

A Preparatory Step toward Academic Reading Comprehension

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In the Name of God

This book is designed to help low intermediate students to improve their reading comprehension skills. The units are developed based on both task-based and structuralist approaches and contain a variety of activities (reading comprehension, vocabulary, and grammar) to achieve the intended goal. The task-based units are mostly adopted from the “Reading and Thinking” and “English in Focus” series developed by Widoson and adapted to the needs of low intermediate students and the goals of the course. This book is specifically designed as a pre-university English course at Shiraz University of Medical Sciences (SUMS) to prepare the students for the General English (1) course. However, it can be used by all lower intermediate students at universities or high schools or anyone interested in improving his/her reading skills.

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Unit 1

Pre-Reading Activities

A. Some Words that Work

incidence (n.)	the extent to which something happens
precisely (adv.)	exactly, accurately; carefully
inverse (adj.)	opposite in amount or position to something else
finance (v.)	to provide money for a project; fund
serving (n.)	an amount of food for one person
consumption (n.)	the act of using energy, food or materials
corroborate (v.)	to provide evidence or information that supports a statement or theory; confirm

B. Words in Context

1. He was advised to reduce his fat-----.
2. The building project will be ----- by the government.
3. Some believe that a person's wealth is often in ----- proportion to his/her happiness.
4. It's not ----- clear how the accident happened.
5. This recipe will be enough for four -----.
6. Some African countries are known for a high ----- of malaria.
7. This theory has been ----- by some new scientific evidence.

C. Discussion Questions

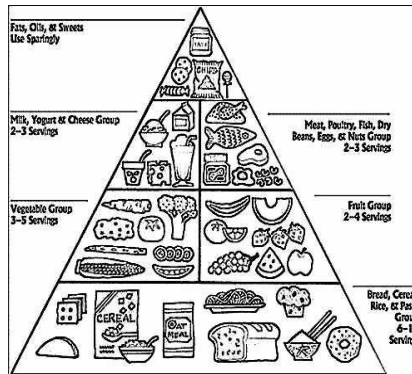
Think about the following questions. Then discuss each question in pairs or groups.

- a. Can you name some tasty foods which may boost your health?

- b. What are their benefits to our health?
- c. What do you know about the benefits of eating avocados, tomato-based foods, and fish?

Reading

- Read the following passage silently.
- Try to guess the meanings of new words.



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Five Tasty Foods to Boost Your Health (1)

Proper nutrition can be a powerful medicine. But there's more to healthful eating than broccoli and oat barn. In recent years scientists have found that some foods frequently overlooked. Even some once considered bad for us may actually help prevent everything from cancer to heart problems. While no one food is a magic bullet for good health, you could benefit by adding one of the following tasty foods to your diet.

'some' refers to

Avocados. Long viewed as greasy and fattening, the avocado is gaining respect precisely because it is an excellent source of monounsaturated fat, the heart-healthy kind that lowers bad LDL cholesterol.

'it' refers to ----

A recent Mexican study compared diets low in saturated fat. During the first diet, volunteers ate avocados as their major source of fat. Then they ate the same diet without avocados. In both diets bad LDL cholesterol levels decreased. However, the diet without avocado produced significantly lower levels of the good HDL cholesterol and higher levels of triglycerides.

The Australian Avocado Growers' Federation financed a similar study at the Dietary and Cardiology departments of the Wesley Hospital in Australia. Researchers there found that a three-week diet high in monounsaturated fat, which included between a half and 1 avocados per day, was just as effective in lowering bad LDL cholesterol as the low fat, high-complex-carbohydrate diet recommended by the American Heart Association. Still, dieters should beware, since avocados contain about 350 calories each.

Tomato Sauce. Love Italian food? Pour on the sauce, some researchers say. A six-year Harvard University study of 47,000 men found that men who ate at least ten servings a week of tomato-based food were 45 per cent less likely to get prostate cancer than those who had less than two servings a week. Men who ate four to seven servings cut their risk by 20 per cent.

Women benefit as well. An Italian study including both sexes reported that eating three or more servings of raw tomatoes per week significantly decreased the risk for stomach and rectal cancers.

Tomatoes are a unique source of lycopene, an antioxidant that may stop the cell damage that can trigger cancer. Other studies

have linked raw tomatoes and lower cancer risk, but the Harvard study found that cooked tomato sauce offered even better protection. Scientists believe that the heat bursts tomato cells so they release even more lycopene. And cooking them in oil dramatically increases the amount of lycopene the body can absorb.

'that' refers to -

'they' refers to -

Salmon. New research suggests that a once-a-week serving of salmon- containing beneficial omega-3 fatty acids- can dramatically cut your risk of coronary heart disease, something scientists have suspected for decades. That theory was corroborated last year when University of Washington researchers studied 827 Seattle-area residents, looking at their diets, and in some cases, their blood samples. The researchers found an inverse link between the risk of primary cardiac arrest and the levels of omega- 3 fatty acids in the diet and in the blood. Compared with those who ate no fish, the study participants who ate a serving a week had a 50-percent lower risk. Other university studies suggest that omega-3 fatty acids reduce the risk for cardiac arrest by strengthening our arteries, lowering blood-fat levels and preventing blood clots.

