang is a simple device, but it relies on complex aerodynamics and physics. Boomerangs come in many shapes. There are those with several wings coming together in the center or those which look like birds or letters of the alphabet. Whatever the shape is, the principles are the same and the boomerang returns to the thrower if it is thrown in the right way.

Read, Understand And Answer

4A. Choose the main idea for each paragraph of the text.

1. The main idea for Paragraph 1 is that _____.
   a) the killer-stick has a very old history
   b) the boomerang is a toy
   c) the boomerang and the killer-stick are both weapons
   d) there are differences between the boomerang and the killer-stick

2. The main idea for Paragraph 2 is _____.
   a) how the boomerang returns to the thrower
   b) that there are similarities between the boomerang and the frisbee
   c) that the boomerang has forward and backward moving wings
   d) how the boomerang produces lift

3. The main idea for Paragraph 3 is that _____.
   a) the boomerang has different shapes
   b) the boomerang is a simple device but it relies on complex principles
   c) the wind is very important in making the boomerang fly
   d) the boomerang must be thrown in the right way to make it return

4B. Choose a suitable connecting word from the box to fill in the blanks. Then check your answers with the text.

since	that is	therefore	for example	however	moreover

1. The killer-stick is similar to the boomerang. _____, it does not return to the thrower.
2. A boomerang spins through the air as it flies; _____, it moves forward while turning around in small circles.
3. The boomerang was used as a toy. _____, it was used for hunting birds.
4. A boomerang must be thrown in the right way to make it return. _____, if you throw it horizontally or at a wrong angle, it will fall to the ground.
5. _____ the hunter wanted to make the birds fly down into his net, he would make the sound of a hawk and throw the boomerang.
6. The boomerang relies on aerodynamics and physics. _____, its movement involves the forces of flight.

4C. The following is a list of some words which show direction. Complete each sentence with a suitable word.

horizontally	into	forward	spin
upward	over	around	return
through	land	climb	

1. The killer-stick could fly **forward** very far.
2. Mankind has always admired birds flying _____ the air.
3. The boomerang does not _____ very high in the air but moves in a circle.
4. According to Bernoulli's principle, air flows faster _____ the upper surface of a wing than it does underneath.
5. The Aboriginal hunter would frighten the birds by using his boomerang to make them fly _____ his nets.
6. An airplane takes off using the lift force, which pushes _____.
7. Never throw a boomerang _____ because then it will fly for some time and fall to the ground.
8. The boomerang, frisbee and discus all _____ as they fly.
9. The weather conditions must be suitable for an airplane to _____ safely.
10. Air moves continuously _____ the wings of an airplane.
11. The killer-stick hits the animal or the enemy and does not _____ to the thrower.

JUST FOR FUN!

4D. Write the jumbled words by putting the letters in the correct order. The first letters have been given to help you. Look within the unit if you cannot remember the correct spelling.

1.	l-e-n-g-a	angle_____
2.	s-e-c-a-u	c_____
3.	e-c-v-e-d-i	d_____
4.	r-e-d-i-f-n-f-c-e-e	d_____
5.	f-f-t-e-e-c	e_____
6.	x-p-e-e-e-e-n-i-r-c	e_____
7.	u-h-n-t	h_____
8.	l-e-i-i-p-p-r-n-c	p_____
9.	u-t-l-e-r-s	r_____
10.	o-u-s-d-n	s_____
11.	w-o-h-r-t	t_____

4E. Guess the answers!

1. What did the Australian do when he received a new boomerang for his birthday?
2. What do you call a really fast boomerang?
3. What do you call a spacious boomerang?
4. What do you call a boomerang that doesn't work?

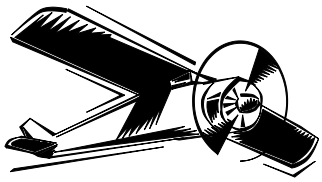
UNIT 5 VOCABULARY LIST

be able to	injure
ability	invention
advertising	involve
allow	lead to
angle	lift
attach	look like
backward	motion
balance	native
be based upon	net
be filled with	oppose
be full of	overcome
be subject to	own
bend	passenger
blow up	pioneer
bottom	power plant
carefully	principle
circle	push
combine	real
connect	recorded
curved	reduce
design	return
device	rigid
difference	run on
direction	smart
distance	spin
drag	steam
due to	stick
effect	stretch
either…or	strike
elevator	success
enemy	successful
engine	thrust
event	try
excellent	vehicle
experience	vertical
face	weapon
final	wild
fixed	wing
flow	wonderful
forward	
frame	
get away	
horizontal	
hunt	
in fact	

UNIT 5 - GO ON READING

HEZARFEN AHMET CELEBI

Mankind has always longed to fly like a bird, and one of the first men to try it successfully was an Ottoman Turk. In the 17th century, during the reign of the Ottoman Sultan Murat IV, Hezarfen Ahmet Celebi, a scholar whose first name means "a thousand sciences," managed to fly by wearing wings, from the top of the Galata Tower in Istanbul to Uskudar, an Asian settlement opposite and across the Bosphorus. An excited crowd including the sultan watched him achieve this feat. Sultan Murat admired Hezarfen, but he was also afraid that his unusual ability would win him excessive power. The sultan gave him a purse of gold and declared: "This man is one to be feared. He can do anything he wishes. The presence of such men is not auspicious." Hezarfen was then exiled to Algeria, where he died broken-hearted far away from home.

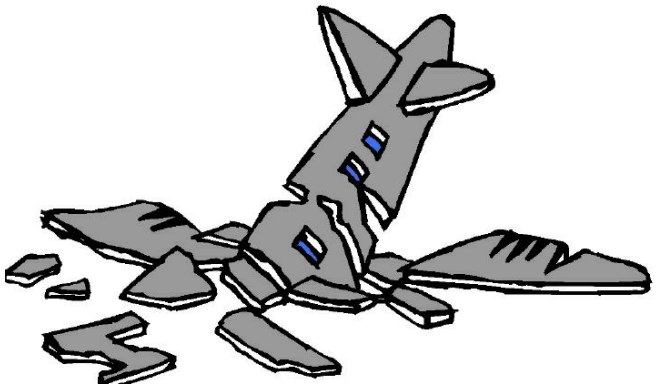


SABIHA GOKCEN

Sabiha Gokcen, the first Turkish woman pilot, was born in Bursa in 1913. She started elementary school during the Turkish War of Independence. She was adopted by Ataturk during his trip to Bursa in 1923 and was brought to Ankara. She completed her elementary education at the school in the garden of the Cankaya Presidential Mansion. She started junior high school at Arnavutkoy American College For Girls, but due to health problems, she continued her education with private tutors at the Cankaya Mansion. Upon the passing of the Surnames Law in 1934, she was given the surname of Gokcen by Ataturk. In 1935, she was accepted into The Turkkusu --Turkish Civil Aviation School-- which was established by the Turkish Aeronautical Association (Turk Hava Kurumu), becoming its first girl student. After having had training on gliders, she received 'A' and 'B' licenses and was sent to the Air Academy in the USSR for advanced training on glider piloting and to become a glider instructor. In 1936 she entered the Military Air School in Eskisehir, being the first and the only woman in the school. She graduated with high honors and became the 'First Turkish Woman Pilot' and 'The First Woman War Pilot of the World.' She was assigned to Eskisehir Air Base and flew 21 different types of aircraft, including fighters, bombers and Turkkusu aircraft. In 1938 she was appointed as principal of the Turkkusu Flying School and continued in this post until 1954. She stopped flying in 1964 but continued teaching until March 2001, when she died.

UNIT 5 - GO ON READING

THE MYSTERIOUS BLACK BOX



When there is a plane crash, the authorities immediately start looking for the mysterious black box. Have you ever wondered what it is and why it is so important? It is basically an electronic device used to discover the cause of a crash and, maybe, prevent others.

The black box can be inserted or removed from an aircraft. In a passenger aircraft there are actually two black boxes. One contains the flight-data recorder and the other, the cockpit-voice recorder. The flight-data recorder registers the aircraft's speed, direction, altitude and other important information throughout the flight. The cockpit-voice recorder has a small cassette tape in it. This tape runs continuously, like the one in an answering machine. It has a loop of tape, which keeps recording messages. Depending upon the capacity of the tape, one can retrieve messages recorded in the previous 30 or 60 minutes. Both recorders are placed in the cockpit of the plane. In order to protect the recorders, they are kept separate. These recorders are enclosed inside a crash-proof and fireproof metal shell.

The interesting part is that although the instrument is called the black box, it is always painted bright yellow or orange! What! A black box is actually yellow, you ask? The answer is simple -- it is easier to find a brightly colored item in wreckage when everything around you is black, charred from the fire. Then why call it a black box? The term black box is not just confined to an aircraft. Any device that is not essential for the functioning of a system is termed a black box.

SKILLS SECTION:

DISTINGUISHING BETWEEN FACTS AND OPINIONS

STUDY THE SKILL

The information in a text consists of facts and opinions. Facts are statements that you can prove. In other words, they are general truths and they do not change from person to person. Examples of this kind of information are statistics, proper names, dates, true stories and experiment results. However, opinions are the writer's ideas. You cannot prove opinions because they show beliefs, conclusions or judgments, which can change from person to person. Distinguishing between the two different types of statements is a critical reading skill which helps comprehension.

The following sentences are examples of facts:

All living things need water to exist.
Air pollution causes acid rain.
Light, like heat, is a form of energy.
A can is a metal container.

The following statements are examples of opinions:

Computers are good for children.
I don't think people can learn English from cassettes.
We will probably have enough coal for another 400 years.
Electric cars may replace today's cars in the near future.

PRACTİCE THE SKILL

Read the following statements and decide whether they are facts or opinions. Write F for facts and O for opinions in the blanks provided.

____ 1. The Pacific Ocean is three times bigger than Asia, the biggest continent on Earth.

____ 2. In six years' time, you may be able to cruise the sky in luxury planes! The planes will probably have everything a person could possibly want while travelling long distances -- a live band, a chair that converts into a bed, a shower room, a casino and a dining room on the upper floor.

_____ 3. According to statistics, almost a million earthquakes occur every year.

____ 4. Children who sit around a table in a group learn more easily and better than ones sitting in rows.

____ 5. Iceland has 200 volcanoes and Indonesia has more than 600.

____ 6. In Iceland, there are 61 people on average for each hospital bed. In Bangladesh, there are 4,586 people per bed, 75 times as many people for each bed as there are in Iceland.

____ 7. Scientists say that if we do not take immediate action, by 2100 there will be a three-fold increase in concentrations of carbon dioxide in the atmosphere.

____ 8. It might be possible to breed cows weighing 4.5 tons, about the size of an elephant, in the near future.

____ 9. Out of all the fish caught in the world, about three-quarters are eaten as food. The other quarter is used to make such things as glue, soap, margarine, pet food and fertilizer.

SKILLS SECTION:

MAKING INFERENCES AND DRAWING CONCLUSIONS

STUDY THE SKILL

Writers do not always state their ideas, attitudes or feelings directly. Instead, they choose certain words and phrases loaded with meaning. Understanding this hidden or implied information in a text requires critical reading as well as a good knowledge of vocabulary. To draw your own conclusions, you need to be able to read between the lines and notice the writer's choice of words and phrases. Also you need to be careful about the extra meanings of the words (connotations) in addition to dictionary meanings (denotations). The following are a number of examples to help you become more aware of the writer's choices:

- Words like *luckily*, *unfortunately*, *obviously*, *surprisingly*, *regrettably* can tell you about the writer's feelings about the topic.
  a) Luckily, I got home before my parents went to bed. (I had lost my keys and I did not want to wake them up.)
  b) Unfortunately, I got home before my parents went to bed. (They were angry with me because I was late.)

- Words like *certainly*, *obviously*, *naturally*, *probably*, *likely* and *unlikely* can indicate the level of certainty.
  a) The number of traffic accidents will certainly decrease with new laws. (I am sure they will!)
  b) It is unlikely that the number of traffic accidents will decrease with new laws. (I don't think they ever will!)

- Words like *just*, *only*, *even*, *almost* and *about* added to comment on objective facts can change the message completely.
  a) It was a difficult exam. Only 50% of the students passed. (Usually a greater percent passes.)
  b) It was an easy exam. About 50% of the students passed. (Usually a greater percent fails.)

- Words with stronger or additional meaning instead of neutral ones can add value to the ideas.
  a) It was a good trip. (There were no problems.)
  b) It was a fantastic trip. (I enjoyed myself so much, I'll never forget it!)

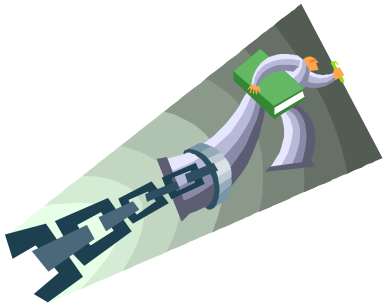
  c) Her mother was a fine lady with a kind heart. (I adored her!)
  d) Her mother was a helpful person. (She was all right…)

  a) The Prime Minister's speech was interesting. (But there was nothing extraordinary.)
  b) The Prime Minister's speech was provocative. (It was really stimulating and started a nation-wide discussion!)

PRACTICE THE SKILL

Read the following short texts and choose the ideas that you think are possible inferences or conclusions.

From a gang member and murderer to the best-selling author of books: prison has changed Stanley Williams a lot.



1. a) Stanley Williams went to prison because he was a criminal.
   b) He started writing books before he went to prison.
   c) He likes being in prison.
   d) All gang members and murderers can be good writers.
   e) He writes about his life in his books.
   f) His books are interesting.

Child guerrillas of the African country Sierra Leone learn to use guns at the age of 7 or 8. They know everything about the war. It is a pity that they have to see people killing each other and perhaps they have to kill, too.

2. a) There is a war in Sierra Leone.
   b) It is good for children to learn about the war.
   c) Children have to do military service in Sierra Leone.
   d) The guerrillas in Sierra Leone use children in the war.
   e) They teach children how to use guns at schools in Sierra Leone.
   f) It is wrong to make children fight.
   g) Children in Sierra Leone kill because they want to.

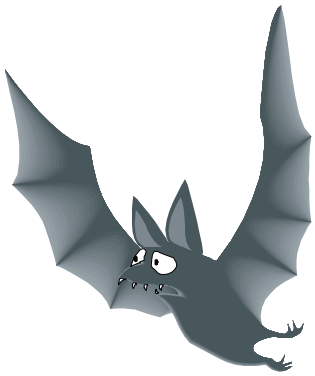
Animals protect themselves from their enemies in interesting ways. Stronger ones fight, some run away fast, others change color and 'camouflage' themselves. A species of rabbit, the snowshoe hare, for example, is brown in summer and turns white in winter.

3. a) Rabbits are colorful animals.
   b) The white color of the snowshoe hare serves as 'camuoflage' in snow.
   c) Strong animals never run away.
   d) Each animal uses its own strategy to stay alive.
   e) If an animal has the same color as its environment, it can stay alive more easily.

"We can stay young forever." The message Dr. Shen Ziyin wants to give the world is that he has found an answer to the problems of aging.

4. a) Shen Ziyin is a medical doctor.
   b) He has been working on the problems of aging.
   c) He is of Far Eastern origin.
   d) He has found something which will help people stay young.
   e) He is a young man.
   f) He is famous for his discovery.

Read the text and choose the alternative which states a possible inference or conclusion.



Unfortunately, bats have always been a source of fear for humans. There have been people who thought that bats were dirty and evil. There have also been many untrue stories of bats turning into humans or vampires like Count Dracula. This is perhaps because bats live in barns, attics, and caves. They like any place that is cold and dark, and most bats fly at night. Actually, bats are wonderful creatures, the only mammals which can truly fly. A bat's body is made for flight, with its large chest and thin but powerful wings. Bats listen to echoes to find and hunt for their food, i.e., insects. Some species also eat fruit.

5. a. The writer agrees with people who think that bats are dirty and evil.
   b. The writer thinks bats are interesting animals with special characteristics.

6. a. Count Dracula was an imaginary character.
   b. Count Dracula was a bat.

7. a. People may fear any creature which flies.
   b. People may fear creatures which live in the dark.

8. a. Bats are harmless because they eat insects and fruit.
   b. Bats are dirty and dangerous because of their hunting habits.

VOCABULARY DEVELOPMENT:

CONNOTATIONS

Connotations refer to the ideas or feelings expressed in words. These neutral, positive or negative extra meanings are often not part of the dictionary definition. If you are unaware of the connotations of words, you cannot fully understand what you are reading or you may misunderstand the ideas. Knowing the connotations of words will help you understand indirectly stated ideas, make inferences or draw conclusions and determine the author's attitude.

Example:

Compare the meanings of the same word in the following sentences:

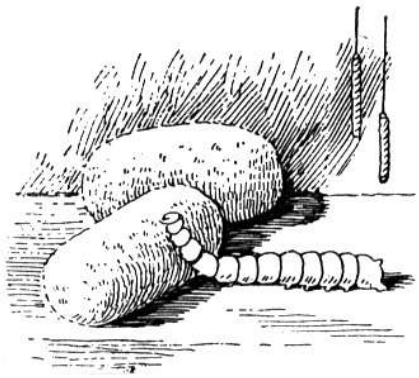
1. The family has three homes -- an apartment in New York, a country house in Pine Plains and a beach house in the Hamptons. (a place in which people live)
2. Our new house doesn't feel like a home yet. (a place in which people live and which suggests pleasant feelings like love, comfort and safety)

Compare the different feelings expressed by words that have similar meanings:

1. a) The newspaper reporter rushed to the scene of the accident to interview the victims. (neutral)
   b) He was a real news-hawk. No event could escape his attention. (strong)

2. a) The perfume of the roses filled the room. (strong)
   b) The smell of freshly cooked vegetables filled the room. (neutral)

Study the following short paragraph and focus on the writer's choice of words to express his feelings:



While working on a machine in a sericulture* unit, a little girl was severely injured in the head in Pakistan. The little girl is just one of hundreds of thousands of unlucky children employed in this industry in the country. The profit-hungry owners of sericulture units prefer children to adults for the work, as children occupy less space to work in. Imagine a narrow matchbox-like space where the child worker is made to stand with her back to the wall with the machine in front of her. It is as if she were standing in a narrow cage. Secondly, children are preferred because they neither ask for a lot of money nor complain, even when they suffer from illnesses like asthma, malnutrition and anemia as a result of the conditions they work in...

(*sericulture: raising silkworms to obtain raw silk)

_____

The writer _____.

a) does not criticize what the owners of sericulture units do
b) feels sorry for the children who work in sericulture units
c) blames the owners of the sericulture industry
d) thinks the children are made to work in inhuman conditions
e) approves of the reasons for making children work in the sericulture industry
f) is angry with the children because they do not ask for more money

The writer's use of words or word groups like "severely injured in the head, just one of hundreds of thousands of unlucky children, the profit-hungry owners of sericulture units, a narrow matchbox-like space, as if she were standing in a narrow cage, suffer from illnesses like asthma, malnutrition and anemia" help us decide that choices b), c) and d) express his attitude.

I. Read the following sentences and match them with the meanings expressed by the underlined words.

___ 1. My sister had her second baby last week.
___ 2. Don't be such a baby!
___ 3. I love you, baby!
___ 4. I don't know much about the project. It's Peter's baby!

a) a very young human being
b) affection for a wife, husband or lover
c) special interest in and responsibility for something
d) criticism of someone who is behaving childishly and immaturely

___ 5. We've had no news of them since they left for Australia.
___ 6. I've got news for him, if he thinks he can carry on living here without paying the rent.
___ 7. I like to watch the early evening news when I get home from work every day.
___ 8. Kate's joining us is good news for the company. I'm glad she has been given the job.

e) an unpleasant surprise
f) information about recent events
g) a suitable person
h) a radio or TV program consisting of reports

II. Compare the following sentences and choose the one that expresses a stronger meaning.

1. a. I have some juicy gossip for you.
   b. I have some interesting news for you.
2. a. The housewife closed the door in the salesman's face.
   b. The angry housewife slammed the door in the salesman's face.
3. a. Her friend's sudden death surprised her.
   b. Her friend's sudden death shocked her.
4. a. The old man impatiently told his son to leave the room.
   b. The old man asked his son to leave the room.
5. a. The door led into a dirty room full of rubbish.
   b. The door led into a filthy room full of rubbish.
6. a. She shouldn't diet. She is much too skinny.
   b. She shouldn't diet. She is thin enough.
7. a. The bookcase my grandmother gave me is an antique.
   b. The bookcase my grandmother gave me is old.
8. a. He was a bit drunk at the time so he doesn't remember much.
   b. He was pie-eyed at the time so he doesn't remember what happened.

III. Read the following short text and underline the words which help you to understand the writer's attitude and feelings. Then answer the questions.

(1) Did you know that March 9, 2001, was declared 'the Night of the Women' in Bogota, the capital of the South American country Colombia? It was the first time and a welcome break for most Bogotan women who suffer from violence in the home. That night, all the city's men were ordered to stay indoors and leave the city free for the women. Did the women have a good time? It was real fun, from all accounts, and a carnival atmosphere all the way! The women went to concerts, poetry readings and cycle rides, while 1,500 policewomen patrolled the streets. The men were told to stay at home and watch the children while the women sang and danced on the streets. Of course, there were some men who tried to break the law, but the women would not allow it. They showered the men with flour and water and shouted, "Go home, there's housework to be done."

(2) While the idea may seem strange to many people in Bogota, it has great importance because violence is very high in the Colombian capital. This violence is not limited to political conflict or crime. It has a lot to do with the attitudes that men have toward women in that society.

1. Does the writer approve or disapprove of 'the Night of the Women'?
   _____
2. The tone of Paragraph 1 can best be described as _____.
   a) formal b) humorous c) emotional d) critical
3. The tone of Paragraph 2 can best be described as _____.
   a) informal b) pessimistic c) serious d) surprising
4. Whose side is the writer on, the men's or the women's?

_____

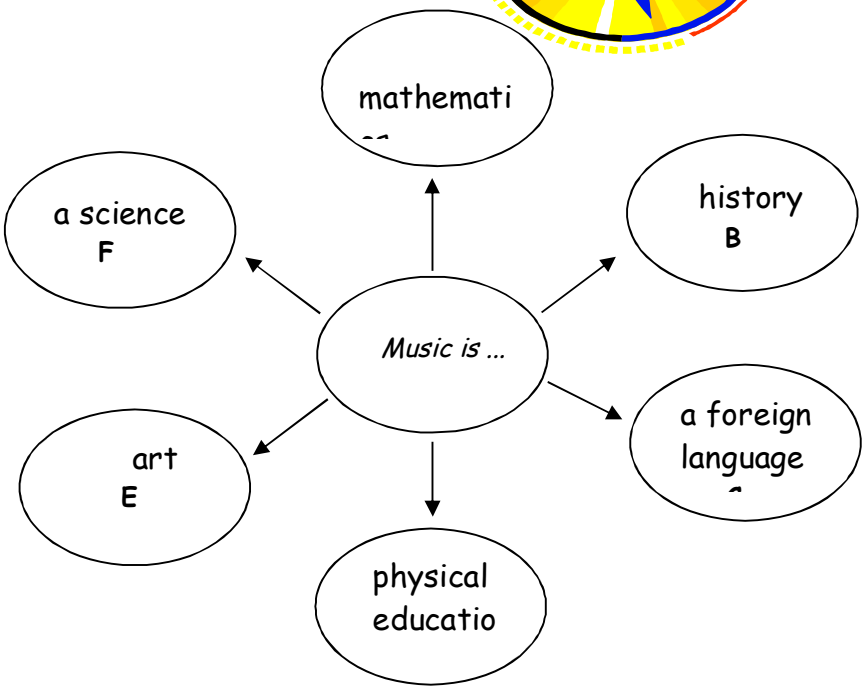
UNIT 6: MUSIC

Think And Talk Before You Read

1. What types of music do you know?
   What types do you like? Why?
2. Do you play a musical instrument?
   If no, would you like to play one? Which one?

3. What is the importance of music in our lives?

4. The following are all answers to the question: 'What is music?' Study them and then match them with the short paragraphs given below.



___ 1. It is rhythmically based on the subdivisions of time into fractions.
___ 2. It requires fantastic coordination of the fingers, hands, arms, and lip, cheek, and facial muscles, in addition to extraordinary control of the back, stomach, and chest muscles, which respond instantly to the sound the ear hears and the mind interprets.
___ 3. Music usually reflects the environment, but its creation is often beyond time, country or cultural feeling.

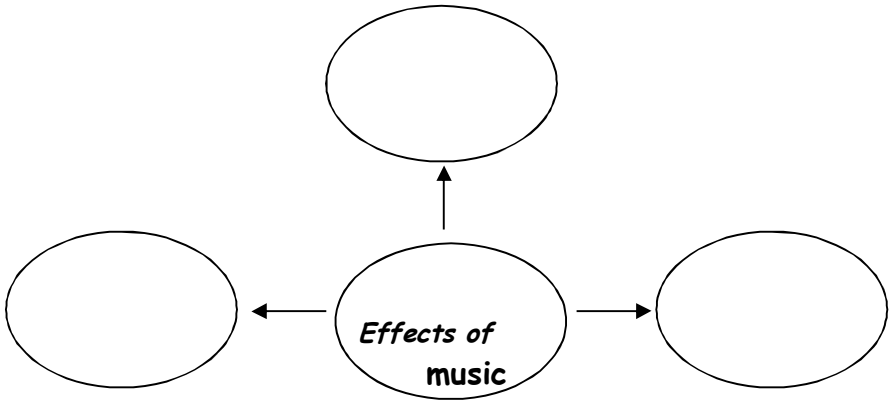
___ 4. It is specific, and it demands exact acoustics. A conductor's full score is a chart, a graph that indicates frequencies, intensities, volume changes, melody, and harmony all at once and with the most exact control of time.

___ 5. Most of the terms are in Italian, German, or French, and the notation is certainly not English but a highly developed kind of shorthand that uses symbols to represent ideas. The semantics of music is the most complete and universal language.

___ 6. It allows a human being to take all these dry, technically boring (but difficult) techniques and use them to create emotion. That is one thing science cannot duplicate: humanism, feeling, emotion, call it what you will.

READING 1: WHAT MUSIC DOES TO YOU

1A. Brainstorm the effects of music with your friends and write your ideas in the boxes below.



1B. Read the following statements about the effects of music and compare them with your ideas. Have you come up with similar ideas?

A. Music can change the speed of your brain waves.
B. Music improves body movement and coordination.
C. Music can increase endorphin levels and help ease pain.
D. Music masks unpleasant sounds and feelings.
E. Music affects heartbeat and blood pressure.
F. Noisy, agitated music is not always psychologically bad for people.
G. Music affects breathing.

1C. Read the following paragraphs and match them with the statements in the previous exercise.

____ 1. Our heart responds to music. Our heart rate can speed up or slow down to match the music we hear. The slower the music, the more slowly the heart will beat! Lower heartbeat creates less stress and helps the body get better and heal itself. **Conversely**, a study done with university students found that, after listening to loud rock music by the Rolling Stones, the Beatles, Jimi Hendrix, and other similar bands, students had increased heart rates. In another study, it was found that **excessive** noise may raise blood pressure by as much as 10%. However, listening to soft music can lower it. Hospitals and clinics around the world use music therapy, and not only on their patients. In a 1995 study, it was found that surgeons who listened to the music of their choice while operating had lower blood pressure and a slower heart rate and could **perform** mental activities more quickly and accurately.

___ 2. The natural healing chemicals (endorphins) created by the **joy** and emotional richness in music enable the body to create its own anaesthetic. The studies of Professor Paul Robertson of Kingston University in Ontario, Canada, show that patients who are exposed to 15 minutes of **soothing** music require only half the recommended doses of sedatives and anaesthetic drugs for painful operations. One music study also found that half of the mothers who listened to music during childbirth did not require anaesthesia. Due to the fact that music **stimulates** endorphin levels and provides a distraction from pain and anxiety, the University of Massachusetts Medical Center prescribes harp music instead of painkillers for cancer patients. In Japan, Western classical and romantic music is sometimes prescribed for various **ailments**. For instance, Mendelssohn's "Spring Song," Dvorak's "Humoresque" and George Gershwin's "An American In Paris" are suggested for headaches and migraines.

___ 3. Our brain waves vibrate at different speeds during different activities. The slower the brain waves, the more relaxed and peaceful we feel. Stimulating music has been found to produce beta waves, which prepare us for quick responses to **external** events; relaxing music can generate alpha waves, which focus the mind for quiet concentration. It has been found that music of about 60 beats per minute can change brain waves from the beta to the alpha. Therefore, playing music at home, in the office, or in school can help a person to focus. If you

are daydreaming or unfocused, a little Mozart or Baroque background music for 10 to 15 minutes can help to make you more aware and increase your mental organization.

___ 4. Nowadays, dentists often offer headphones to their patients, knowing that the effects of music can mask the unpleasant sounds of the drill and calm the patient. Also, it is not uncommon to see patients listening to soft music while having an operation.

___ 5. Psychologists have found that nonverbal expression of angry or aggressive feelings can provide a valuable emotional **release** and prevent physical and psychological health risks.

___ 6. By slowing the tempo (speed) of the music you are listening to, you can contribute to your own calmness. Music with longer, slower sounds can deepen and slow the breath, allowing your mind to calm. Many people believe that New Age music has this effect.

___ 7. When you do aerobics exercises, you move to music. Researchers have found that exercisers match their movements to the rhythm and tempo of the music they hear. They found that those who listened to music while they exercised **improved** their attitude as well as their strength.

1D. Choose the best alternative.

1. **Conversely** (Paragraph 1) means _____.
   a) As a result b) In other words c) However d) Moreover

2. **Excessive** (Paragraph 1) means _____.
   a) too much b) not enough c) musical d) creative

3. **To perform** (Paragraph 1) means to _____.
   a) choose b) prescribe c) do d) use

4. **Joy** (Paragraph 2) means _____.
   a) sadness b) happiness c) anxiety d) therapy

5. **Soothing** (Paragraph 2) means _____.
   a) disturbing b) surprising c) noisy d) relaxing

6. **To stimulate** (Paragraph 2) means to _____.
   a) connect b) operate c) increase d) decrease

7. **Ailment** (Paragraph 2) means _____.
   a) patient b) musician c) operation d) illness

8. **External** (Paragraph 3) means _____.
   a) peaceful b) similar c) outside d) proper

9. **Release** (Paragraph 5) means _____.
   a) problem b) outlet c) anger d) idea

10. **To improve** (Paragraph 7) means to _____.
    a) need c) lose control of
    b) understand d) make or become better

1E. Choose the best alternative.

1. People with high blood pressure _____.
   a) should not listen to soft music
   b) respond to music better than people with low blood pressure
   c) are stressed and have slow heart rates
   d) should try to avoid listening to very loud music

2. When a person enjoys the music he/she listens to, _____.
   a) he/she does not feel any pain at all
   b) painkillers do not have any effect on him/her
   c) his/her body produces more endorphins
   d) he/she cannot fall asleep

3. Mozart's music _____.
   a) generates beta waves
   b) should not be listened to for more than 10 minutes
   c) generates alpha waves
   d) may make the listener daydream and lose concentration

4. Which of the following statements is NOT TRUE according to the above facts?
   a) Music reduces both physical and psychological health risks.
   b) Although they like it in a dentist's office, people do not want music in the operating room.
   c) New Age music gives many of its listeners a feeling of calmness.
   d) Doing exercises together with music improves attitude and strength.

READING 2: HEAVY METAL, RAP AND ADOLESCENT BEHAVIOR

There is widespread concern about the possible negative effects of listening to certain types of music on **behavior**, especially on the behavior of **adolescents**. This topic has not been studied **closely**, but a recent report by Kevin J. Took and David S. Weiss in the journal *Adolescence* is quite illuminating. The authors studied the relationships between listening to heavy metal and rap music and adolescent "psychosocial **turmoil**." Subjects were 12-18 years of age, equally divided between the sexes. They were patients under treatment for various behavioral and psychological problems at a military medical center's adolescent medicine unit. Their parents were attached to the military. Questionnaires **revealed** differences between teenagers who preferred heavy metal and rap and others who did not. They had poorer school grades, more behavioral problems in school, more sexual activity, drug and alcohol use and arrests. The relationship between the music and the behavior was stronger for males than females. It was at first thought that perhaps music was the cause of their behavioral problems to some extent. However, further detailed analysis of each student's background revealed that the most troubled group had exhibited serious behavioral problems in elementary school, generally before they started listening to heavy metal and rock. Thus, these types of music may **draw** troubled students, but no clear causative relationship exists. Generalizations from these findings would be **premature**. The sample does not represent adolescents in the United States, and the questionnaires are subject to some error. Moreover, the possibility that music could promote problems in already troubled teenagers was not studied. **Obviously**, more research is needed.

Do While You Read

2A. The following words are all from the above text. Find them in the text and decide whether they are nouns, verbs, adjectives or adverbs.

1. behavior: _____
2. adolescent: _____
3. closely: _____
4. turmoil: _____
5. to reveal: _____
6. to draw: _____
7. premature: _____
8. obviously: _____

2B. Now match each of the above words with the words or phrases below which mean the same in the context.

A. (6) to draw : to attract
B. _____: too soon
C. _____:the actions and reactions of a group, person, animal, or thing, either characteristically or under specific circumstances
D. _____: to show
E. _____: a state of great disturbance or confused excitement
F. _____: carefully
G. _____: clearly
H. _____: teenager

Read, Understand And Answer

2C. The following statements are from the text. Read them and write an 'F' for 'Fact' and an 'O' for 'Opinion.'

____ 1. There is widespread concern about the possible negative effects on behavior of listening to certain types of music, particularly in adolescents.

____ 2. The authors studied the relationship between listening to heavy metal and rap music and adolescent "psychosocial turmoil."

____ 3. Questionnaires revealed differences between teenagers who preferred heavy metal and rap and others who did not.

____ 4. It was at first thought that perhaps music was the cause of their behavioral problems to some extent.

____ 5. Thus, these types of music may draw troubled students, but no clear causative relationship exists.

____ 6. Obviously, more research is needed.

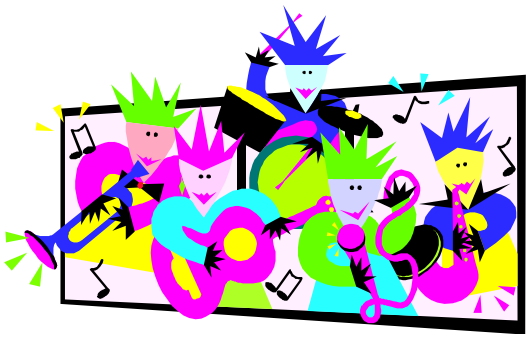
2D. Answer the following questions according to the information given in the text.

1. What was the aim of Kevin J. Took and David S. Weiss's study?
   _____
   _____

2. What did the subjects have in common?
   _____
   _____

3. What generalizations can be made from the findings of the study? Explain your answer.
   _____

Think And Talk Before You Read



1. Do you like jazz? How do you feel when you listen to jazz?
2. Do you know any jazz musicians?
3. Is jazz popular in your country? Why or why not?
4. Do you know where it originated?

READING 3: WHERE DID JAZZ ORIGINATE?

3A. Look through the text and match the dates with the information.

___ 1.	1800s	a. The Blues
___ 2.	1850s	b. A new jazz style
___ 3.	Early 1890s	c. Ragtime
___ 4.	Late 1890s	d. First jazz recording
___ 5.	1900s	e. Early jazz
___ 6.	1917	f. European influence

(1) One has just to blow a few notes on a sax and your feet start tapping to the rhythm and your body starts swaying to the music. That's jazz for you! Ragtime, be-bop, cool, blues -- the very names make your fingers snap and do a step, no?

(2) Jazz has often been called the only art form to originate in the United States, but even this is not true. Jazz is a kind of music that was sung or played by the African slaves on the plantations of America's Old South. In the 1700s, Africans were taken from their villages, brought to the faraway Americas in chains and sold as slaves to work on large plantations. In most places, slaves were not allowed to speak to each other while working and in time, singing became the safest and the only way they could communicate. In addition to work songs, slaves also sang "spirituals" (religious songs). After a day's exhausting labor, these people would gather together and sing to overcome their sorrow and also to teach their children about their roots, that is, the land and culture which only survived for them in their memories now. Jazz music in the 1800s thus grew from a combination of African folk music and dance rhythms. Early jazz music was a soulful and heart-breaking composition with simple and repeated harmonies performed by black musicians who had little or no formal training in Western music.

(3) In the 1850s, jazz grew in popularity, and its sound was influenced by white musicians with formal Western training and classical backgrounds. Many different forms of musical notes from various European cultures flowed across the new continent during the late 1800s. French quadrilles, Spanish flamenco, Irish jigs, German waltzes and many other musical traditions were all part of the cultural baggage that immigrants brought from their countries to America, the land that was the melting pot of cultures. Therefore, apart from the musical beginnings in Africa, European influence and instruments like the clarinet and the saxophone changed the way jazz was being played.

(4) The early 1890s was marked by the blues, which emerged from the same traditions as jazz: African-American work songs and spirituals. In performing the blues, the singers used the power of their voices to express their feelings. In the late 1890s, a musical style called Ragtime evolved from jazz. Ragtime, which combined European compositional styles with the rhythmic and melodic music of the black community, quickly spread to all parts of the country. This new music style emphasized formal composition and was played on the piano. However, it was totally different from the piano concertos associated with Western classical music. It was dynamic, vigorous, stirring and passionate. Naturally, people were crazy about it.

(5) Then, in the 1900s, came a fuller jazz, developed and refined by African-Americans, who merged French, Spanish and other European traditions with the Blues, Ragtime, band music and many other elements to create a new style. Today, this type of jazz is sometimes referred to as classic jazz or traditional jazz.

(6) From bands playing on boats on the Mississippi River, jazz was gradually spread all over the country. As African-Americans migrated north, they brought jazz and the blues with them. Young Americans, who had been disheartened by the pointlessness of the First World War, began to rebel against the old-fashioned attitudes of their parents, and listening to jazz and the blues became part of their rebellion. The first jazz recording was made in 1917, and in the 1920s jazz records were the hottest sellers on the market. People were buying jazz records faster than they could be recorded, and they were also tuning in to radio stations playing Louis Armstrong and Bessie Smith more than ever. Today, all over the world, people appreciate jazz as an important art form, and, with variations in style and music, musicians are making major contributions to it.

3B. Find and underline word groups in the text which mean basically the same as the following and talk about the difference between them.

1. play the saxophone (Paragraph 1)
2. you start dancing (Paragraph 1)
3. after working hard all day (Paragraph 2)
4. to forget their unhappiness (Paragraph 2)
5. early jazz, a style used to express emotions (Paragraph 2)
6. different kinds of music became known across America (Paragraph 3)
7. the country in which different cultures exist together (Paragraph 3)
8. the new music was energetic and lively (Paragraph 4)
9. people liked it very much (Paragraph 4)
10. young Americans, who had lost hope (Paragraph 6)
11. jazz records sold a lot (Paragraph 6)
12. they were listening to radio stations (Paragraph 6)

Read, Understand And Answer

3C. Read the text and choose the statements which are possible inferences. Support your answers using the ideas in the text.

1. The writer of the text is a jazz fan.
2. The Americans are not creative.
3. Music is a means of communication.
4. The slaves did not have the chance to obtain formal musical education.
5. People express their feelings through music.
6. Uneducated black musicians had a better style than trained Western ones.
7. People have been attracted to alternatives outside the classical tradition.
8. Piano concertos of Western classical music lost their popularity because of Ragtime.
9. Riverboats on the Mississippi had entertainment for the passengers.
10. All young people are rebellious.
11. Louis Armstrong and Bessie Smith were two well-known jazz performers.
12. According to the writer, Western influence on jazz has not been positive.

READING 4: MAKING MUSIC -- HOW DID IT ALL START?

Do While You Read

4A. Look through the text and list the musical instruments mentioned.

_____

(1) Man has been quick to see the different uses of an object throughout history. Take the origins of musical instruments, for example. They had nothing to do with music **initially**. You can find all of them in the tools man used for everyday activities. They were just simple devices to satisfy his most basic need; that is, the need to feed himself by hunting. Therefore, he created tools to facilitate the job. Later on, he thought of using them to make music, which, throughout history, has been another basic need, although perhaps in a different category than the former.

(2) Trace the harp and the trumpet back in history and you will see that they were tools used while hunting. The idea of making a harp most probably started when someone noticed the **twang** made by a bow and arrow. **Similarly**, seashells were simple devices for producing different sounds. Using them, the hunter imitated the sound of the animal he was planning to catch and **approached** it easily or he scared it away to catch it in an open area. He also needed to communicate with his fellow hunters. Then one day somebody decided to use the shell as a musical instrument and that was it -- there was the trumpet!

(3) Imagine a pit, a deep hole in the ground, used as an animal trap. Then one day after a hunting party, when the crowd finished eating, somebody took the **hide** of the animal and covered the pit with it, fastening it to the ground at several places. Perhaps all he intended to do was to leave it there for some time to let it dry; but it didn't take long for this creative soul to learn that **striking** the hide rhythmically could produce a certain **string** of sounds. Guess what happened afterwards! Soon others gathered around him and started jumping in tune with the music. It seems this was the way our ancestors played one of the earliest musical instruments, the drum, and this type of drum was called the earth drum.

(4) Our ancestors had other clever ways of making drums as well. **Hollow tree** trunks used as shelter by the hunters gave them the idea, so they cut down a tree and **scooped out** the wood inside -- just like the man at the ice cream shop takes out a scoop of ice cream from the container. Then they covered the hollow tree trunk with animal skin, and hey presto! The forest came alive with the sound of the tree drum. The earliest drums probably stood like trees and were played on one side. Some of the tree drums found in Africa and Mexico are as high as three meters! How do you think they were able to play such high drums? Small, portable drums made of wood are used even today. In some places, especially where there are plenty of coconut and palm trees, people make drums from these trees. Part of the tree trunk is cut out, made hollow from inside, and then covered with leather.

(5) Then came the mud or clay drums. Originally these were kitchen **vessels** like pots, pans and jars used for storing, measuring and cooking grain. When our ancestors decided to use them as drums, they covered them with animal hide and started their rhythms. One basic need was once again nicely tied to the other. The drums were made in familiar shapes -- circular pots, shallow pans and long-necked jars. Our ancestors liked mud because it was easier to make shapes out of it than out of wood. It was easier to use, but also easy to break. Although mud and clay drums continued to be made, in time, humans started making metal drums to overcome the problem.

4B. Choose the alternative that can replace the following words meaningfully in the text.

1. initially (Paragraph 1):
   a) completely b) especially c) in the meantime d) in the beginning

2. twang (Paragraph 2):
   a) sound b) shape c) function d) material

3. similarly (Paragraph 2):
   a) moreover b) however c) in the same way d) on the contrary

4. to approach (Paragraph 2):
   a) to make up b) to hold onto c) to depend on d) to go near

5. hide (Paragraph 3):
   a) flesh b) skin c) blood d) hair

6. to strike (Paragraph 3):
   a) to blow b) to force c) to beat d) to push

7. string (Paragraph 3):
   a) rope b) series c) wire d) orders

8. hollow (Paragraph 4):
   a) dense b) empty c) solid d) regular

9. to scoop out (Paragraph 4):
   a) to remove b) to slice c) to alter d) to process

10. vessel (Paragraph 5):
    a) substance b) product c) machine d) container

4C. Write what the following words refer to.

1. the former (Paragraph 1): _____
2. them (Paragraph 2): _____
3. this creative soul (Paragraph 3): _____
4. these trees (Paragraph 4): _____
5. the other (Paragraph 5): _____

4D. Read the text and choose the alternative that best states the main idea.

1. The main idea of Paragraph 1 is that _____.
   a) hunting was the most basic activity for early man
   b) it is difficult to decide whether music has been a basic need of man
   c) man used simple devices to find food for himself and to survive
   d) musical instruments were once tools used in hunting

2. The main idea of Paragraph 2 is that _____.
   a) a bow and arrow was one of the first weapons man used
   b) some hunting tools gave man the idea for the harp and the trumpet
   c) man used shells to communicate while hunting
   d) early hunters were sensitive to sounds

3. The main idea of Paragraph 3 is that _____.
   a) pits were used as animal traps in the distant past
   b) animal skins were left to dry on the ground
   c) the first drums originated from pits used as animal traps
   d) the earth drums were so called because they were on the ground

4. The main idea of Paragraph 4 is that _____.
   a) tree trunks used as shelter by hunters were the first wood drums
   b) the drums in Africa and Mexico were very high
   c) our ancestors were similar to today's ice-cream sellers in some ways
   d) it was difficult to play tree drums

5. The main idea of Paragraph 5 is that _____.
   a) man used mud or clay vessels for storing, measuring and cooking grain
   b) mud or clay drums were easy to make
   c) metal drums were made because mud or clay drums broke easily
   d) mud or clay drums can be traced back to kitchen vessels

Read, Understand And Answer

4E. Read the following questions and answer them using your own ideas.

1. Try to think of a few ways man used seashells to communicate with others.

   _____

2. What aspect of music is mentioned indirectly in Paragraph 3, the scientific, the social or the artistic? Support your answer using the information in the text.

   _____

3. Why do you think only wood drums among all kinds have survived until today?

   _____

4. Why did our ancestors start making metal drums?

   _____

5. Do you agree with the idea that food and music are two equally basic needs? Explain your answer.

   _____

JUST FOR FUN!

4F. Guess the answers!

1. What's the difference between a trumpet and an onion?
2. What's the definition of a gentleman?

UNIT 6 VOCABULARY LIST

accurately	influence
adolescent	initially
ancestor	instead of
anxiety	intend
apart from	labor
appreciate	lower
approach	mental
attitude	mind
aware	notice
background	obviously
beat	operate
be exposed to	operation
behavior	origin
behavioral	originally
choice	originate
closely	pain
combination	patient
communicate	prescribe
compare	raise
concern	rate
contribute	recommend
contribution	relationship
conversely	release
distraction	represent
draw	respond
ease	response
emotional	reveal
emphasize	sample
enable	satisfy
error	scare
evolve	seem
excessive	spread
expression	stimulate
external	suggest
facilitate	tool
focus	training
gather	treatment
generate	vibrate
heal	widespread
immigrant	
improve	

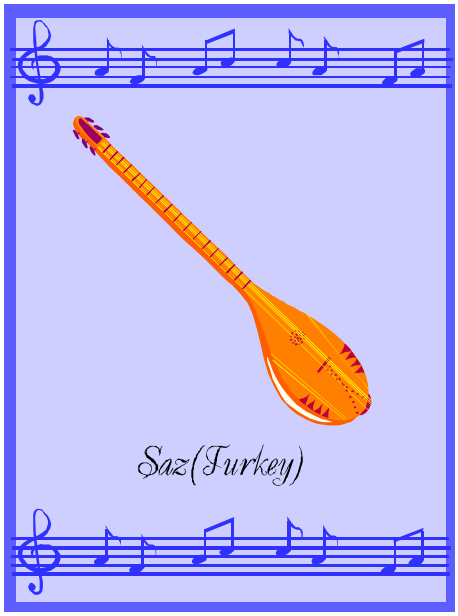
UNIT 6 - GO ON READING

SELECTIONS FROM TURKISH MUSICAL FOLK INSTRUMENTS

KAVAL

The kaval is a Turkish folk instrument of the wind type made from the wood of the plum tree. It is popularly known as the instrument of the shepherds. It is also called guval and kuval in different regions. The belief that the shepherd leads his sheep flock with his kaval is a widespread belief among the people. The word kaval is probably a derivative of the word "kav," which means hollow on the inside. There are two main types: Dilli Kaval and Dilsiz Kaval. The sound range of the instrument is about 2.5 - 3 octaves. It is a widely used instrument in the folk music groups of today and can be used as a solo instrument within an ensemble. The kaval preserves its characteristic sound when played together with other instruments. As a kaval is not produced to any defined standards, what can be said about its dimensions has to be very general. Its length may vary between 30 cm and 80 cm and its diameter is approximately 1.5 cm. It has seven melody keys on the front and one underneath. Besides these, there are also four other keys on the lower section of the instrument, called Seytan Deligi and Hazreti Ali.

BAGLAMA



The baglama is the most commonly used string folk instrument in Turkey. It has different names, such as baglama, divan sazi, cura or tambura according to its size. The cura is the smallest member of the baglama family and has the highest pitched sound. The tambura is one size bigger than the cura and it has a sound that is one octave lower. The one with the deepest sound is the divan sazi whose sound is one octave lower than the tambura. The baglama has three main parts called the tekne, gogus and sap. The tekne is generally made from mulberry trees as well as from the woods of juniper, beech, spruce or walnut. The gogus part is made from spruce and the sap section from juniper. There are pieces called burgu (screw) at the end of the sap, to which the strings are tied. These screws are used for tuning. The baglama is played with a mizrap or a tezene made from cherry wood bark or plastic, and fingers are used in some regions. The latter technique is called selpe. The string groups on a baglama can be tuned in a variety of ways. For example, in the tuning style called Baglama Duzeni, the strings in the lower group give 'la', in the middle group 're' and in the upper group 'mi' notes. Besides this type of tuning, there are other styles, called kara duzeni, misket duzeni, abdal duzeni and rast duzeni.

KASIK

The kasik (spoon) is a Turkish percussion instrument. The ones made from boxwood are particularly favored. The handles are taken between the fingers and the oval parts are held towards the inside of the hand in a back-to-back position. People playing kasiks can be seen at any traditional ceremony.

UNIT 6 – GO ON READING

BEFORE THE SONG IS OVER

Have you ever watched kids on a merry-go-round?
Or listened to the rain slapping on the ground?
Ever followed a butterfly's erratic flight?
Or gazed at the sun into the fading night?
You'd better slow down.
Don't dance so fast.
Time is short.
The music won't last.

Do you run through each day on the fly?
When you ask, "How are you?"
Do you hear the reply?
When the day is done
Do you lie in your bed
With the next hundred chores
Running through your head?
You'd better slow down
Don't dance so fast.
Time is short.
The music won't last.

Ever told your child,
We'll do it tomorrow?
And in your haste,
Not see his sorrow?
Ever lost touch,
Let a good friendship die
'Cause you never had time
To call and say "Hi?"
You'd better slow down.
Don't dance so fast.
Time is short.
The music won't last.

When you run so fast to get somewhere
You miss half the fun of getting there.
When you worry and hurry through your day,
It is like an unopened gift, thrown away.
Life is not a race.
Do take it slower
Hear the music
Before the song is over.

SKILLS SECTION:

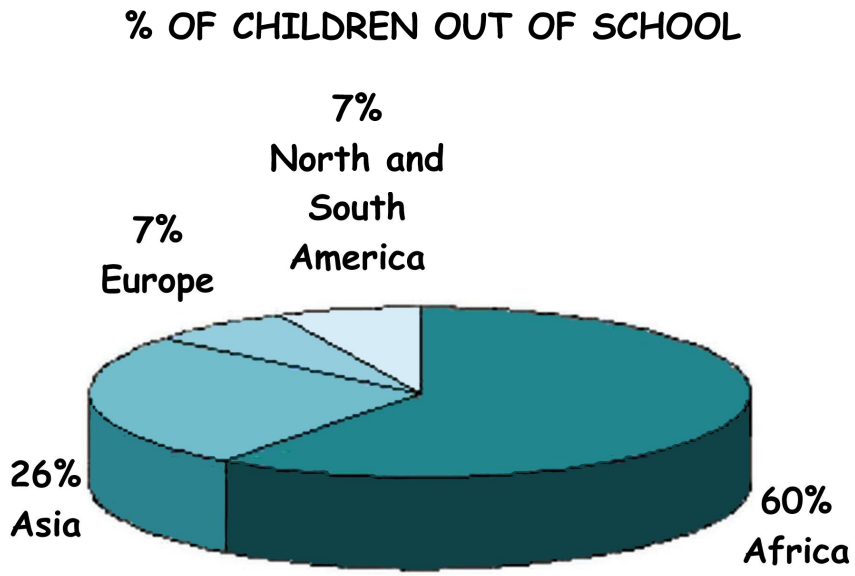
UNDERSTANDING GRAPHIC INFORMATION

STUDY THE SKILL

Sometimes there is graphic information, i.e., time-lines, charts, tables and graphs, together with a text. Understanding this kind of information helps the reader in many ways. Time-lines, charts, tables and graphs expand the information given in the text, add more specific detail, repeat the key points, simplify complicated information and help you remember information more easily in the long term.

The following is an example of a pie chart. It shows the percentage of children out of school in Africa, Asia, North and South America and Europe. Read the questions about it and study the answers.

1. Which continent does the largest slice represent? (Africa)
2. What percent of children are out of school in Asia? (26%)
3. Why do you think the percentage of children out of school in Europe and North and South America is small? (They represent more developed parts of the world.)



PRACTICE THE SKILL

I. Read the paragraphs of the following text and put them in the correct order using the dates.

____, ____, ____, ____, ____

COMPUTER CHRONICLES -- FROM STONE TO SILICONE

1. Computers began to increase in speed and power while becoming smaller and more user-friendly from the early 1980s on. The progress, however, came in many small steps, rather than a few major events as in earlier years. This time-line ends in 1990, when computers in homes were becoming more and more popular.

2. After the arrival of the microprocessor, many different computer companies appeared and began developing their own microprocessors and microcomputers. Companies such as Apple, Compaq, and Commodore started during this period. At the end of the time-line, in 1981, is the first home personal computer, introduced by IBM.

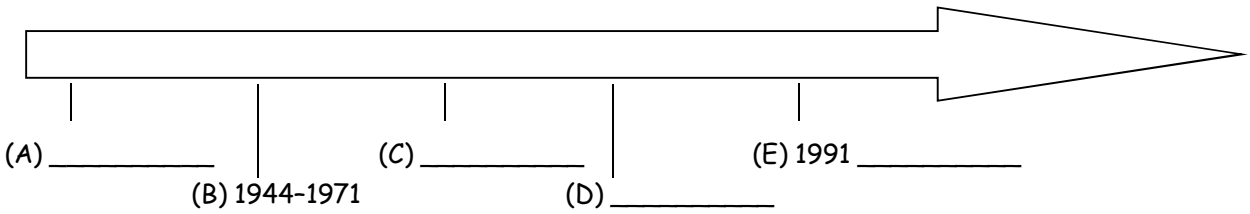
3. PCs in the home have become very popular. Computers have increased their role from professional and business machines to entertainment and educational tools. Telecommunications advances such as the Internet have shown themselves to be useful both in education and business.

4. The EDVAC was the first stored program computer. It was succeeded by a variety of vacuum-tube-based computers until the debut of the microprocessor in 1971, the 4004 by Intel.

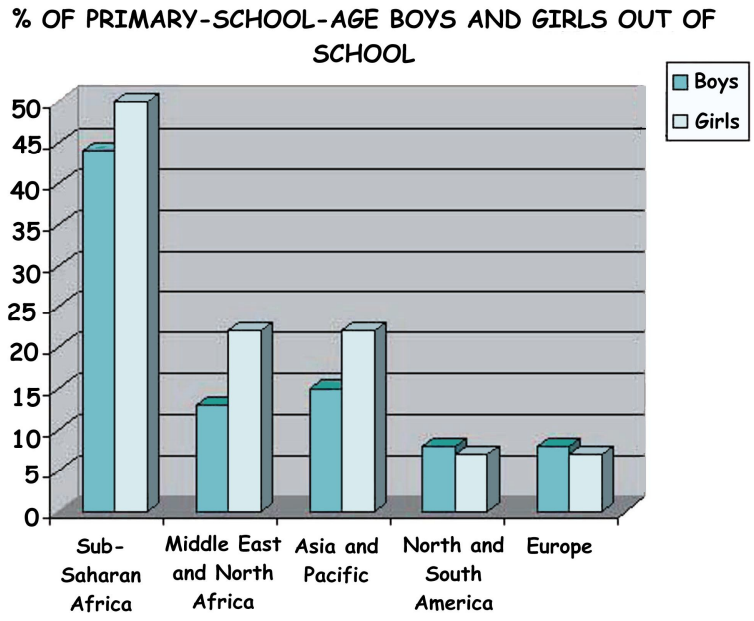
5. The abacus was invented in 3,000 BC in China. The abacus was the first human-made numerical calculator. The time-line ends with the invention of the ENIAC, the world's first electronic computer, in 1943.

II. Fill in the following time-line with the dates using the information given in the text.

COMPUTER CHRONICLES -- FROM STONE TO SILICONE



III. Study the following bar graph and answer the questions.



1. What does the graph show?

   _____

2. What do the different color bars represent?

   _____

3. What percentage of girls is out of school in sub-Saharan Africa?

   _____

4. In which continents is the same percentage of boys out of school?

   _____

5. Compare the percentages of boys and girls out of school. What differences can you observe? Comment on them.

   _____

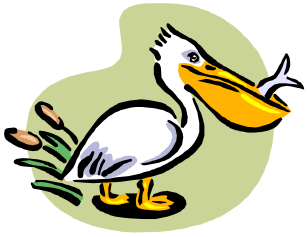
VOCABULARY DEVELOPMENT:

SYNONYMS AND ANTONYMS

Synonyms are words with the same or similar meaning, like *difficult* and *hard*. They can also be words that share the same meaning in a general sense, like *increase* and *expand*. Some of these words can be used in each other's place, some cannot. Antonyms are either true opposites like *long* and *short*, or the two sides of the same idea, like *husband* and *wife*.

Learning synonyms and antonyms can help you develop your vocabulary and understand paraphrased ideas better in reading. However, you should also try to learn the differences between the uses of words given as synonyms and words given as antonyms. Remember some words do not collocate, i.e., they do not go together.

Read the following sentences and circle the word which is NOT similar in meaning to the others and which cannot go in the blank:



Every year, during the (1)mild/bitter/icy winter season, hundreds of migratory birds, such as painted storks and pelicans, (2)head/travel/lead towards the south to lay their eggs.

Pelicans have short legs and a long flattened beak. They (3)catch/move/capture small fish and shrimp and (4)store/keep/bring them in their beak before they eat them. Sometime later, they may bring out the food, either for their own meal or to feed their chicks.

Although pelicans (5)watch/look/appear large and ungainly, they are (6)actually/probably/really strong fliers and some species undertake long migratory flights, staying the winter in coastal areas and flying back home during the summer months.

Read the following text and choose the correct alternative:

Albatrosses, the seabirds of the southern hemisphere, spend months flying (7)long/short distances (8)over/under the oceans. These (9)boring/interesting birds sleep while floating on the ocean surface, drink seawater, and feed on (10)big/small marine animals like fish; they (11)leave/return to land only to lay eggs. Albatrosses are quite (12)fearful/fearless and often follow a ship for days, flying (13)down/up to pick up food thrown from the ship. There are many stories of sailors who died because they had killed an albatross. Therefore, many sailors believe that killing an albatross brings (14)bad luck/good luck.

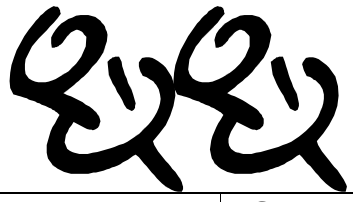
VOCABULARY DEVELOPMENT:

DERIVATIVES

Derivatives are words that come from the same root, like *electrical* and *electricity* from *electric*, or *impossible*, *possibly* and *possibility* from *possible*. An awareness of derivatives helps you increase your vocabulary and guess the meanings of unknown words while reading. You can easily recognize derivatives as they look similar to the word root.

The following is a list of common prefixes and suffixes, i.e., small additions to the front or back of a word which change the meaning of the word. These may help you recognize some derivatives:

PREFIX	MEANING	EXAMPLE
un-, non-, dis, im-il-, in-, ir-	negative, not	unhappy, nonsense, disagree, impatient, illegal, inactive, irregular
mal-, mis-	wrong	malformation, misuse
anti-	against	anti-nuclear
pre-	before	pre-lunch
post-	after	postgraduate
inter-	between	international
intra-	within, inside	intrafamily
re-	again	rewrite
sub-	under, below	sub-zero
semi-	half	semi-final
over-	too much	overwork
under-	not enough	underpaid



SUFFIX	MEANING	EXAMPLE
-er, -or	performer	singer, actor
-ism	a particular belief or behavior	Buddhism
-ist	with a particular belief or behavior	feminist
-ition, -ation	referring to an action or condition	repetition, admiration
-ence, -ance	referring to an action or state	absence, performance
-ment	referring to an action, process or result	development
-ness	referring to a quality or condition	loneliness
-ful	having an amount or quality, full of	colorful
-able, -ible	having a capability, can be	likable, edible
-ous	having a quality, full of	famous
-less	without	homeless

Add a suitable prefix or suffix to the words given in brackets and write them in the blanks:

1. His **admiration** for his boss grew as time passed. (ADMIRE)
2. _____ the paragraph if you have not understood it well. (READ)
3. You are _____; you need to be 18 to get married. (AGE)
4. I _____ people who talk too much. (LIKE)
5. Choose your words carefully because he may _____ you. (UNDERSTAND)
6. J. Wyndam is my favorite _____. (WRITE)
7. He is having financial problems because he has been _____ for a year. (JOB)
8. Doctors say it is not healthy to _____ and put on too much weight. (EAT)
9. You can find _____ anywhere, even in a guitar. (HAPPY)
10. The sum of these numbers is _____; you need to add them up again. (CORRECT)

UNIT 7: THE BRAIN

Think And Talk Before You Read

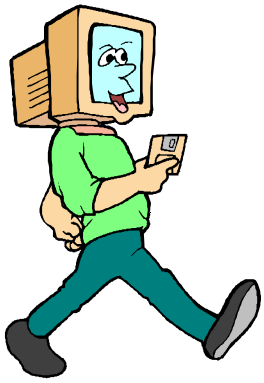
1. What are some of the similarities and differences between the human brain and the computer?
2. The following table contains some of the things that the brain has been compared to and why they are like the brain. Match the things with the reasons and add two more of your own.

The brain is like …	**because it …**
___ I. a map	A. allows you to see things better
___ II. a spaceship	B. can be used in different ways to make all sorts of things
___ III. a lamp	C. enables you to travel to all kinds of worlds
___ IV. a mirror	D. has different regions, each with its unique characteristics
___ V. music or dance	E. manufactures things
___ VI. a factory	F. can see things from all angles
___ VII. a toolbox	G. contains recipes for making all sorts of things
___ VIII. a cookbook	H. orchestrates the movement of actions, ideas, or emotions
___ IX.	
___ X.	

READING 1: THE BRAIN vs. THE COMPUTER

1A. Read the following pieces of information before you read the text. Some are about the brain, some are about the computer and some are about both of them. Write B if you think the information is about the brain, C for the computer and BC for both.

___ 1. has always been compared to inventions
___ 2. uses electrical signals
___ 3. has a memory that can grow
___ 4. is efficient in doing various difficult things at the same time
___ 5. has had a fast evolution
___ 6. needs energy
___ 7. is protected by a hard cover
___ 8. cannot easily be repaired when damaged
___ 9. can renew itself
___ 10. goes on transmitting signals even when asleep
___ 11. lacks imagination
___ 12. how it works is still a mystery

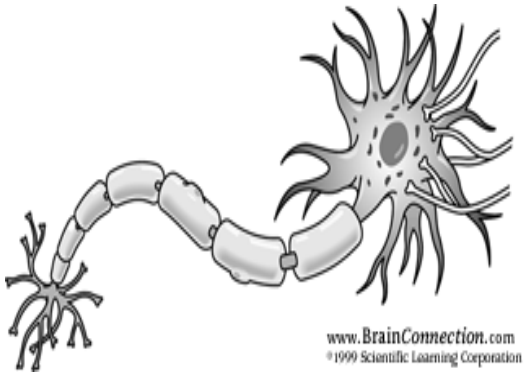


Do While You Read

1B. Now read the text quickly and check your answers.

The human brain has been a topic of great interest throughout history and has been compared to different inventions, such as the clock or the steam engine. Today, of course, it is compared to the computer. Let's now look at the similarities and differences between the two.

The brain uses electrochemical energy to transmit information; the computer uses electrical energy. Although electrical signals travel at high speeds in the nervous system, they travel even faster through the wires in a computer.

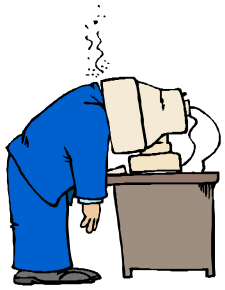


The computer stores memories on chips, discs and CD-ROMs; connections between neurons (nerve cells) enable the brain to do the same thing. The memory capacity of the computer can be increased by adding new chips, while stronger connections between neurons increase the capacity of the brain.

The computer can do many complex **tasks** simultaneously. For example, a computer can count backwards and multiply two numbers at the same time. The brain also does some **multi-tasking** using the autonomic nervous system. For example, it controls breathing, heart rate and blood pressure while it performs a mental task.

The human brain has not changed much over the last 100,000 years. Computers, on the other hand, have **evolved** much faster than the human brain. They have been around for only a few **decades**, but rapid technological **advances** have made computers faster, smaller and more powerful.
Plug your computer into the wall and it gets the power it needs to run. The brain, however, needs nutrients like oxygen and glucose for power. For proper brain function, vitamins and minerals are also essential.

The delicate contents inside the computer are protected by a hard cover. The skull provides a similar function for the brain. Nevertheless, the external and internal **component**s of the computer and the brain can be damaged. If you drop your computer or infect it with a virus, your machine will be on its way to the repair shop. When damaged parts are replaced or the virus-caused damage is removed, your computer will be as good as new. Unfortunately, the brain is not as easy to repair. It is fragile and there are no replacement parts to fix damaged brain tissue. However, scientists are investigating ways to **transplant** nerve cells for certain neurological **disorders**, such as Parkinson's disease.



The brain is always changing and renewing itself, but the computer only changes when new hardware or software is added or something is saved in memory. There is no "off" for the brain -- even when you are sleeping, the brain is still active and working. There is an "off" for a computer, however. When the power to a computer is turned off, signals are not transmitted.

While the computer is faster at doing computations, the brain is better at **interpreting** the outside world and coming up with new ideas. The brain is **capable** of imagination.

Scientists already understand how computers work. However, there are thousands of neuroscientists studying the brain, and there is still much more to learn about it. In fact, there is more we do NOT know about the brain than what we do know about it.

1C. Complete the following definitions with the words given in the box below.

evolve	transplant	task	component	decade
advance	interpret	multi-tasking	disorder	capable

1. A/an _____ is an improvement or a development.
2. To _____ means to develop.
3. A/ an _____ is a piece of work that you have to do, especially one that you do regularly, unwillingly or with difficulty.
4. A/an _____ is a part which combines with other parts to form something bigger.
5. If you are _____ of doing something, you have enough ability or power to do it.

6. _____ is the ability to do several things at one time.
7. A/an _____ is a period of ten years.
8. To _____ is to move something from one place or person to another.
9. A/an _____ is an illness or disturbance of the mind or body.
10. To _____ is to decide on the meaning of something that is not very clear.

1D. Now read the following sentences and fill in the blanks with the above words making the necessary changes.

1. Her computer can do _____, so she can run an accounting program and a word processing program simultaneously.
2. I _____ your smile as a sign of agreement.
3. New _____ in medicine improve the quality of health care.
4. The factory supplies electrical _____ for computers.
5. The development of the technology park took a _____ to complete.
6. Did humans _____ from apes? This is still a debatable topic.
7. A force 10 wind is _____ of blowing the roofs off houses.
8. Her son has got some sort of blood _____, but I don't know the exact details.
9. Doing all that work alone is not an easy _____.
10. Doctors are going to _____ a monkey's heart into a four-year-old child.

READING 2: MALE OR FEMALE BRAINS?

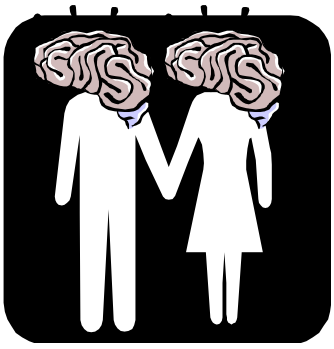
Do While You Read

2A. Read the text quickly, find the topic sentence of each paragraph, underline it and note what the paragraph is mainly about.

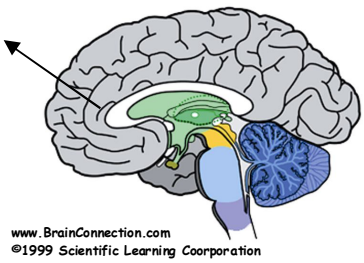
Paragraph 1 is mainly about whether there are differences between male and female brains.
Paragraph 2 is mainly about _____
Paragraph 3 is mainly about _____
Paragraph 4 is mainly about _____
Paragraph 5 is mainly about _____

2B. In each paragraph there is a sentence that does NOT belong. Read the text and cross out the extra sentences.

(1) Are men or women more intelligent? Whose brain is more developed? Men's or women's? What are the differences between male brains and female brains? For hundreds of years, scientists have tried to answer these questions. Hormones that are present at birth will affect the baby's brain. Studies that have tried to determine the differences in the brains of males and females have focused on the total brain size, the corpus callosum and the hypothalamus.



(2) Almost all studies show that at birth, a boy's brain is bigger than a girl's brain. At birth, the average brain of boys is 12-20% larger than that of girls. The human brain is capable of doing complex tasks. However, when the size of the brain is compared to body weight at this age, there is almost no difference between boys and girls; so, a baby boy and a baby girl who weigh the same will have similar brain sizes. In adults, the average brain weight in men is about 11-12% more than the average brain weight in women. Men's heads are also about 2% bigger than women's. However, remember that men on average weigh more than women and that absolute brain size may not be the best measure of intelligence. Moreover, recent studies suggest that women have the same number of brain cells, just crammed into a smaller space.

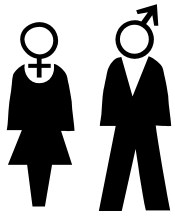


(3) The corpus callosum is the major pathway that connects the right and left cerebral hemispheres of the brain. Many recent claims have been made that the corpus callosum is bigger and more developed in women than in men. The hemispheres communicate with each other through nerve fibers. However, other studies have told a different story. Some researchers have found no differences in the size of the corpus callosum in men and women. Further research that compares the size of the corpus callosum in men and women is needed.

(4) Two areas of the hypothalamus show differences between men and women. These are the preoptic area and the suprachiasmatic nucleus. The preoptic area of the hypothalamus is involved in mating behavior and is greater in volume and in the number of cells in males. In men, this area is about 2.2 times larger than in women and contains twice as many cells. The difference becomes apparent after a person is four years old. At four years of age, there is a decrease in the number of cells in girls. As for the suprachiasmatic nucleus, which is involved in biological rhythms and reproduction cycles, the only difference is in shape. In males, the suprachiasmatic nucleus is shaped like a sphere; in females, it is more elongated. As you might imagine, larger animals have larger brains.

(5) The differences between male and female brains require further study. Perhaps new studies will find neuroanatomical differences that explain some of the complex differences between male and female behavior. Boys are better at sports than girls. However, it appears that differences in many cognitive behaviors (such as memory and language ability) are related more to individual differences between people than to whether people are male or female.

Read, Understand And Answer



2C. The following are the meanings of some of the words that you might not know in the text. Find those words and match them with their meanings.

Paragraph 1: (verb) decide; control or influence directly:

_____

Paragraph 2: (verb) force something into a space of insufficient size; stuff:

_____

Paragraph 3: (noun) statement:

_____

Paragraph 4: (adjective) visible, plain, or clearly seen:

_____

Paragraph 4: (adjective) long and thin:

_____

Paragraph 5: (verb) need:

_____

2D. Does the text provide you with the answers to the following questions? If YES, what are the answers?

1. When do a baby boy and a baby girl have similar brain sizes?

   _____

2. What is the weight of an average female brain?

   _____

3. Who has more brain cells, men or women?

_____

4. Why are men better than women in maths?

_____

5. What is the corpus callosum?

_____

6. Why is more research needed to prove that the corpus callosum is bigger in females than in men?

_____

7. What is the difference in the number of cells and volume of the suprachiasmatic nucleus between men and women?

_____

8. How can the differences in male and female cognitive behavior be explained?

_____

Think And Talk Before You Read

1. How many hours a night do you sleep?
2. Do you have any sleep-related problems?
3. Do you dream a lot? What is the most interesting dream you have had?

READING 3: DOES OUR BRAIN SLEEP TOO WHEN WE ARE SLEEPING?

3A. Read the text quickly and study the figures to determine what kind of information is presented. Then note what the text and the figures are about.

Does our brain sleep too when we are sleeping? The answer is a clear no! Studies from the 1950s on have shown that sleep itself is an active state because of the continuously changing brain activity. Researchers have observed eye movement, muscle activity and brain waves during sleep. They have discovered that sleep follows cycles, and the brain activity pattern changes several times during a night's sleep. They have found that periods of sleep with rapid eye movement and changing brain waves follow periods of deep, quiet sleep with large, slow brain waves. These periods of different patterns are named *slow wave sleep* (SWS) and *rapid eye movement* (REM) sleep.

We spend about 75% of our time during sleep in SWS, which has four stages: Stage 1, Stage 2, Stage 3 and Stage 4. Stage 1, which is light sleep, is the initial stage, of course. Within each stage, brain waves become progressively larger and slower, and sleep becomes deeper. After reaching Stage 4, the deepest period, sleep starts getting lighter and lighter again until REM sleep, the fifth stage. REM marks the end of one cycle and the beginning of the other. It is the most active sleep stage because of dreaming. Sleep patterns change as people age. There are differences in the amount of time we spend sleeping as well as the amount of time we spend in different stages of sleep.

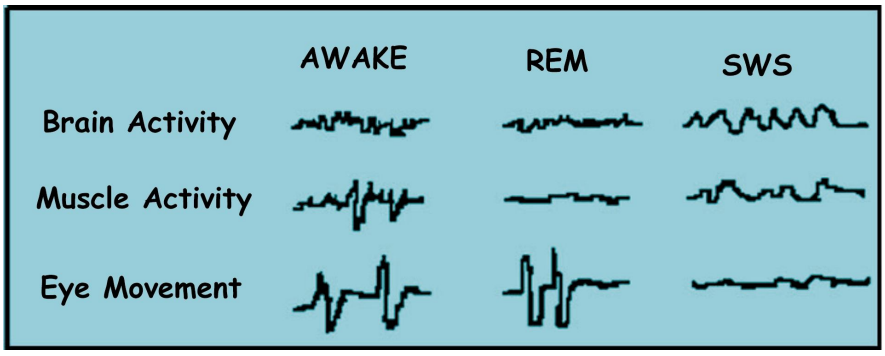


Figure 1: Brain activity, muscle activity and eye movement when we are awake, during REM sleep and SWS.

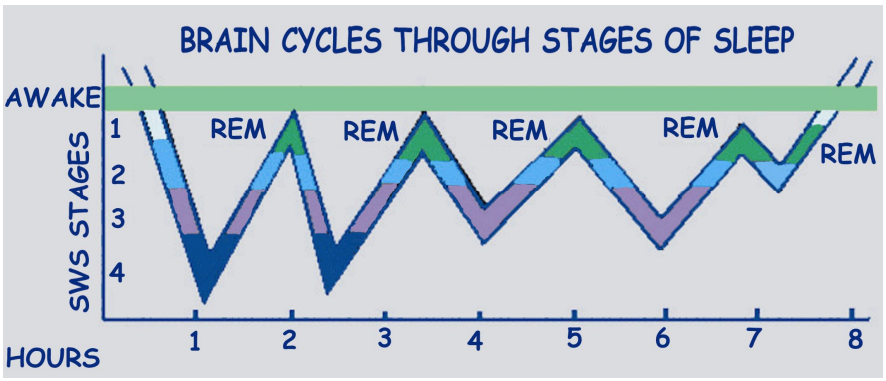


Figure 2: Brain cycles through stages of sleep.

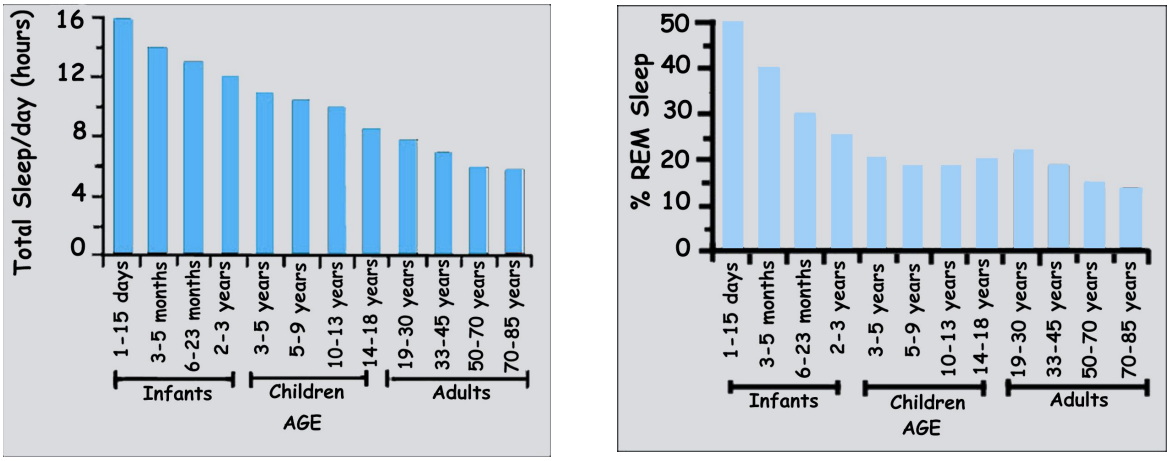


Figure 3: Age-related changes in total amount of sleep and REM sleep.

3B. Read the following statements and underline the key words. Then choose True (T) or False (F) using the information given in the text and the figures.

T F 1. Until the second half of the 20th century, people probably thought that sleep was a passive state.
T F 2. Brain activity when we are awake is totally different from brain activity during REM sleep.
T F 3. While there is a lot of eye movement during REM sleep, there is little during SWS.
T F 4. When we are sleeping, we spend most of our time in REM sleep.
T F 5. Dreaming takes place during SWS, Stage 1.

T F 6. In an eight-hour period of sleep, the brain enters the REM stage twice.
T F 7. The fifth stage, REM sleep, follows SWS, Stage 4.
T F 8. Newborn babies spend 10 hours a day sleeping whereas the elderly spend only four hours.
T F 9. There is very little change in the length of time spent in sleep between the ages of 50 and 85.
T F 10. The length of time we spend in REM sleep slightly increases between the ages of 19 and 30 compared to early teenage years.
T F 11. REM is the deepest stage of sleep.
T F 12. Babies spend 50% of their time during sleep in REM. This number is gradually reduced to 20% as they grow up.

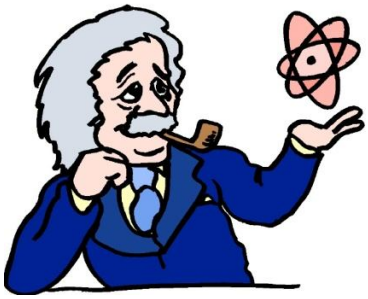
3C. Complete the paragraphs by writing the correct form of the given words.

Much of what is known about sleep stems from the groundbreaking 1953 (1)_____ of REM sleep. This is a period of sleep marked in humans by intense (2) _____ in the brain and rapid eye (3) _____. Sleep is no longer considered a passive state because the brain waves change (4) _____. Dreams are another point of interest for the (5) _____. They have studied the changes in the brain during REM sleep. From this (6)_____, they have begun to understand and develop treatments for major sleep disorders such as insomnia.	1. DISCOVER 2. ACT 3. MOVE 4. CONTINUE 5. RESEARCH 6. KNOW
Although there are (7)_____ theories as to why we sleep or how much sleep we need, some amount of sleep is accepted to be important for health. It is necessary for our (8)_____ system to work properly. Too little sleep leaves us drowsy and this makes us (9)_____ to concentrate the next day. It also weakens memory and reduces physical (10)_____.	7. DIFFER 8. NERVE 9. ABLE 10. PERFORM
Our sleep is light during the initial stage. However, it gets (11)_____ deeper as time passes and we move through stages of sleep. Deep sleep coincides with the release of growth hormone in children and young adults. Many of the body's cells also show increased (12)_____ of proteins during deep sleep, which refreshes memory and improves learning.	11. PROGRESS 12. PRODUCE

READING 4: WHAT MAKES EINSTEIN'S BRAIN DIFFERENT?

Do While You Read

4A. Read the text and match the paragraphs with their functions in the text.

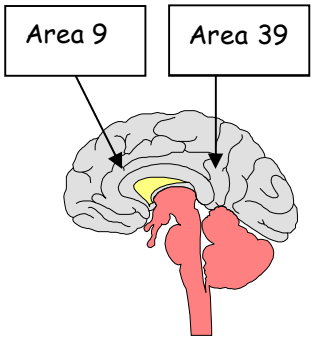


_____ a) summary of the second paper and its conclusions
_____ b) introduction of the topic
_____ c) summary of the implications for further research
_____ d) description of the first paper and its conclusions
_____ e) evaluation of the evidence provided by the first paper
_____ f) description of the findings and the conclusions of the third study

(1) Do people with high IQs have different brains? Was Einstein aware of the fact that his brain had different characteristics? Was that the reason why he requested that his body be cremated (burned) after his death but his brain be saved and studied for research? It is known that Dr. Thomas Harvey, a pathologist at Princeton Hospital, not only removed Einstein's brain when he died in 1955 but also kept it for research purposes for many years. Not surprisingly, one of the three published scientific studies that have examined Einstein's brain belongs ***to Thomas Harvey.***

Brain Glossary!

neuron: nerve cell that carries information between the brain and other parts of the body
glial cell: specialized cell of the nervous system that nourishes and supports neurons
cerebral cortex: outer layer of the front part of the brain
groove: long narrow hollow space on the surface of the brain



(2) Harvey's paper, titled "On the Brain of a Scientist: Albert Einstein," was published in 1985 in the journal Experimental Neurology (vol. 88, pages 198-204). Harvey and his colleagues Marian C. Diamond, Arnold B. Scheibel, and Greer M. Murphy counted the number of neurons and glial cells in four areas of Einstein's brain: area 9 of the cerebral cortex on the right and left hemispheres and area 39 of the cerebral cortex on the right and left hemispheres. Area 9 is thought to be important for planning behavior, attention and memory. Area 39 is thought to be involved with language and several other complex functions. The ratios of neurons to glial cells in Einstein's brain were compared to those from the brains of 11 men who died at the average age of 64. Compared to the brains of the 11 normal men, the ratios of neurons to glial cells in Einstein's brain were smaller in all four areas studied. However, when the numbers were examined in detail with statistics, only one area showed a marked difference -- the ratio in the left area 39. In the left area 39, Einstein's brain had fewer neurons to glial cells than the normal brains. In other words, there were more glial cells for every neuron in Einstein's brain. The authors concluded that the greater number of glial cells per neuron indicated the neurons in Einstein's brain had an increased "metabolic need" -- they needed and used more energy. Perhaps this explains why Einstein had better thinking abilities and conceptual skills.

(3) The study provides valuable information, but can Einstein's genius be related to a particular brain region? That would perhaps be too hasty a statement. It is important to remember that areas 9 and 39 make important connections with many other areas of the brain. To assign a particular behavior or personality to a single brain area is too simplistic. Parts of the brain do not act by themselves. Rather, complex behavior is the result of many areas acting together.

(4) A second paper describing Einstein's brain was published in 1996. The study compared Einstein's brain to that of five ordinary people. Einstein's brain weighed only 1,230 grams. This is far less than the average adult male brain, which is about 1,400 grams. The authors also stated that Einstein's cerebral cortex was thinner than that of normal brains. However, the density of neurons in Einstein's brain was greater. In other words, Einstein was able to pack more neurons in a given area of cortex, which possibly accounted for his genius.

(5) The most recent study concerning Einstein's brain was published in the British medical journal *The Lancet* (vol. 353, pages 2149-2153) on June 19, 1999. In this paper, the external surface characteristics of Einstein's brain were compared to those from the brains of 35 men (average age, 57 years old). Unlike the brains of these 35 men, Einstein's brain had a different pattern of grooves (called sulci) in one particular area on both hemispheres which is thought to be important for mathematical abilities and spatial reasoning. His brain was also 15% wider than the other brains. The researchers think that these unique brain characteristics may have allowed better connections between neurons important for math and spatial reasoning.

(6) Although these results are interesting, it remains to be seen if other mathematical geniuses also show these brain characteristics. There are still many questions about how the brain constructs personality, builds intelligence and forms creativity. Further research using modern brain-imaging techniques that look at the anatomy and function of the brain in living geniuses may reveal what makes these people such intellectual giants.

Read, Understand And Answer

4B. Choose the alternative which best completes the given statement.

1. When Einstein died in 1955, _____.
   a) his body and brain were kept by Princeton Hospital
   b) three scientific papers were published about his brain the same year
   c) his brain was removed for research purposes
   d) his body was burned against his will

2. The first study of Einstein's brain focuses on _____.
   a) the connection between the right and left hemispheres
   b) the size of areas 9 and 39 of the cerebral cortex
   c) the ratio of neurons to glial cells in four areas of his brain
   d) the comparison of his brain with younger brains

3. The findings of the first study indicate that Einstein's brain had _____.
   a) a higher metabolic need
   b) fewer glial cells
   c) a lower energy requirement
   d) more neurons

4. According to the writer, Einstein's genius _____.
   a) is related to the differences in areas 9 and 39
   b) cannot be explained by studying a certain brain region
   c) is not a consequence of many areas acting together
   d) can only be explained by his behavior and personality

5. Which of the following is NOT true about the second paper?
   a) Einstein's brain is smaller than average.
   b) The cerebral cortex of a normal brain is thicker than that of Einstein.
   c) Einstein's brain had a higher neuron density.
   d) The number of neurons in a normal brain is higher than that of Einstein.

6. According to the final paper, _____.
   a) the external surface characteristics of Einstein's brain had no outstanding differences
   b) the grooves all over Einstein's brain were totally different from those in other brains
   c) there was no difference between the width of Einstein's brain and the 35 brains in the study
   d) one explanation for Einstein's abilities can lie in the different pattern of grooves in one particular area

7. The writer concludes that _____.
   a) all geniuses share the same unusual brain characteristics with Einstein
   b) there is enough evidence to explain why geniuses are different from ordinary people
   c) more research is needed on the brains of living geniuses
   d) ordinary brains should be carefully studied first to solve the mystery of the genius brains

4C. Find the contextual opposites of the following words or word groups in the text and complete the sentences using them in appropriate forms.

1. to place (Paragraph 1):
   The hotel staff will **remove** the rubble and other debris from the lobby as soon as repairs have been completed.
2. in general (Paragraph 2):
   The newspaper article did not deal with the matter _____. It was only a brief report.
3. slow and careful (Paragraph 3):
   Accepting the job without considering the pay or the work-hours would be a _____ decision.
4. the reason for (Paragraph 3):
   My broken leg is _____ my own carelessness.
5. internal (Paragraph 5):
   The _____ walls of the building are in need of repair.
6. ordinary (Paragraph 5):
   Each person's genetic code is _____ except in the case of identical twins.
7. to hide (Paragraph 6):
   Future brain research will _____ more about what happens in the mind during sleep.

JUST FOR FUN!

4D. How the brain works to create illusions: Pick a distinct point in the middle of this image and stare at it for 30 seconds. Then close your eyes for a few seconds until an image forms. Who do you see? What color is his shirt? What color is the sky?

www.BrainConnection.com
©Scientific Learning Coorporation

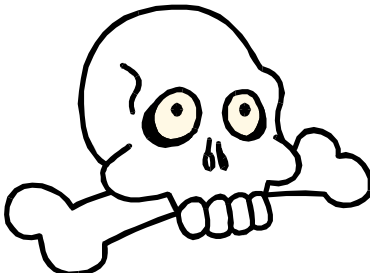
4E. Guess the answers!

1. Why didn't the brain want to take a bath?
2. What is a sleeping brain's favorite musical group (rock band)?

UNIT 7 VOCABULARY LIST

absolute	investigate
account for	mark
advance	memory
apparent	multi-tasking
assign	nevertheless
attention	nourish
capable of	ordinary
capacity	particular
claim	pattern
component	personality
computation	progressively
concerning	publish
conclude	ratio
conclusion	reasoning
connection	recent
construct	related to
content	replacement
continuously	request
creativity	research
cycle	researcher
damage	save
decade	search for
description	simultaneously
detail	single
determine	skill
disorder	software
dream	stage
evaluation	state
examine	statement
fix	summary
genius	support
hardware	task
hasty	transmit
hemisphere	transplant
imagination	wire
imagine	
implication	
indicate	
individual	
infant	
infect	
information	
initial	
intelligence	
interpret	
introduction	

UNIT 7 – GO ON READING



KURU: THE LAUGHING DEATH

Starting in the 1950s, a brain disease called the Laughing Death, or Kuru, was seen among the natives of New Guinea. The fatal disease affected many highland people, specifically the Fore. Kuru had a very long incubation period, with a minimum of two years and a maximum of 23 years. It robbed its victims of their ability to walk, talk, and even eat, carrying them to a slow death. Until 1960 it was thought that the cause was a genetic defect, and the colonial rulers tried to confine the Fore to their homeland to prevent the genes from spreading. However, medical investigation traced the roots of the disease back to one tribal tradition, i.e., cannibalism. The Fore honored close relatives by eating them after death, even if they had been Kuru victims. This transmitted Kuru infection either while the bodies were handled or when the relative's remains, especially the brain, were eaten. The majority of the victims were women, children and the elderly because these were the groups who participated in cannibalism more.

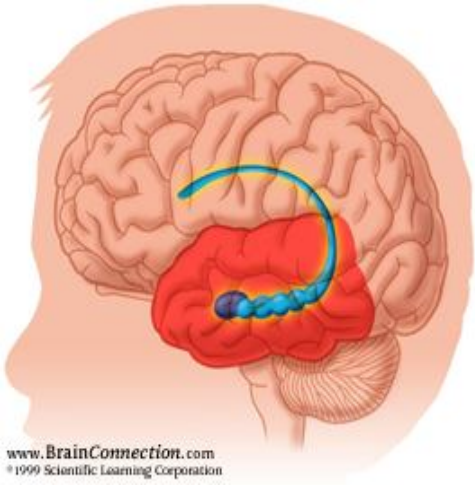
Curiously, the Fore had been reluctant to eat diseased relatives for fear of the Laughing Death. Like others, they were fooled by the long incubation of Kuru, which obscured the link between the rituals and the disease. However, when they began blaming the disease on sorcery, they resumed eating dead relatives.

The disease damaged the brain of the victim, causing it to become spongy and riddled with holes. The symptoms included deterioration of speech, shivering, outbursts of laughter, depression, mental slowing, inability to walk or even sit up without support and difficulty in swallowing, the cause of which was cerebellar dysfunction.

Once the cause was discovered, the disease was eradicated by banning the custom of cannibalism and no child born after cannibalism ceased has caught Kuru. Although Kuru has disappeared in New Guinea, many other diseases affecting the brain, like Mad Cow, continue to attack animals and humans despite efforts to conquer them.

UNIT 7 – GO ON READING

MEMORIES, MEMORIES...



When 27-year-old Henry M. entered the hospital in 1953 for radical brain surgery to cure his epilepsy, he was hopeful that the procedure would change his life for the better. Instead, the removal of large sections of his temporal lobes left Henry unable to form any new personal memories. However, his tragic loss revolutionized the field of psychology and made Henry the most-studied individual in the history of brain research.

Henry, who grew up outside of Hartford, Connecticut, was a young man with above average intelligence. On his sixteenth birthday, Henry had his first seizure and after that point, the paralyzing seizures arrived with increasing frequency. There were not many effective treatments available for epilepsy in 1953, so Henry's family turned to Dr. William Scoville and his experimental surgery.

The idea behind the surgery was simple. Seizures are caused by uncontrolled electrical impulses that start in a localized area and then spread throughout the rest of the brain. It was thought that if one could remove the part of the brain where the seizures originated, it should be possible to cure the epilepsy. Therefore, Dr. Scoville removed Henry's hippocampus in an attempt to cure his epilepsy. However, when Henry lost his hippocampus, he became mentally frozen in 1953, remembering very well the events before his operation but unable to create any new memories.

Scientists were very interested in the precise nature of Henry's amnesia, and for many years, they studied him to find out which parts of his memory had been erased by the surgery and which parts remained intact. These studies led to some very important findings about memory. Sadly, the very nature of his memory loss prevents Henry from ever knowing the remarkable contribution he has made to the field of brain research.

Today, Henry lives in a nursing home in Hartford and still travels occasionally to the hospital for memory testing. He enjoys doing crossword puzzles and watching detective shows on television. His life is peaceful, if not completely happy. He worries often that he has done something wrong, and it is not possible for him to make any real friends since he cannot remember a person from one minute to the next. He never knows exactly how old he is (he guesses maybe 30 and is always surprised by his reflection in the mirror) and relives his grief over the death of his mother every time he hears about it.

SKILLS SECTION:

PARAPHRASING

STUDY THE SKILL

Paraphrasing is rewriting information using different words. It is an important study technique. It tests your understanding of the ideas in a text. It helps you learn better because it requires critical reading. In this way, you can answer questions using your own ideas and words, express yourself better, take notes or write summaries.

Examples:
The lighter someone's hair, the less melanin he or she has.
If you have light hair, that means you have little melanin.

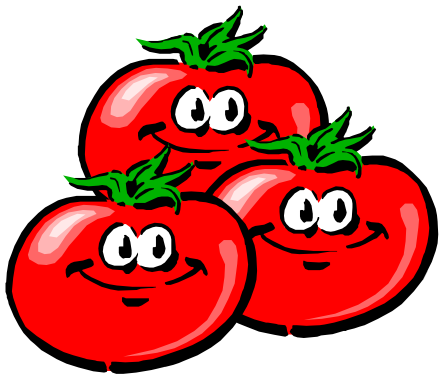
The difference between a turtle and tortoise is that the turtle stays in water while the tortoise stays on land.
Unlike a turtle, which lives in water, a tortoise lives on land.

Eighteen per cent of all global carbon dioxide emissions are from cars.
Cars produce almost one fifth of global carbon dioxide emissions.

PRACTICE THE SKILL

Read the text and underline the important points. Then read the paraphrased version and think about how the given information is reworded before filling in the gaps.

The Fruit Which Became A Vegetable:



We think the tomato is a vegetable, but it is actually a fruit. Because it is not sweet and is used for providing flavor to food, we think of it as a vegetable. The tomato is originally from Mexico. The name comes from the Mexican Spanish *tomatl*. Spanish explorers who went to South America about five hundred years ago brought back the tomato to Europe. The French called them *love apples* and the British called them *apples of gold*. Young men made necklaces of tomato seeds and presented them to their loved ones. The first people in Europe to eat tomatoes were the Italians. Five hundred years ago,

they enjoyed eating fried tomato with salt and pepper. They discovered that tomato made a very good companion to pasta and cheese dishes. In other countries like England, people thought that there was poison in tomatoes. However, they grew them in their gardens because of their attractive color and look. They even thought that tomatoes caused fatal diseases, but they soon got over their fear. Today, the whole world is crazy about the tomato, whatever its form: ketchup, paste or soup.

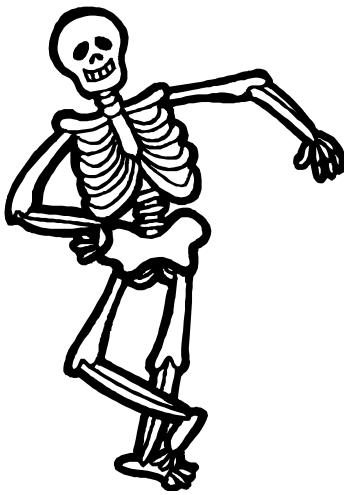
The tomato adds flavor to food and 1)_____, so we think that it is a vegetable but, in reality, 2)_____. The origin of the tomato is Mexico and, in Mexican Spanish, 'tomato' is 3)_____. Spanish explorers brought the tomato to Europe from 4)_____. Both the French and the British called the tomato 5)_____. The first people who enjoyed eating the tomato in Europe were 6)_____. They added 7)_____ to it and ate it together with 8)_____. At first, some people like the British believed that 9)_____, and it caused 10)_____, so they didn't eat it. Today, however, the tomato is eaten all over the world in different forms!

SKILLS SECTION:

TEXT ANALYSIS

STUDY THE SKILL

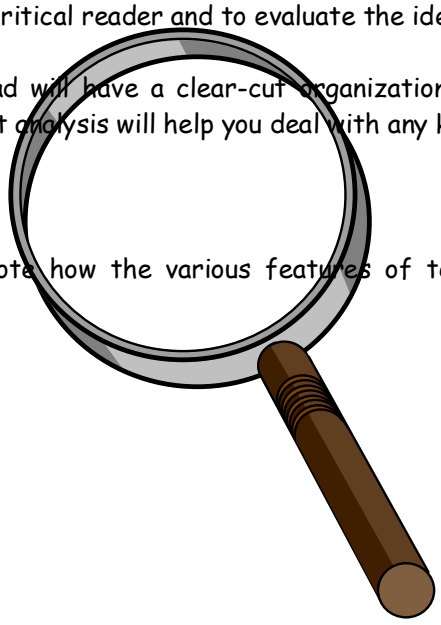
Text analysis is the most important of the study skills that help you when reading to learn about a topic. A better and deeper understanding of the ideas in a text is possible only by understanding how the various components of a text have been organized to make up a meaningful whole. An awareness of the organizational features of texts can help you visualize the information given in a text in the form of a skeleton and then look at it more critically.



Almost all texts have a simple skeleton. They start with a title, which is usually a summary of the topic. They consist of three main parts: the introduction, the body and a conclusion or summary. The introduction informs the reader about the topic, sometimes lists various aspects of it or provides background information. The body (at least one paragraph) develops the various aspects of the topic through supporting details such as arguments, explanations, examples or other evidence. Finally, the conclusion either provides a summary or a perspective, which is most probably the writer's own. If you can recognize the skeleton, then you can grasp the main idea and the supporting details more easily, even if they are indirectly stated.

A detailed look at a text, on the other hand, requires analyzing the relationship between parts of it through the use of pronoun referencing, connectors, vocabulary and paraphrased structures. All these features provide links between the ideas that the writer is trying to get across. They usually make the message clearer. Being able to see these features will enable you to be a more critical reader and to evaluate the ideas in a text more carefully.

Remember that not all texts you read will have a clear-cut organization with the above-mentioned divisions. Still, training yourself in text analysis will help you deal with any kind of text.



Now study the following text and note how the various features of text organization have been exemplified:

THE RETURN OF MIR

After 15 years in the skies, the Russian-made **Mir space station** finally returned to Earth on March 22, 2001. Mir's first component was launched in 1986. **The space station,** which housed 104 astronauts from all over the world in its lifetime, finally ended up in the South Pacific.

Mir was of great importance for our age for several reasons. **It** pioneered the concept of human space flight and showed that people could live and work in space long enough to make it seem as routine as staying on Earth. **Moreover,** it was **the laboratory for about 23,000 Experiments, ranging from growing wheat in Space to studying the effects of long-term Weightlessness on humans.**

Why was **the station** brought down, then? The Russian government decided to take part in a new project, ISS, the international space station, with the United States of America. **This project is estimated to cost $60 billion to $100 billion.** The government could not afford to finance two space projects at the same time. Hence, Mir, whose maintenance cost was too high, was **sacrificed.**

Mir stayed intact **in spite of** its age and years of **inadequate maintenance.** It **survived a fire, collsions with other spacecraft, and even attacs onits wiring by microbes** that ate metal and glass! **For 15 years, it withstood exposure to the sun's rays, bitter cold, and space debris, although it was not always well looked after.**

Mir's death marks the end of a chapter in space exploration, but the space station will continue to be **a topic of scientific interest** for many years to come. It will remain as one of **the greatest technological ccomplishments** of the 20th century and **a symbol of human endurance.**

TITLE
Topic: Return of Mir

INTRODUCTION
Background information about Mir and its return
Examples of reference links
BODY
ASPECT 1
Main idea: Mir was of great importance.
Supporting ideas: 1. Mir was a pioneer 2. Mir mode living and working in space routine 3. Mir was a lab for many experiments
Connectors signaling additional information
Factual supporting detail
Examplification

ASPECT 2
Main idea: The reason why Mir returned.
Supporting idea: It was too expensive to finance two projects; the government chose ISS
Connector signaling result
Vocabulary signaling writer's opinion

ASPECT 3
Main idea: Mir stayed intact
Supporting idea: Mir was able to endure many problems

Connector signaling contrast
Paraphrasing of the main idea for emphasis

CONCLUSION
Writer referring back and acknowledging importance of Mir through paraphrased ideas
Vocabulary signaling writer's opinion

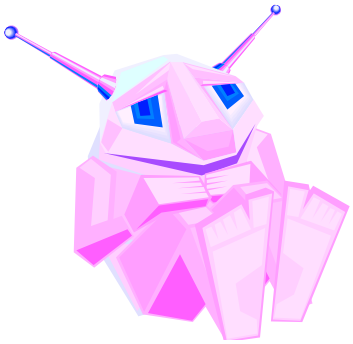
PRACTICE THE SKILL

Study the following text and answer the questions.

(1) One significant feature of most industrialized societies in the developed world is the breaking-up of the family and the rise of individualism. This is especially true of countries of the West or a few in the Far East, such as Japan, which has one of the most technology-oriented societies. In a situation where technology seems to have ready answers to most human problems, interaction among humans suffers and family ties come under pressure. This development is probably worrying the Japanese more than others; why else would they have designed a new robot to help humans interact with each other?

(2) This new partner-type personal robot is nearly 40 cm high and can walk about on its own without crashing into the furniture. It is fitted with two digital cameras, four microphones and five sensors. It can also utter more than 3,000 phrases and has an Internet modem connection.

(3) The robot has been made as human as possible because it is intended to help increase interaction within uncommunicative families. The humanized machine can listen, talk and even pass on messages. It can not only recognize humans, but also respond differently to different persons. For example, if you do not like it, it will run away from you. If you do, it will be a good friend! That's not all. The robot can project facial expressions formed by light-emitting diodes.



(4) The new robot will be tested by 100 families so that it can be improved further. However, one cannot help wondering about the effect this robot will have on families where the family members already do not talk to each other. Would having a robot really make communication easier?

1. What's the topic?

   _____

2. How does the writer introduce the topic, using an anecdote, a question or an example?

   _____

3. What is the main idea of each paragraph?

   _____

   _____

   _____

   _____

4. Study Paragraph 1. Which two sentences mention the same idea using different words? Underline them.

_____

5. Which pronouns, words or word groups are used to refer to the robot?

_____

6. Which connectors are used to signal:
   a) an example — such as (Paragraph 1), for example (Paragraph 3)
   b) a reason — _____
   c) an additional idea — _____
   d) a purpose — _____
   e) a contrasting idea — _____
7. Find examples of factual details in the text and underline them.

_____

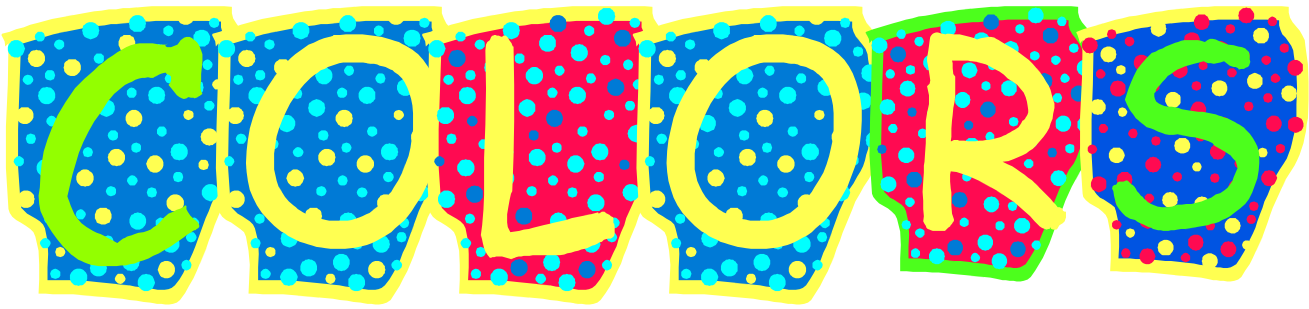
8. Which supporting ideas has the writer used in Paragraph 3?

_____

9. Find examples of words or word groups in the last paragraph which signal the writer's opinion.

_____

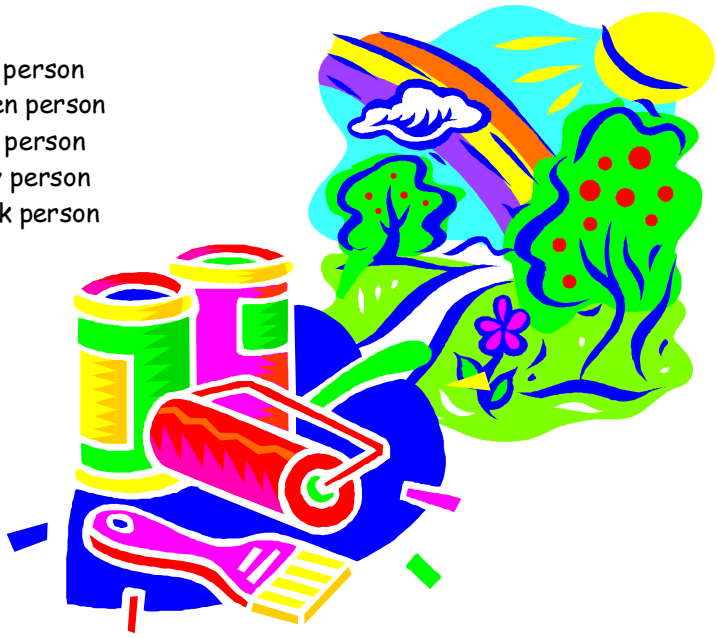
UNIT 8:



Think And Talk Before You Read

1. Which colors do you like? Why?
2. Do you think colors are symbolic?
3. Does a person's choice of colors tell you something about his/her personality?
4. Which adjectives do you think best match the personality color profiles?

___ 1. Neutral	a) A pink person
___ 2. Peaceful	b) A green person
___ 3. Serious	c) A blue person
___ 4. Balanced	d) A gray person
___ 5. Romantic	e) A black person



READING 1: COLOR PERSONALITIES

bo While You Read

1 A. Read the first paragraph of the text and fill in the blanks with the words given below. Use each word only once.
excitement objective patience aggressive active

IB. Now read the rest of the text and fill in the table that follows.

Just as red sits on top of the rainbow, red people like staying on top of things. Red is associate^ with fire, heat, and blood, so it is impossible to ignore red people. The key words associated with red people are competitive, 1)___ _____, and extroverted, i.e., they like being with other people. This is the good news, but there is also bad news. Since red people crave so much 2)_ _____ in their life, routine can drive them mad. It is hard for them to be 3)_____ ____ and they can easily become 4)_ _____ from time to time. 5)_ _____is not one of their good qualities. However, they are exciting people to be with, and always stimulating. The world would be a boring place without red people.

□ Pink is a softened red and is associated with romance and sweetness. Pink people are interested in the world around them. Violence of any kind upsets pink people. ,People who love pink are talented, have warmth, and are probably incurable romantics. Pink people are friendly but reserved. That is, they keep their inner feelings hidden.

01 Yellow is warm because it is strongly associated with sunshine. It sparkles with optimistic activity. Yellow people are highly original, imaginative, creative, and artistic. They are reliable friends. They are genuinely concerned about the good of the society, but generally spend more time talking about it than
actually doing anything about it! Yellow people are perfectionists, but can also be joyful.

Brown is the color of Mother Earth and is associated with substance and stability. A preference for brown means a reliable character with a keen sense of duty and responsibility. Browns are the down-to-earth people with a good sense of humor. They love comfort, quality, and home. They would make good marriage partners and good parents because this satisfies their strong need for security. Family life is very important to them. Brown people may be intolerant of others who think, talk, or act too quickly.

Green, nature's most plentiful color, promises a balance between warmth and coolness, so green people are usually balanced types. They are good friends, partners, or lovers and are obsessed with doing the right thing. These people are intelligent, and they can understand new concepts easily. The bad news about green people is that they often have big appetites for food. If they are dieting, it is difficult for them to control themselves. The worst thing about them is their tendency to gossip. Perhaps they are a little green with envy!

Blue is the color of peace, and it is the most preferred color universally. These people are trusting and need to be trusted. They are sensitive to the needs of others and form strong attachments, and they are deeply hurt if their trust has been betrayed. Blue people are usually sociable, but they prefer sticking to their old friends. They think twice before speaking or acting. Because of the highly developed sense of responsibility of the blue personality, they must guard against giving in to their perfectionist tendencies.

Gray people, who prefer this most neutral of all shades, are carefully neutral about life. They like to protect themselves from the hectic world. They prefer a secure, safe, balanced existence, and so, unlike the reds in life, they never look for real excitement. Grays are practical and calm. They like working hard and are usually quite successful: but they do not want to be the boss, because this would make them the center of attraction. They are the middle-of-the-road type, cool and reliable.

Black is rarely chosen as a favorite color as it is actually the negation of color. Conflicting attitudes of black personalities may surprise their friends. Those who choose black may be conservative and serious. They may Irke to think of others as rather inferior. Blacks may also want to have an air of mystery. Cleverness, personal security, and prestige are very important to them.

White is cleanliness and purity. People who prefer white are neat and immaculate (completely(clean) in their clothing and homes. If they got a spot on their tie or scarf in a restaurant, they would immediately ask for a glass of water to get it out. White also signifies a self-sufficient person and, occasionally, innocence. It recalls youth and simplicity.

	The adjectives in the text that you think describe the positive qualities of people	The adjectives in the text that you think describe the negative qualities of people
PINK		
YELLOW		
BROWN		
GREEN	1	
BLUE		
GRAY		
BLACK		
WHITE		

IC. Now go back and check your answers in Question 4 of the Think And Talk Before You Read section. Were you correct in the guesses you made?

What color personality type are you?

Read. Understand And Answer

ID. Use the information given in the text to fill in the following blanks in your own words.

■ Red people 1)_____because they enjoy having excitement in life.
The world becomes 2)_____ with red people because they are always stimulating.

Pink people get upset when there 3) _____ around them. They are friendly, but they often do 4)_____ _____feelings to others.

Yellow people can become good artists because they have 5) _____.
They like talking about 6)_____ but do 7)_ _____ __.

Brown people may not 8) _____of people who are impatient. They make good parents because they attach importance to 9) _____ .

Doing the right thing is 10)_____ _____ for green people. They can easily 11)_____ ideas. They enjoy 12)_____ a lot, so it is not 13)_____for them to go on a diet.

Blue people are 14) _____ but they always prefer being with their 15)_____to 16)_____ones. These people speak or act 17)_____twice.

Gray people are the opposites of 18)_____ _____ because what they look for in life is 19) _____ . They work hard, but that is not because 20) _____the boss or be the center of attraction.

Black people may have 21) _____ , which confuse their friends. They like to think of themselves as conservative, serious, 22) _____and superior to others.

The 23) _____ and _____ of white people are very clean. These people like neatness and simplicity.

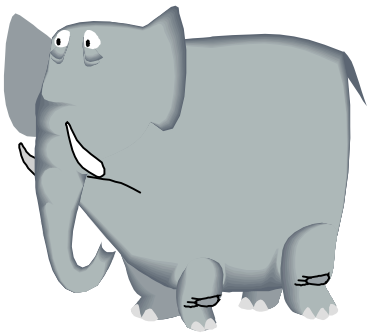
JUST FOR FUN!

1E. Colors In Idioms

Match the idioms with their correct meanings.

__ 1. to have green fingers	A. to be drunk
__ 2. to be browned off with something	B. to be good at gardening
__ 3. out of the blue	C. to be bored
__ 4. to see pink elephants	D. to have it written out on paper
__ 5. to catch someone red-handed	E. to twist the truth in such a way that someone's feelings are spared
__ 6. to be in the red	F. to catch someone in the act of doing something
__ 7. to tell a white lie	G. suddenly, unexpectedly
__ 8. to feel blue	H. an area of woodlands and fields around a city
__ 9. to have something in black and white	I. to owe money to someone
__ 10. a green belt	J. to be sad and miserable

1F. Guess the answers!



1. Why do elephants have gray skin?
2. What should you do to a blue elephant?
3. What should you do to a green elephant?
4. What should you do to a red elephant?
5. What should you do to a yellow elephant?
6. What should you do to a white elephant?
7. What do you know when you see three elephants walking down the street wearing pink sweatshirts?
8. Why do elephants drink so much?
9. What's gray, yellow, gray, yellow, gray, yellow, gray, yellow?
10. What's gray and white on the inside and red on the outside?

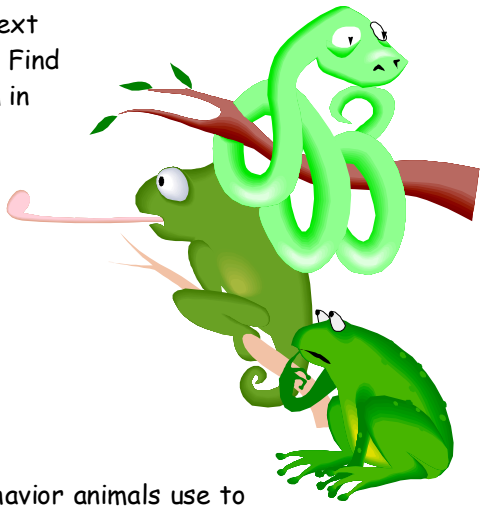
READING 2: HOW DO ANIMALS FOOL EACH OTHER?

Do While You Read

2A. Look through the text and list the animals that change color.

_____

2B. All the following words come from the text and in the text there are also other words that have the same meaning. Find those words in the specified paragraphs and write them in the blanks.



1. to blend in: _____ (Paragraph 3)
2. environment: _____ (Paragraph 3)
3. to avoid: _____ (Paragraph 1)
4. alteration : _____ (Paragraph 2)
5. protection: _____ (Paragraph 4)
6. to secrete: _____ (Paragraph 4)
7. to mimic: _____ (Paragraph 5)

(1) Camouflage is a kind of coloring, body shape and/or behavior animals use to protect themselves. Camouflage helps animals hide by **blending in** with their **environment**. Camouflage may also help animals avoid danger by fooling other animals into leaving them alone. Camouflage works for both sides in the battle for survival. Prey animals use it to **avoid** being found and eaten. Predators use it to keep from being seen by their prey until it's too late.

(2) The color of an animal's scales, fur or feathers comes from pigments in the animal's skin cells. Groups of pigments make different colors or patterns. When a skin cell's pigments change, the color of the animal's outer covering changes, too. Sometimes, this **alteration** is very slow. For example, animals like cats and dogs undergo color changes as the young ones grow into adults. Another form of color change follows changing seasons, especially where winter brings lots of snow. In the far north, such animals as rabbits and some birds have white fur or feathers in winter. When spring melts the snows, the white fur and feathers fall out. Pigments in the skin cells change. When new feathers and fur grow in, they match the new color or pattern of the landscape. Finally, the color change can also happen within minutes. Frogs, toads and some fish can change the colors of their skin or scales to match a surface that is near them.

(3) Many animals have the unique ability to change their color to merge with the surroundings. Thus, they become invisible to the predator. The most common example of an animal that uses this kind of camouflage is the chameleon. If it is on a green leaf, it turns green and if it is on a brown branch, it turns brown. However, many natural surfaces have more than one color. Think of a forest floor covered with leaves and rocks, or a patch of bark, or a pond bottom. As a result, animals like tigers or zebras have patterns of spots, stripes or uneven patches which help camouflage them. This kind of camouflage makes the shape of an animal harder to pick out from the other shapes around it. To the human eye, some of these patterns might seem to make the animal stand out more. However, to the animal eye they match a larger pattern in the environment.

(4) Some brightly colored animals are often armed with another form of **protection**. They may taste bad, be poisonous, or have a painful bite or sting. These animals use their bright colors to warn predators who might make a meal of them. This form of defense is called "warning coloration." They send the message, "Stay away, or you'll be sorry." For example, the frogs of Central America called the dart-poison frogs **secrete** a poison from their skin. This poison generated from the skin tastes so awful that the bird or snake quickly spits out the frog before the poison can take effect. Thus, other birds and snakes learn to avoid these bright frogs and their poison.

(5) Some other animals which cannot protect themselves in these ways develop other means to do so. It is interesting that similar bright color patterns have been developed over the centuries by many non-poisonous animals too as a survival mechanism to fool predators. Many non-poisonous animals take on colors similar to poisonous animals in order to scare off their enemies. This form of defense is called mimicry. Since predators avoid attacking these brilliantly colored animals, thinking of them as poisonous, these animals, too, escape getting killed. Even in the insect world, harmless insects, butterflies and moths **mimic**, or imitate, their poisonous fellow beings. The imitator is protected not only by the coloring but also by the predator's experience with the poisonous kind -- once bitten, twice shy!

Read, Understand And Answer

2C. Answer the following questions according to the information given in the text.

1. How do animals benefit from camouflage?
   _____
2. What does both sides in Paragraph 1 refer to?
   _____
3. How do animals get their camouflage colors?
   _____
4. What types of camouflage are there in terms of the length of time it takes for the skin cells to change?
   _____
5. What does they in Paragraph 2 refer to?
   _____
6. What does this kind of camouflage in Paragraph 3 refer to?
   _____
7. How does having patterns of spots, stripes or uneven patches help animals camouflage themselves?
   _____
8. What does they in Paragraph 3 refer to?
   _____
9. What is "warning coloration"?

_____

10. What does <u>you</u> in Paragraph 4 refer to?

_____

11. How do the bright frogs of Central America save their lives?

_____

12. What does <u>to do so</u> in Paragraph 5 refer to?

_____

13. How does the survival mechanism of the non-poisonous animals work?

_____

14. What does <u>them</u> in Paragraph 5 refer to?

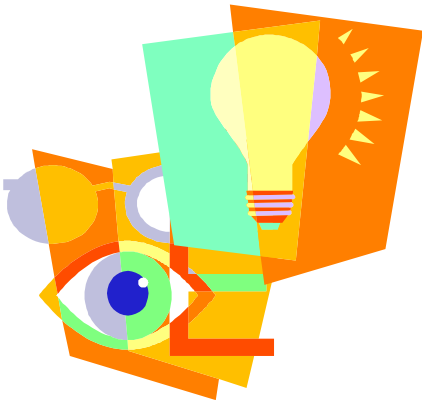
_____

2D. Write the opposites of the following words in the blanks provided, using a suitable prefix or suffix. Then go back to the text and check your answers.

1. visible: _____
2. even: _____
3. poisonous: _____
4. harmful: _____

2E. What are the noun forms of the following words? The answers are in the text. Check your answers when you have finished doing the exercise.

1. behave: _____
2. protect: _____
3. survive: _____
4. change: _____
5. alter: _____
6. able: _____
7. surround: _____
8. defend: _____
9. imitate: _____



READING 3: COLOR VISION

3A. a) Read the paragraphs in the text and the ones in the box.
b) Note what each paragraph is about.
c) Fit each missing paragraph in its place in the text.

(1) Color fills our world with beauty. We delight in the colors of a magnificent sunset, the bright red and golden-yellow leaves of autumn, the gorgeous flowering plants and the brilliantly colored arch of a rainbow. Color serves as a means of communication. Different colored flags tell us about countries. On streets and highways, a red traffic light tells drivers to stop, and a green light tells them to go. We also use the names of colors in many common expressions to describe moods and feelings.

(2)	

(3) What is color vision then, or how do we see color? Although we speak of seeing colors or objects, we do not actually see them. Instead, we see the light that objects reflect or give off. Our eyes absorb this light and change it into electrochemical signals. The signals travel through nerves to the brain, which interprets them as colored images.

(4)	

(5) Sunlight appears white but it actually isn't. When a beam of sunlight passes through a specially shaped glass object called a prism, the rays of different wavelengths are bent at different angles. The bending breaks up the sunlight into a beautiful band of colors. This band contains all the colors of the rainbow and is called the visible spectrum. At one end of the spectrum, the light appears as violet, consisting of the shortest wavelengths. Farther along the spectrum, the light has increasingly longer wavelengths. It appears as blue, green, yellow, orange, and red. The longest wavelengths of light that we can see appear deep red in color.

(6)	

(7) Most objects appear colored because their chemical structure absorbs certain wavelengths of light and reflects others. When sunlight strikes a carrot, for example, molecules in the carrot absorb most of the light of short wavelengths. Most of the light of longer wavelengths is reflected. When these longer wavelengths of light reach our eyes, the carrot appears orange.

(8)	

(9) Our ability to see color depends on many highly complicated workings of the eyes and brain. When we look at an object, light coming from the object enters our eyes. Each eye focuses the light, forming an image of the object on the retina, which contains light-sensitive cells.

(10)	

(11) These cells absorb most of the light that falls on the retina and convert the light to electrical signals. These electrical signals then travel through nerves to the brain. The brain organizes these nerve signals from the eye and interprets them as colored visual images.

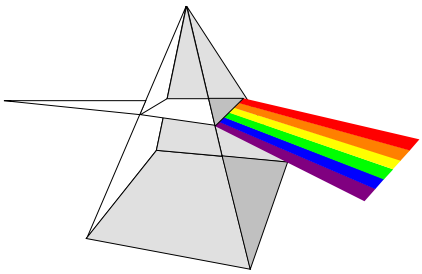
A. Therefore, to understand how we see color, we must first know something about the nature of light. Light is a form of energy that behaves in some ways like waves. Light waves have a range of wavelengths. Different wavelengths of light appear to us as different colors. Light that contains all wavelengths in the same proportions as sunlight appears white.

B. Light waves are a form of electromagnetic waves, which consist of patterns of electric and magnetic energy. The visible spectrum is only a small part of the electromagnetic spectrum -- the entire range of electromagnetic waves. Beyond the violet end of the visible spectrum are ultra-violet rays, X-rays, and gamma rays. Beyond the red end of the visible spectrum are infra-red rays and radio waves.

C. The retina has two main types of light-sensitive cells -- rods and cones. Rods are extremely sensitive to dim light but cannot distinguish wavelengths. For this reason, we see only tones of gray in a dimly lit room. As the light becomes brighter, the cones begin to respond and the rods stop functioning. The retina of a person with normal color vision has three types of cones. One type responds most strongly to light of short wavelengths, which corresponds to the color blue. Another type reacts chiefly to light of middle wavelengths, or green. The third type is most sensitive to light of long wavelengths, or red.

D. Color also plays an important part in nature. The brilliant colors of many kinds of blossoms attract insects, which help pollination, seeding and fruiting. The colors of some animals like the peacock help them attract mates and the colors of many other animals like the chameleon help them escape enemies.

E. What about the colors black and white, then? An object that absorbs most of the light of all wavelengths in nearly equal amounts appears black. An object that reflects most of the light of all wavelengths in nearly equal amounts appears white.



3B. Answer the following questions according to the information given in the text.

1. What two other examples can you think of, in addition to those given by the writer, to support his point that color is important in various aspects of our lives?

_____

_____

2. Explain in your own words what you understand from the terms:
   a) color vision
   b) the color spectrum

_____

_____

3. According to the text, "... we do not actually see color." Explain what we see by giving examples of your own.

_____

_____

4. What are ultra-violet rays, X-rays, gamma rays, infra-red rays and radio waves? Why can't we see them?

_____

_____

5. Prepare two different charts:
   a) categorizing the light-sensitive cells in the retina and their functions
   b) explaining the workings of the eye and the brain to make us see color

3C. Choose the alternative which best completes the paragraph.

A rainbow is a circular arc of colors that appears in the sky when sunlight illuminates raindrops. Remember that light waves have a __1__ of wavelengths, and the __2__ light of different wavelengths appears as different colors. Light that appears white contains all wavelengths in the same __3__ as sunlight. When sunlight, as uniformly spaced rays of white light, enters raindrops, the raindrops act like a prism and __4__ each ray of white light into many rays. These rays __5__ at different angles and correspond to all colors of the sunlight.

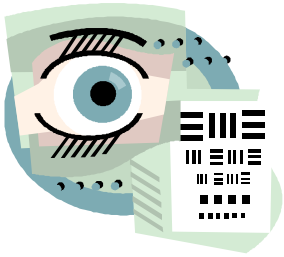
1.	a) state	b) range	c) ratio	d) period
2.	a) objective	b) entire	c) stable	d) visible
3.	a) proportion	b) form	c) pattern	d) kind
4.	a) absorb	b) expand	c) separate	d) provide
5.	a) convert	b) bend	c) respond	d) focus

Every color has three basic characteristics. These are hue, saturation, and brightness. Hue is the property that gives a color its name -- red, orange, yellow, green, blue, or violet. Differences in the wavelengths of light __6__ the differences that we see among the colors in the spectrum. For example, the wavelengths that __7__ as yellow are __8__ shorter than those that we see as orange. Saturation is a measurement of the concentration of a color. For example, if you __9__ a teaspoon of red paint with a teaspoon of water, it will give you paint of a dark red color of a high saturation. __10__, if you dilute the paint with a cup of water, the mixture will have a low concentration of red colorant and __11__ a low saturation. Finally, brightness is the amount of light, which objects __12__. You can __13__ the brightness of a color by comparing it with a __14__ on a lightness scale, which runs from black, through shades of gray, to white.

6.	a) gather	b) require	c) exist	d) produce
7.	a) create	b) appear	c) express	d) suggest
8.	a) heavily	b) closely	c) slightly	d) approximately
9.	a) stick	b) apply	c) mix	d) spin
10.	a) However	b) Consequently	c) Moreover	d) Although
11.	a) since	b) similar to	c) such as	d) thus
12.	a) react	b) reflect	c) restrict	d) remove
13.	a) perform	b) consider	c) determine	d) generate
14.	a) sample	b) shape	c) structure	d) subject

Think And Talk Before You Read

1. Can you distinguish between all colors easily or have you ever had difficulties telling colors apart?
2. Have you heard of the term "Color Blindness" before? Do you know what it means?
3. Are there any color-blind people in your family or among your friends? If yes, what sort of difficulties do they have?



READING 4: COLOR BLINDNESS

Do While You Read

4A. Read the article and choose the best alternative.

(1) When my son was a kid in kindergarten, we never knew why he was unable to identify the color of crayons. Not until the day he was responsible for an Open Day project on color blindness in his secondary school did we notice that he is one of the victims of this condition. Though nobody blamed him for the low grades then, being restricted in choosing his career 20 years later frustrated him somehow.

(2) My son is just one of the many color-blind people who realize much later on in their lives that their eyesight is defective. They learn to use the color names that everyone else uses, but actually they do not have full color vision. These people may sometimes be hampered in their everyday activities if their condition places them in danger. If they confuse red and green, for example, they may only be able to tell traffic signals apart by their brightness. Many armed forces refuse to accept color-blind people for military service. In addition, color blindness can be a hindrance for members of certain other professions, like airline pilots or fashion designers.

(3) Color blindness is actually an inaccurate term because it implies inability to see color. Absolute color blindness is almost unknown. The majority of color-blind people lack perceptual sensitivity to one or two colors only. In other words, they cannot see certain colors, and so cannot tell the difference between these colors and others.

(4) What causes the inability to see certain colors, then? Remember the light-sensitive cells

1. The writer introduces the topic using _____.
   a) personal opinion
   b) an anecdote
   c) factual information
   d) a definition

2. The choice of words in Paragraph 1 expresses _____.
   a) happiness
   b) sorrow
   c) violence
   d) satisfaction

3. In Paragraph 2, the writer mentions his son as _____.
   a) the problem
   b) evidence
   c) an example
   d) the topic

4. In Paragraph 3, the writer is _____.
   a) humorous
   b) critical
   c) approving
   d) romantic

5. In Paragraph 4, the writer starts with a question to _____.

in the retina of the eye, rods and cones! Rods are sensitive to dim light and therefore to shades of gray. The ability to see color, on the other hand, originates in the cones. A person with normal color vision has three types of cones, and each type is sensitive to a different color, basically red, green and blue. Color-blind people lack one, two, or all of these types of cones.

(5) The great majority of color perception defects are for red or green or both. People with red-green color blindness confuse red with green or shades of red and green with yellow. The second form of color blindness -- yellow-blue -- is not as common as the first. As the name implies, people having this defect experience similar difficulties distinguishing yellow and blue or their shades. Only a few people have the cones missing entirely. They see in shades of white, gray and black -- somewhat like a black-and-white photograph.

(6) Although defective color vision may be a result of injury to the retina or another eye disorder, color blindness is mainly hereditary, i.e., present at birth. Color blindness is also a sex-linked characteristic, as it is rooted in the chromosomal differences between males and females. Females may be carriers of color blindness, but males are more commonly affected. About 8% of males, compared to only 0.5% of females, are color-blind. If a color-blind man marries a woman who has no family history of color blindness, their children will have normal vision. Their daughters, however, will carry the gene for color blindness, and may pass it on to their children. If a woman whose father is color-blind marries a man with normal vision, each of their sons has a 50-50 chance of inheriting the disorder.

(7) There is no treatment for color blindness, but in most cases it is unnecessary anyway. Most color-blind people learn to live with their defect and even recognize details that escape normal-sighted people.

a) signal a new topic
b) sum up his opinion
c) add extra information
d) express feelings

6. Paragraph 5 focuses on the _____ the topic.
   a) reasons for
   b) exemplification of
   c) categorization of
   d) solutions to

7. The tone of paragraph 6 is _____.
   a) negative and advisory
   b) cold and reserved
   c) friendly and humorous
   d) neutral and informative

8. In Paragraph 6, the writer uses _____ to support his point.
   a) idioms
   b) quotations
   c) statistics
   d) arguments

9. In Paragraph 7, the writer's attitude can be described as _____.
   a) optimistic
   b) mysterious
   c) perfectionist
   d) conservative

Read, Understand And Answer

4B. Choose True (T) or False (F) according to the information given in the text.

T F 1. The low grades which the writer's son got were most probably due to his color blindness.
T F 2. Some people learn the names of the colors, although they are not actually able to identify them.
T F 3. Apart from professions which involve working with colors, color blindness does not lead to difficulties in everyday activities.
T F 4. The light-sensitive cells in the retina of the eye, rods and cones, are responsible for color perception.
T F 5. People with red-green color blindness sometimes see the color yellow instead of red or green or shades of red and green.
T F 6. The most common type of color blindness occurs when the retina of the eye lacks all cone types.
T F 7. A study of the parents' chromosomes will indicate the possibility of color blindness in the child.
T F 8. Not all color-blind people are born with the defect.
T F 9. About 8 out of 100 men are color-blind compared to about 1 of every 200 women.
T F 10. Children of color-blind people have a 50% chance of being color-blind.
T F 11. Color blindness can be corrected, like all eye defects, at an early age.
T F 12. Most color-blind people are more careful in noting details than people with normal vision.

4C. Fill in the middle column with words that are opposite in meaning to the words in the first column. Both words should also go with the words in the third column. Study the examples before you do the exercise.

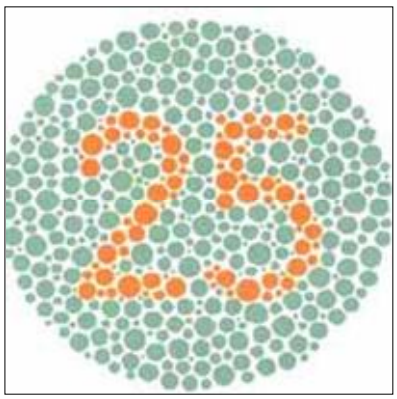
low	**high**	GRADE
normal	1.	EYESIGHT
dangerous	2.	CONDITION
accurate	**inaccurate**	TERM
ability	3.	TO SEE COLOR
known	4.	FACT
sensitive	5.	TO LIGHT
have	6.	SENSITIVITY
majority	7.	OF PEOPLE
distinguish	8.	COLORS
common	9.	DEFECT
different	10.	DIFFICULTIES
male	11.	CHROMOSOMES

4D. Complete the sentences with the correct form of the given word.

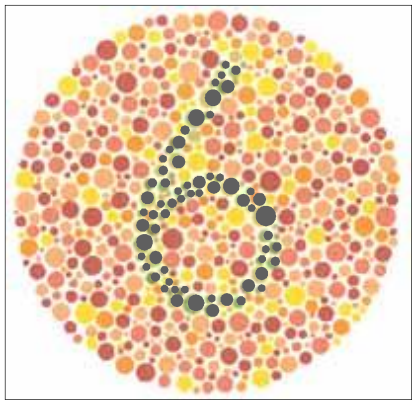
1. Many animals, including cats and horses, probably do not see colors as we do; however, their eyesight is normal, not _____. (DEFECT)
2. The _____ of car lights may cause problems for drivers with poor vision at night. (BRIGHT)
3. Red-green color blindness is the most common color _____ defect, which is seen in 7% of color-blind men and 1% of women. (PERCEIVE)
4. The basic colors red, yellow and blue can be used in pairs to produce _____ colors. For example, orange can be formed by mixing red and yellow or green by mixing yellow and blue. (SECOND)
5. The eyes of some animals are _____ to light we cannot see. For example, bees can see ultra-violet rays, which are invisible to us. (SENSE)
6. Color blindness is normally diagnosed through clinical testing, but there is no _____ for this disorder. (TREAT)
7. The majority of color-blind people are born with the defect, as it is _____. (HEREDITY)
8. _____ to the eye or to the retina may sometimes lead to destruction of the cones and thus to color blindness. (INJURE)
9. The daughter of a family with a history of color blindness will be the _____ of the genes. (CARRY)
10. Men are more _____ affected by color blindness than women due to the chromosomal differences between males and females. (COMMON)

JUST FOR FUN!

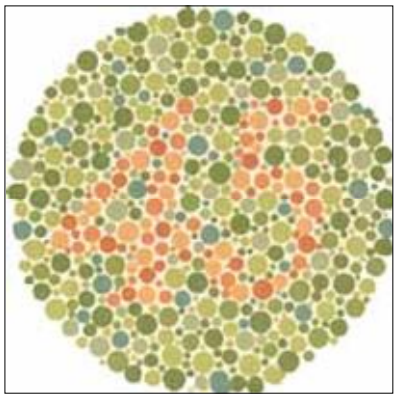
4E. Check your and your friends' color perception here.
What numbers do you see?



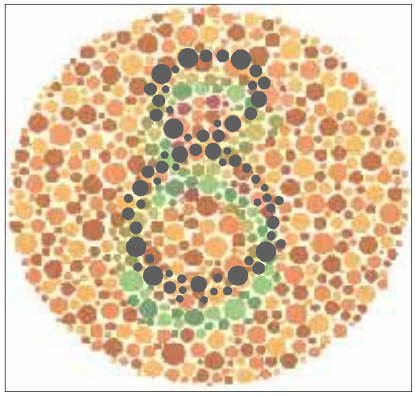
A. _____



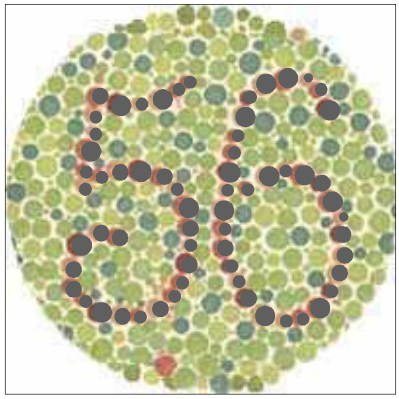
B. _____



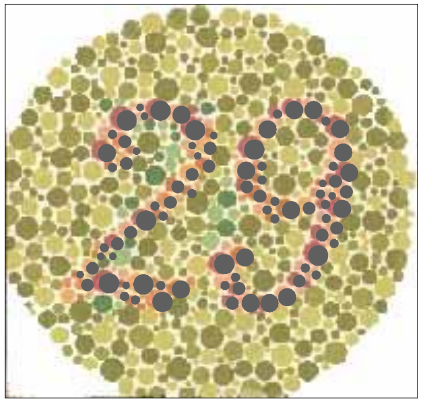
C. _____



D._____



E. _____



F. _____

UNIT 8 VOCABULARY LIST

a means of	inaccurate
accept	incurable
adult	inferior
aggressive	inherit
alteration	injury
associate	innocence
attachment	intolerant
attract	optimistic
attraction	patience
avoid	perception
beam	perceptual
behave	prey
beyond	promise
blame	proportion
bright	range
brightly	ray
brightness	realize
competitive	recall
complicated	recognize
concept	refuse
condition	reliable
conflicting	reserved
confuse	responsibility
conservative	responsible
convert	restriction
correspond	secure
defect	security
defective	sensitive
defense	sensitivity
distinguish	serious
entire	shy
entirely	sufficient
environment	surroundings
escape	talented
fool	tendency
frustrate	trust
hereditary	uneven
hide	violence
humorous	vision
humor	visual
hurt	warn
identify	warning
ignore	
imitate	
imply	

UNIT 8 – GO ON READING

COLORS OF TURKISH CARPETS AND KILIMS

The bright beautiful colors of Turkish carpets and kilims reflect nature's harmony and Anatolian people's tastes. They owe their quality to the natural dyes used through the years and centuries. The dyes are obtained from various plants, information about which is handed down from father to son in the family. To obtain a natural dye, the plant is boiled to extract the color, and to ensure the absorption of the color, a second plant or natural salt, known as the mordant, is mixed with the dye. The mordant is a fixing agent, which prevents running of colors.

Here are the most common dyes and colors used among nomads and Anatolian villagers:

Woad (Civit Otu) Blue: The Woad plant is found growing wild in Central and Western Anatolia along the edges of fields. Depending on the length of time the plant is boiled, dark or light blue tones as well as the well-known indigo can be produced.

Madder (Kok) Red: The roots of the madder plant -- found in the wild in Central and Western Anatolia -- are one of the best sources for the color red. Shades ranging between pale red and deep red or burgundy can be obtained from the roots of the madder when different fixing agents are used.

Ox-Eye Camomile (Sari Papatya) Bright Yellow: During the spring, ox-eye camomile grows all over Anatolia along roadsides and in dry meadows. Its large golden-yellow flowers last throughout the summer. The flowers, fresh or dried, used along with a mordant produce a bright yellow dye.

Walnut (Ceviz) Tree Brown: The beautiful walnut tree can be found in the forests of Eastern Turkey. The villagers use both the fruit and the leaves to obtain a green or blackish-brown dye. The effective coloring agent is juglone, the brown dye, which adheres directly to wool fibers.

Pomegranate (Nar) Tree Brownish-Yellow or Brownish-Black: The pomegranate tree grows in the mild-climate regions of Western, Southwestern, and Northeastern Anatolia. It is a tall tree with beautiful pinkish-violet flowers. During autumn, the tree bears a fruit with many seeds, the yellow-red-skinned pomegranate. The fresh or dried skin of the fruit used with different fixing agents produces either a brownish-yellow or brownish-black shade.

Spurge (Sutlegen) Yellow: Spurge grows throughout Turkey. The plant contains a milky juice in its stem, long, narrow leaves and clusters of blossoms. Some varieties bloom during the late summer and early autumn. All parts of the plant except the roots are used for obtaining a yellow dye, which can be frequently seen in some carpets of Anatolia, mainly in the Daskiri, Maden and Ortakoy types.

Wild Camomile (Beyaz Papatya) Yellow: During March, in Western and Southern Anatolia, the camomile plant will cover entire fields with fresh blossoms. With a mordant, a clear yellow dye can be obtained from the plant.

Sage (Ada cayi) Yellow: Sage can be found in most Mediterranean regions. It blooms on the dry hillsides from March up until August. It is distinctive with its tall flowering spikes of mauve or pinkish two-lipped flowers. The leaves and stems, either fresh or dried, are used to obtain a different shade of yellow.

UNIT 8: GO ON READING

LETTER-COLOR SYNAESTHESIA

by Cassidy Curtis

For as long as I can remember, I've had this implicit sense of a relationship between letters and colors. To me, every letter seems to have a color of its own. When I think of a word, I am aware of its color and the color of its component letters. The phenomenon is so consistent that I can rely on it to help me remember things like phone numbers and proper names. I call it my letter-color synaesthesia.

Webster's Dictionary defines synaesthesia as "the production of a mental sense-impression relating to one sense by the stimulation of another sense." In my case, the sense-impression (color) comes from a purely mental event (thinking of a word), not from any external sensory stimulation.

The effect is completely involuntary. It's a bit like what happens when you think of a word like "banana." Maybe you see the spelling in front of your mind's eye, or maybe you hear the way it sounds in your mind's ear; but it's likely that you are also at least faintly aware of the color yellow. That's what it's like, a faint awareness that can be brought to my full attention under certain circumstances.

Here's an approximation of the basic mapping in my brain of the letters and numerals, taken individually, to colors:

This may seem odd, but it gets stranger. What you see above are the colors of the letters taken in isolation. But when placed in the context of a word, a letter's color can change quite dramatically.

First of all, vowels almost always fade into the background in the presence of consonants. They also tend to pick up some of the color of letters nearby. For example, the "A" in my name is overwhelmed by the strong green of the letters around it:

In longer words, the repetition of a single letter can even influence the other consonants, as in this case:

However, this is less often the case in a word that begins with a vowel. The letter "I" can give an entire word a luminescent quality, and the consonants often lose some of their power in its presence:

The color effect has very little to do with the pronunciation of a word. It has everything to do with the spelling. The first letter in particular has enormous influence:

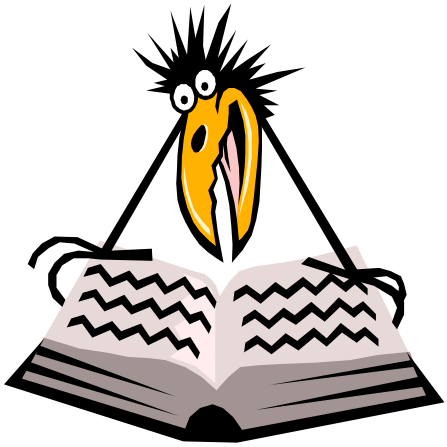
The meaning of a word also has an undeniable influence on its color. For example, the word "banana" is as yellow for me as I imagine it is for anyone else, despite the fact that its letters are predominantly red. This fact was brought to my attention most recently when I encountered a new word:

Later, when I learned what the word meant, its color changed accordingly. Phthalocyanine turns out to be the name of a vivid blue-green pigment used in paint. Now the word looks something like this:

As I mentioned, I sometimes use my synaesthesia to help me remember difficult proper names. Here's a Thai chef who wrote a terrific vegetarian cookbook:

Unfortunately, this method can backfire too, because I confuse similarly colored names easily and this can especially be problematic at parties.

CONSOLIDATION: READING



Think And Talk Before You Read

1. Brainstorm the answers to the question "WHAT IS READING?" with your friends and note your ideas in the box below.

2. The following text tries to answer the same question. Read it and underline the main points. Do you agree with the writer's ideas? Explain why/why not!

What is the image of a person reading a book? He is usually alone, reading silently and because he is absorbed in the book in his hands, he is hardly moving at all. There is no interaction taking place between him and the surroundings; he looks totally cut off.

Perhaps it is this image which has led some people to think of reading as a passive activity; but is it so? Is the reader really passive while he is trying to get meaning out of those printed symbols? Nothing can be further from the truth.

Actually reading is a very dynamic process, which involves the use of a variety of skills right from the start. The whole time, the reader is trying to communicate with the written text, trying to hear what the writer is saying, analyze it, react and respond to it. Meaning can only be extracted from the printed symbols by continuous interaction between thought and language.

People always have a reason for reading, ranging from the sheer pleasure of a pastime to high level academic concerns. They also start reading with already existing information in their minds even if they think that they know little about the topic. Due to these two factors, the first steps of all readers are marked with expectations or unconsciously formulated predictions. As they read along, they check the new information against their already existing knowledge and expectations. If what they read matches what they have in mind, they continue reading in peace. Often, they stop to fill in the missing pieces, review their knowledge or expectations and make additions. If there is a total mismatch between the two sides, they cannot make any sense of what they are reading. They either give up or try to find new strategies to deal with it.

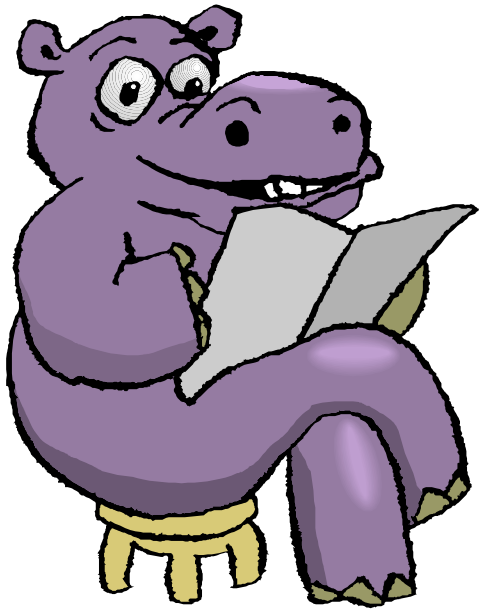
What is the moral of the story, then? Being aware of this natural process makes reading easier, especially when reading in a foreign language. Your ability to read successfully in a foreign language depends on your ability to clarify your purpose, to make use of your background knowledge, to focus on the content of what you are reading, to think critically and on … YOUR KNOWLEDGE OF VOCABULARY, of course!

READING 1: TELL US WHAT YOU THINK ABOUT READING

1A. The following is a survey on reading. Answer the questions individually by ticking the suitable box(es) and talk about them in class. Determine and note the general tendencies in reading habits among your classmates.

1. Why do you read?
   - ☐ For my own personal satisfaction
   - ☐ Because my parents encourage me to do so
   - ☐ Because I get bored and have nothing else to do
   - ☐ Because I have to read, for school
   - ☐ To learn new things on my own
   - ☐ I really don't read much

2. If you don't read much or don't like reading, why not?
   - ☐ Because I don't have time
   - ☐ Because I think reading is boring
   - ☐ Because I don't want to have the image of a bookworm
   - ☐ Because books are expensive
   - ☐ Because I prefer other activities



3. How would you rate yourself as a reader?
   - ☐ A good reader
   - ☐ An average reader
   - ☐ A below-average reader

4. Which of the following do you read?
   - ☐ Books assigned for class
   - ☐ Books I read outside class for pleasure
   - ☐ Newspapers
   - ☐ Comic books or graphic novels
   - ☐ News magazines
   - ☐ Fashion/beauty magazines
   - ☐ Sports magazines
   - ☐ Music/computer/entertainment magazines
   - ☐ Humor magazines/puzzles/games
   - ☐ Online websites or webzines
   - ☐ Computer manuals or other electronic equipment manuals
   - ☐ Cereal boxes, instructional pamphlets and other product packaging
   - ☐ None of the above

5. How often do you read?
   - ☐ Whenever I have the chance
   - ☐ Every day
   - ☐ At the weekends
   - ☐ Only on holidays
   - ☐ Very rarely

6. Does anyone in your life encourage you to read for fun, either by setting a good example or by telling you?

- ☐ Yes
- ☐ No

7. What kind of books do you like to read for fun?
   - ☐ True stories
   - ☐ Mystery
   - ☐ Science fiction
   - ☐ Fantasy
   - ☐ Factual books, like a book about dinosaurs or space
   - ☐ Romance
   - ☐ Adventure
   - ☐ Horror
   - ☐ Sports
   - ☐ How-to books
   - ☐ Books about your hobbies or collecting
   - ☐ Biography/autobiography
   - ☐ Other
   - ☐ None

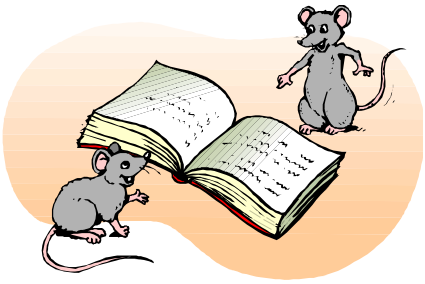
8. Which of the following characters/people do you like to read about?
   - ☐ Celebrities
   - ☐ Characters from movies or television shows
   - ☐ Musicians
   - ☐ Sports figures
   - ☐ Historical figures
   - ☐ People or characters who are a lot like me
   - ☐ People or characters who are a lot different than me
   - ☐ People or characters my age who have problems
   - ☐ People or characters my age who have done some amazing things
   - ☐ Animals
   - ☐ Fantasy characters like super heroes or people from other worlds
   - ☐ Others
   - ☐ None

9. How do you decide what books to read?
   - ☐ I choose books on topics that I'm interested in.
   - ☐ I read whatever books are around the house.
   - ☐ I read whatever books I am assigned in class.
   - ☐ I like to look around the library for books that interest me.
   - ☐ I read books recommended by my parents.
   - ☐ I read books recommended by my friends.
   - ☐ I read books I see on best-seller lists.
   - ☐ I read books that I learn about on the Internet, in magazines or newspapers.
   - ☐ I read books I hear about on the radio or on TV.
   - ☐ I don't read much, I've already told you.
   - ☐ None of the above.

10. Who do you talk to about books and what you're reading?
    - ☐ My sisters or brothers

- ☐ My teachers
- ☐ My friends
- ☐ My parents
- ☐ People in book clubs or youth groups I belong to
- ☐ Other people on the Internet (e.g., chat rooms)
- ☐ I don't really talk to anyone.

11. If you can remember, tell us what your favorite book was during these different times in your life.
    - ☐ Pre-school:
    - ☐ Primary school:
    - ☐ Secondary school:
    - ☐ High school:



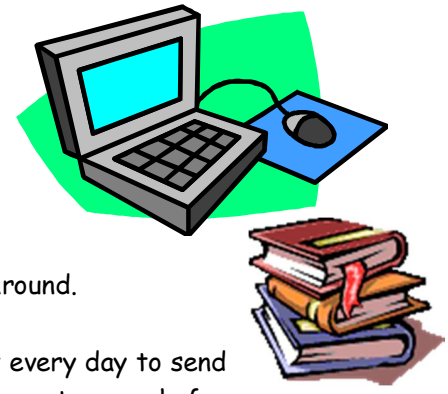
12. What's the best book you've read this year?

1B. Complete the following report on the reading habits of your class using the information you have noted during the class discussion.

The majority of people in my class read because they _____. There are some people who don't like reading as _____. _____ of my classmates consider themselves _____ whereas _____ think they are _____. My classmates mainly read _____. However, the time they spend on reading varies. For example, some read _____, but others read _____. Almost everyone in my class has had a person in their lives who has encouraged them to read, either by setting a good example or by telling them. My classmates like to read _____ for fun. As for the characters/people they like to read about, they say that _____ come first among their preferences. They mainly choose to read books which _____ and they talk about them with _____. Most people have one or two favorite books they can remember from their childhood. Some of these are _____. Finally, here are a few recommendations among this year's best books: _____.

READING 2: FROM "PRINTED BOOKS VERSUS BOOKS ON-LINE"

Adapted from Irma Larrea-Ona



2A. Read the questions in the first paragraph and talk about them with your classmates.

(1) Do you prefer to read a book or use a computer? Do you think that a book is too heavy to carry? Are you a person of the Internet Age? Every day, these ideas go through my mind. They appear in different orders, at different times, but they are still around.

(2) When I first arrived at Ohio University, I used the Internet every day to send e-mail to my family and friends, to read my country's newspapers, to search for books, or simply to have fun. I did not realize the real power of this source of technology, and before I knew what was happening, I had become an Internet addict!

(3) After some weeks of analyzing Web sites for my course in Journalism and the World Wide Web, I found many differences between the traditional forms of media for communicating with other people and the electronic forms. Questions surfaced: How can you send information to a person who wants to listen, to watch, to read, and to know something at the same time? How can you meet people only through your computer and become close friends? How can you read a book without touching its pages or smelling its ink? Until that moment, I had not realized the importance that I gave to the relationship between the senses and printed books.

(4) The other day, I was sitting in Alden Library, in front of a computer, doing one of my searches. Many citations appeared on the screen, and I went to Alice * to find their physical location. I went to the sixth floor and I selected many books. I glanced at some of them and then I left. When I was going back home, I realized that I had not enjoyed my library experience! I had been walking around the shelves, completely stressed out, looking for some information, but without thinking about the books. I had treated the books as unknowns. In the past, I used to enjoy my readings. Books had been my best friends. And now, I was feeling that I was abandoning and forgetting my old companions!

(5) Many years ago, Marshall McLuhan, who was a communications theoretician, predicted that, in the future, humans would prefer computers over books. He thought that people's information needs would be better met by new technologies that would allow them to interact with other people rapidly. He defined computers as extensions of the human nervous system, and he thought that they would provide information and allow people to reach every part of the world that they wanted to, in only a few minutes or seconds. He was right, but he never saw the reality of his prediction because he died in 1980.

(6) After thinking and re-thinking, I began to understand the real importance of the electronic age and the new role it is creating for printed books. I am sure that, in the future, they will not disappear completely. Their new mission might be to rest on the shelves of our personal libraries or offices, waiting until someone looks at them and decides to take them in hand and enjoy reading.

(7) Currently, many books appear on the Internet, and you can see the very first editions of some of them. On one friend's recommendation, I looked up the first on-line edition of Don Quixote de la Mancha, written hundreds of years ago by the greatest of Spanish authors, Miguel de Cervantes. When I was a child, my grandfather would read me this book. It tells the story of an old man who used to read a lot of books, became crazy, and decided to be a knight-errant. When I think of this story, I

can remember my hands touching the book's pages, my eyes seeing its original illustrations, my ears listening to my grandfather's voice, and my nose smelling the ink of its pages. However, now I am in front of a computer, reading some parts of the book, looking at the links, and informing myself about new and different sites that help me learn more about the author and the structure of this masterpiece.

(8) This electronic age we are living in has changed my relationship with books. If Cervantes were alive today, he might rewrite his novel using the idea of books on-line. Can you imagine Don Quixote reading his books on-line? I cannot even imagine how enormously different the story would be!

(9) New technologies are capable of introducing changes into our daily lives, but the books on-line can never compete with human personal relationships with printed books. Have you already forgotten your childhood when Mom or Dad sat beside your bed and read you a bedtime story? I do not think so!

*Alice is the name for Ohio University's library catalogue. It is a database that lists all kinds of items in the library collections.

Read, Understand And Answer

2B. Read the text and answer the questions.

1. What does this source of technology in Paragraph 2 refer to?
   _____
2. What does an Internet addict do?
   _____
3. The writer mentions the traditional and the electronic forms of media in Paragraph 3. Can you give examples for both?
   _____
4. According to the writer, what is missing when you are reading books on-line?
   _____
5. Did the writer enjoy working in the library the other day? Why/Why not?
   _____
6. What does my old companions in Paragraph 4 refer to?
   _____

7. According to Paragraph 4, why does the writer feel guilty about books?

_____

8. How has time proved what Marshall McLuhan said about books?

_____

9. Why does the writer mention Marshall McLuhan?
   a) To criticize his ideas
   b) To support her point
   c) To prove that his predictions were wrong
   d) To express her feelings about his death

10. According to the writer, what might the future of printed books be like?

_____

11. How would you describe the writer's tone in Paragraph 6?
   a) Pitiful b) Critical c) Joyful d) Unrealistic

12. What does <u>this masterpiece</u> in Paragraph 7 refer to?

_____

13. What are the writer's memories about Don Quixote de la Mancha mainly related to?
   a) The illustrations in the book
   b) The structure of the story
   c) Her feelings as a child
   d) Her grandfather's ideas about the novel

14. According to the writer, if Cervantes were alive, what might he do?
   a) He might write the same story today.
   b) He might refuse the idea of books on-line.
   c) He might continue to write in the classical tradition.
   d) He might adapt to today's technologies.

15. What does <u>so</u> in Paragraph 9 refer to?

_____

16. Does the writer prefer printed books or books on-line? Support your answer using the information in the text.

_____

2C. Write the correct form of the given words to complete the paragraph.

My friend Eloise loves reading science-fiction, especially if there are 1)_____ in the book; and she would really be happy if the whole world shared her passion. 2)_____ preferences vary greatly, of course, and I must say we 3)_____ disagree on this point. The difference in our opinions does not affect our 4)_____ at all, though. It just adds a bit of spice.	1. ILLUSTRATE 2. PERSON 3. COMPLETE 4. RELATION
You can see Eloise with the latest 5)_____ of a science-fiction book in her hand any time of the day or night. "Good science-fiction novels are the best 6)_____ in the world," she says. "They provide breaks to escape the boredom of your 7)_____ routine. You are able to put 8)_____ attitudes aside and look into the future wearing new glasses."	5. EDIT 6. COMPANY 7. DAY 8. TRADITION
You can trace Eloise's passion back to her 9)_____. Her uncle, who wanted to be an astronaut, took her with him on a tour of NASA once and gave her several books as a present. Her uncle never even got near to becoming an astronaut, of course, but instead chose to be a writer. He is 10)_____ working on a book which, Eloise thinks, is going to be a masterpiece of science-fiction.	9. CHILD 10. CURRENT

READING 3: FROM "THE JOY OF READING AND WRITING: SUPERMAN AND ME"

by Sherman Alexie

3A. The following are the beginnings of the paragraphs in the text you are going to read. Read the sentences and try to predict what the rest of each paragraph is going to be about. Then talk about your predictions with your classmates.

(1) I learned to read with a Superman comic book. Simple enough, I suppose.

(2) My father, who is one of the few Indians who went to Catholic school on purpose, was an avid reader of westerns, spy thrillers, murder mysteries, gangster epics, basketball player biographies and anything else he could find.

(3) I can remember picking up my father's books before I could read. The words themselves were mostly foreign, but I still remember the exact moment when I first understood, with a sudden clarity, the purpose of a paragraph.

(4) At the same time I was seeing the world in paragraphs, I also picked up that Superman comic book. Each panel, complete with picture, dialogue and narrative, was a three-dimensional paragraph.

(5) This might be an interesting story all by itself. A little Indian boy teaches himself to read at an early age and advances quickly.

(6) A smart Indian is a dangerous person, widely feared and ridiculed by Indians and non- Indians alike. I fought with my classmates on a daily basis.

(7) I refused to fail; I was smart; I was arrogant; I was lucky. I read books late into the night, until I could barely keep my eyes open.

Do While You Read

3B. Now read the text and check your predictions.

(1) I learned to read with a Superman comic book. Simple enough, I suppose. I cannot recall which particular Superman comic book I read, nor can I remember which villain he fought in that issue. I cannot remember the plot, nor the means by which I obtained the comic book. What I can remember is this: I was three years old, a Spokane Indian boy living with his family on the Spokane Indian Reservation in Eastern Washington State. We were poor by most standards, but one of my parents usually managed to find some minimum-wage job or another, which made us middle-class by reservation standards. I had a brother and three sisters. We lived on a combination of irregular paychecks, hope, fear and government surplus food.

(2) My father, who is one of the few Indians who went to Catholic school on purpose, was an avid reader of westerns, spy thrillers, murder mysteries, gangster epics, basketball player biographies and anything else he could find. He bought his books by the pound at Dutch's Pawn Shop, Goodwill, Salvation Army and Value Village. When he had extra money, he bought new novels at supermarkets, convenience stores and hospital gift shops. Our house was filled with books. They were stacked in crazy piles in the bathroom, bedrooms and living room. In a fit of unemployment-inspired creative energy, my father built a set of bookshelves and soon filled them with a random assortment of books about the Kennedy assassination, Watergate, the Vietnam War and the entire 23-book series of the Apache westerns. My father loved books, and since I loved my father with an aching devotion, I decided to love books as well.

(3) I can remember picking up my father's books before I could read. The words themselves were mostly foreign, but I still remember the exact moment when I first understood, with a sudden clarity, the purpose of a paragraph. I didn't have the vocabulary to say "paragraph," but I realized that a paragraph was a fence that held words. The words inside a paragraph worked together for a common purpose. They had some specific reason for being inside the same fence. This knowledge delighted me. I began to think of everything in terms of paragraphs. Our reservation was a small paragraph within the United States. My family's house was a paragraph, distinct from the other paragraphs of the LeBrets to the north, the Fords to our south and the Tribal School to the west. Inside our house, each family member existed as a separate paragraph but still had genetics and common experiences to link us. Now, using this logic, I can see my changed family as an essay of seven paragraphs: mother, father, older brother, the deceased sister, my younger twin sisters and our adopted little brother.

(4) At the same time I was seeing the world in paragraphs, I also picked up that Superman comic book. Each panel, complete with picture, dialogue and narrative, was a three-dimensional paragraph. In one panel, Superman breaks through a door. His suit is red, blue and yellow. The brown door shatters into many pieces. I look at the narrative above the picture. I cannot read the words, but I assume it tells me that "Superman is breaking down the door." Aloud, I pretend to read the words and say, "Superman is breaking down the door." Words, dialogue, also float out of Superman's mouth. Because he is breaking down the door, I assume he says, "I am breaking down the door." Once again, I pretend to read the words and say aloud, "I am breaking down the door." In this way, I learned to read.

(5) This might be an interesting story all by itself. A little Indian boy teaches himself to read at an early age and advances quickly. He reads "Grapes of Wrath" in kindergarten when other children are

struggling through "Dick and Jane." If he'd been anything but an Indian boy living on the reservation, he might have been called a prodigy. But he is an Indian boy living on the reservation and is simply an oddity. He grows into a man who often speaks of his childhood in the third-person, as if it will somehow dull the pain and make him sound more modest about his talents.

(6) A smart Indian is a dangerous person, widely feared and ridiculed by Indians and non-Indians alike. I fought with my classmates on a daily basis. They wanted me to stay quiet when the non-Indian teacher asked for answers, for volunteers, for help. We were Indian children who were expected to be stupid. Most lived up to those expectations inside the classroom but subverted them on the outside. They struggled with basic reading in school but could remember how to sing a few dozen powwow songs. They were monosyllabic in front of their non-Indian teachers but could tell complicated stories and jokes at the dinner table. They submissively ducked their heads when confronted by a non-Indian adult but would slug it out with the Indian bully who was 10 years older. As Indian children, we were expected to fail in the non-Indian world. Those who failed were ceremonially accepted by other Indians and appropriately pitied by non-Indians.

(7) I refused to fail; I was smart; I was arrogant; I was lucky. I read books late into the night, until I could barely keep my eyes open. I read books at recess, then during lunch and in the few minutes left after I had finished my classroom assignments. I read books in the car when my family traveled to powwows or basketball games. In shopping malls, I ran to the bookstores and read bits and pieces of as many books as I could. I read the books my father brought home from the pawnshops and secondhand. I read the books I borrowed from the library. I read the backs of cereal boxes. I read the newspaper. I read the bulletins posted on the walls of the school, the clinic, the tribal offices and the post office. I read junk mail. I read auto-repair manuals. I read magazines. I read anything that had words and paragraphs. I read with equal parts, joy and desperation. I loved those books, but I also knew that love had only one purpose. I was trying to save my life.

Read, Understand And Answer

3C. Answer the following questions according to the information given in the text.

1. What kind of a family background did the writer have?

   _____

2. How do we understand that the writer's father was a book lover?

   _____

3. What effect did his father's being a book lover have on the writer?

   _____

4. How did the writer as a child define a paragraph?

   _____

5. The writer visualized his family's reservation as a small paragraph. How did he visualize the United States?

   _____

6. How did the writer learn to read?
   a) By drawing Superman pictures
   b) By repeating what his brothers and sisters read to him from the book
   c) By making predictions about what was written in the comic book
   d) By imitating Superman's actions

7. What does he refer to throughout Paragraph 5?
   _____

8. How was the writer different from the other children in his age group?
   _____

9. According to the writer, why was it difficult to be a smart Indian child?
   _____

10. What solution did the writer find to save his life?
    _____

11. How would you describe the writer's tone in Paragraphs 6 and 7?
    a) Humorous
    b) Rebellious
    c) Neutral
    d) Tolerant

3D. CROSSWORD PUZZLE

Find the <u>synonyms</u> of the following words in the text and write them down.

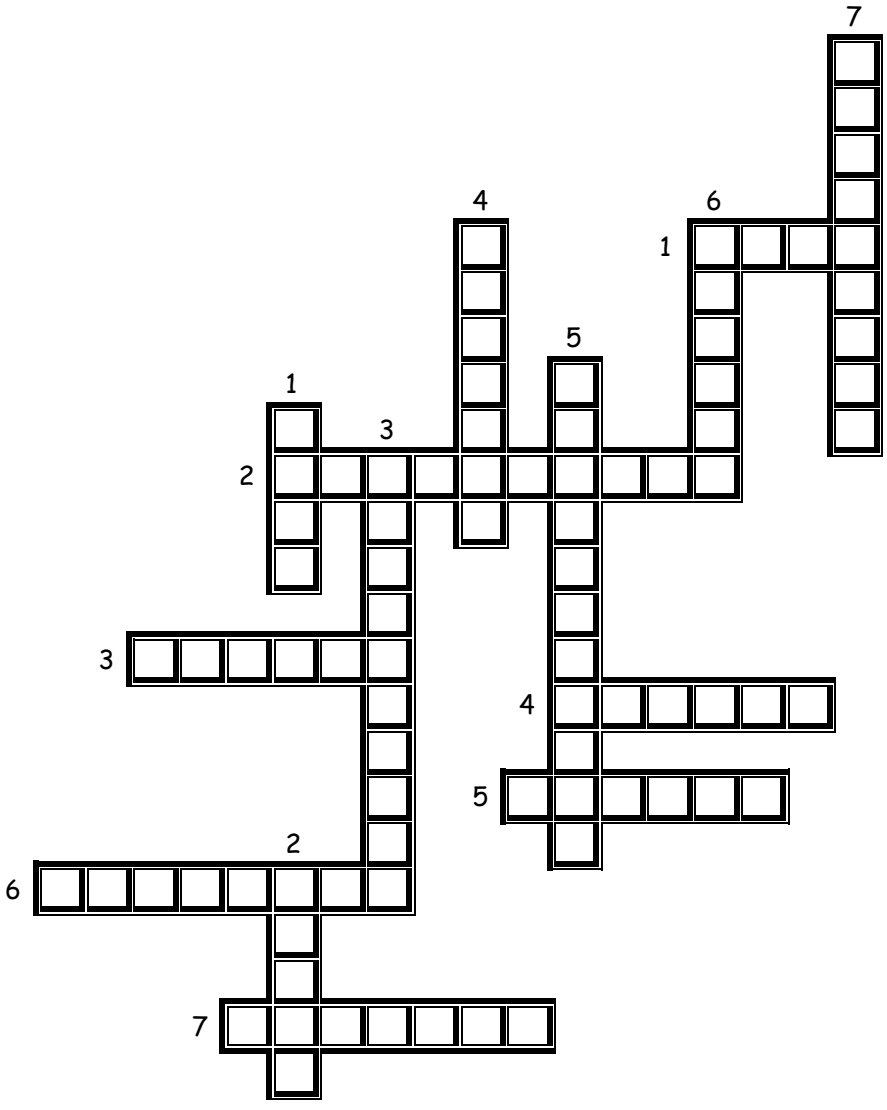
ACROSS:

1. enthusiastic (Paragraph 2)
2. homework (Paragraph 7)
3. get (Paragraph 1)
4. believe; think (Paragraph 4)
5. remember (Paragraph 1)
6. dead (Paragraph 3)
7. genius (Paragraph 5)

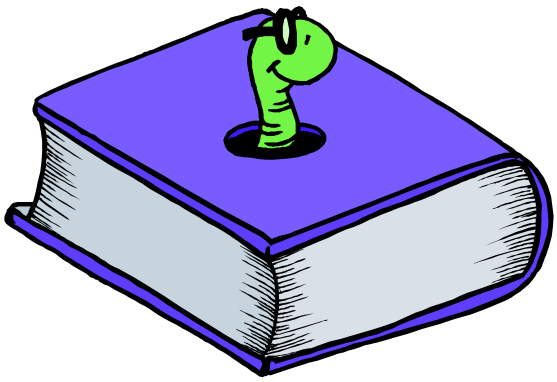
Find the <u>antonyms</u> of the following words in the text and write them down.

DOWN:

1. succeed (Paragraph 6)
2. stupid (Paragraph 6)
3. brand-new (Paragraph 7)
4. familiar (Paragraph 3)
5. straightforward (Paragraph 6)
6. refuse (Paragraph 6)
7. adulthood (Paragraph 5)



THINK AND TALK BEFORE YOU FINISH THE BOOK!



1. Read and discuss the following statements with your classmates. Choose the ones you think are the characteristics of a good reader.

A good reader....

☐ is able to understand what is written between the lines
☐ is satisfied with what a text says
☐ wants to express his ideas on a topic
☐ tries to predict what he is going to read about
☐ is able to see connections between ideas in a text
☐ tries to understand every single word in a text
☐ is alert and makes use of all kinds of clues present in a text
☐ jumps into the text without thinking about it at all
☐ never looks for proof
☐ is a logical thinker
☐ has a questioning attitude
☐ is open to new ideas
☐ gets upset when he cannot find the answer to a question directly stated in the text
☐ copies statements or even paragraphs as an answer to a question
☐ is able to identify arguments
☐ is impatient and gives up easily if he has difficulties understanding
☐ does not believe everything he reads
☐ is able to distinguish facts from opinions
☐ approaches reading with curiosity
☐ has a set of criteria to analyze ideas
☐ is careless and does not make an effort to concentrate
☐ is able to formulate his own questions on a topic

2. Are you a good reader? Why/why not?

CONSOLIDATION VOCABULARY LIST

addict	packaging
adopt	pile
advance	pity
appropriately	predict
assignment	prediction
assume	pretend
borrow	print
chat	rarely
citation	recommendation
companion	review
compete	ridicule
currently	satisfaction
define	screen
dimensional	select
distinct	separate
edition	struggle
encourage	talent
enormous	treat
equipment	unemployment
expect	voice
expectation	volunteer
extension	
fail	
fear	
fence	
glance	
hero	
illustration	
inform	
interact	
knowledge	
link	
location	
logic	
manage	
manual	
masterpiece	
mission	
obtain	

REFERENCES

SKILLS SECTIONS

http://www.ed.gov/databases/ERIC_Digests
http://www-writing.berkeley.edu/TESL-EJ
http://www.uefap.co.uk/reading
http://toread.com
http://www.englishclub.net
http://www.ohiou.edu/esl
http://homeworkhelp.about.com
http://geocities.com
http://www.EnchantedLearning.com
http://www.yahooligans.com
http://nces.ed.gov
http://www.unicef.org
http://www.newscientist.com
http://www.nationalgeographic.com/kids
http://www.timeforkids.com
http://www.4anything.com

UNIT 1

http://www.yahooligans.com
http://library.thinkquest.org
http://www.EnchantedLearning.com
http://supersurf.com
http://geographia.com
http://www.colorsofindia.com
http://www.demon.co.uk/mexuk/meet_mex
http://www.jinjapan.org/kidsweb
http:// www.kultur.gov.tr
http://www.turizm.gov.tr
http://www.mfa.gov.tr

UNIT 2

http://www.yahooligans.com
http://www.nasa.gov
http://starchild.gsfc.nasa.gov
http://www.windows.ucar.edu
http://kidsastronomy.about.com
http://www.dustbunny.com
http://www.newscientist.com
http://www.nationalgeographic.com/kids

UNIT 3

http://www.yahooligans.com
http://www.kidshealth.org
http://tqjunior.thinkquest.org
http://www.agr.state.nc.us
http://www.broccoli.com
http://www.kyrn.k12.az.us
http://collections.ic.gc.ca/potato/index.asp
http://www.potatohelp.com/
http://www.dole5aday.com/
http://www.ars.usda.gov
http:// www.kultur.gov.tr
http://www.turizm.gov.tr
http://www.mfa.gov.tr

UNIT 4

http://www.seaweed.ie/default.html
http://oceanlink.island.net
http://www.onr.navy.mil

http://seawifs.gsfc.nasa.gov
http://www.about.com
http://www.bermuda-triangle.org
http://pw2.netcom.com/~coolsong/bermuda.html
http://www.germantown.k12.il.us/html/animals1.html
http://www.smithsonianmag.si.edu
http://www.EnchantedLearning.com
http://www.websites.noaa.gov
http:// www.kultur.gov.tr
http://www.turizm.gov.tr
http://www.mfa.gov.tr

UNIT 5
http://www.nasa.gov
http://www.yahooligans.com
http://www.looklearnanddo.com
http://wings.ucdavis.edu
http://www.dofa.org/Prominent-Turkish-Women
http://school.discovery.com
http://www.smithsonianmag.si.edu
http://www.fi.edu/flight

UNIT 6
http://elwood.pionet.net
http://www.grotmusic.com
http://www.thinkquest.org
http://www.wnn.or.ip/wnn-a/index.html
http://www.yahooligans.com
http://school.discovery.com
http://www.harlem.org
http://www.wnur.org/jazz
http:// www.kultur.gov.tr
http://www.turizm.gov.tr
http://www.mfa.gov.tr

UNIT 7
http://www.yahooligans.com
http://school.discovery.com
http://www.brittanica.com
http://faculty.washington.edu
http://www.brainpop.com
http://www.brainconnection.com
http://whyfiles.org
http://www.as.ua.edu/ant

UNIT 8
http://www.colormatters.com
http://geocities.com
http://eyenet.org/aao_index.html
http://www.zipmall.com/mpm-art-colorbl.htm
http://webdesign.about.com
http://thinkquest.org
http://school.discovery.com/homework/worldbook/atozscience
http://www.insteam.com/LauraFunderburk
http://www.bway.net/~jscruggs/notice2.html
http://www.ars.usda.gov/is/kids/s4khome.htm
http:// www.kultur.gov.tr
http://www.turizm.gov.tr
http://www.mfa.gov.tr

CONSOLIDATION
http://oak.cats.ohiou.edu/~i134919/irma.html
http://www.english.uiuc.edu/maps/poets/a_f/alexie/superman.html

http://www-writing.berkeley.edu/TESL-EJ
http://www.ala.org
http://www.ed.gov/databases/ERIC_Digests

VOCABULARY
http://www-writing.berkeley.edu/TESL-EJ
http://www1.harenet.ne.jp/~waring/Wordlists/fulluwl.txt
http://www1.harenet.ne.jp/~waring/Wordlists/1000.txt
http://www1.harenet.ne.jp/~waring/Wordlists/2000.txt
http://plaza3.mbn.or.ip/~bauman/gsl.html
http://plaza3.mbn.or.ip/~bauman/uwl.html
http://www.vuw.ac.nz/lals/downloadables/headwords/txt
http://www.tesol.org/pubs/index.html
http://lexically.net