'that theory' refers to -----
opposite

That's not all. Researchers in the Netherlands, who tracked the diets of 552 men over a 25-year period, reported that a weekly serving of any fish dramatically reduced the incidence of strokes. Still other studies have linked salmon consumption to lower rates of diabetes.

Post-reading Activities

A. True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

- 1. Recently it has been found that even previously overlooked foods can be beneficial to our health.
- 2. Any kind of food is a magic bullet for good health.
- 3. Since avocados are greasy, they can be fattening.
- 4. Mono unsaturated fat lowers bad LDL cholesterol.
- 5. A diet including avocados can be as effective as a low fat, high-complex-carbohydrate diet.
- 6. Eating tomato-based food is more beneficial to men.
- 7. Eating raw tomatoes per week can prevent getting most types of cancers.
- 8. Eating salmon may increase your risk of coronary heart disease because of its fatty acids.

B. Comprehension Check Questions

Answer the following questions by choosing the correct answer from the options provided.

- 1. According to the reading selection, -----.
 - a. the foods which are frequently overlooked have been proved to be bad for us
 - b. some foods once considered bad have been proved to be beneficial to our bodies
 - c. most foods can be magic bullets for good health if prepared properly

- d. most frequently overlooked foods are quite tasty and beneficial to our bodies
- 2. Avocado is getting more popular since I -----.
 - a. is greasy and fattening
 - b. lowers the good HDL cholesterol
 - c. increases the levels of triglyceride
 - d. contains monounsaturated fat
- 3. Tomato-based foods can significantly decrease the risk of -----.
 - a. prostate cancer
 - b. stomach cancer
 - c. rectal cancer
 - d. all the cancers mentioned
- 4. The risk of primary cardiac arrest and the levels of omega-3 fatty acids in the diet containing salmon are linked in that as -----.
 - a. the former increases, the latter increases too
 - b. the former decreases, the latter decreases too
 - c. the latter increases, the former decreases
 - d. the latter decreases, the former increases
- 5. Omega-3 fatty acids reduce the risk of cardiac arrest through all of the following ways except -----.
 - a. lowering blood-fat levels
 - b. preventing blood clots
 - c. strengthening the arteries
 - d. lowering the rates of diabetes
- 6. Studies have found that even cooked tomato sauce offers better protection against cancers because ----- lycopene.
 - a. heat causes tomatoes release more
 - b. oil decreases the amount of
 - c. heat bursts the tomatoes and kills
 - d. oil decreases the absorption of

C. Language Practice

Choose the best answer for the blank spaces.

1. He eats sweets a lot. He seems to have ----- one important fact and that is his obesity (fatness).
a. considered b. overlooked c. included d. viewed
2. These ----- chips are not healthful. They're very fattening.
a. dramatic b. beneficial c. greasy d. rich
3. Lung cancer is the most ----- outcome of smoking cigarettes.
a. likely b. precise c. incidental d. inverse
4. Exposure to sunlight for a long time is closely ----- to skin cancer.
a. adjusted b. linked c. added d. introduced
5. Please wear warm clothes that provide adequate ----- against the wind and rain.
a. power b. respect c. benefit d. protection
6. This area in East Asia is a place with a high ----- of tuberculosis.
a. serving b. resident c. incidence d. volunteer
7. It's dangerous to exceed the ----- daily amount of vitamins.
a. recommended b. overlooked c. saturated d. financed
8. Nowadays researchers can the medicine taken by patients.
a. corroborate b. track c. protect d. finance
9. The new findings did not what scientists had suspected about the role of vitamin A in the treatment of some mental disorders.
a. contain b. corroborate c. respect d. recommend
b.

D. Word Formation

Use the appropriate words given in the box in the following blanks.

Noun(s)	Verb(s)	Adjective (s)	Adverb(s)
fat	fatten	fat fatty fattening	X
benefit	benefit	beneficial	X
strength	strengthen	strong	strongly
serving	serve	X	X

consumption consumer	consume	X	X
-------------------------	---------	---	---

1. The new treatment will be ----- to everyone who suffers from cancer.
2. Pour the tomato sauce over pasta and ----- it immediately.
3. Gas and oil ----- always increases in cold winter.
4. These cakes are ----- . They are likely to make you ----- .
5. These exercises will ----- your stomach muscles.

E. Vocabulary

Match the words in the left column with their synonyms in the right column.

- | | |
|--------------------|---|
| ---1. greasy | a. to have an idea that something is probably true but without having proof |
| ---2. healthful | b. very specific or unusual |
| ---3. dramatically | c. probable and expected |
| ---4. suspect | d. a person who does a job without being forced to do it |
| ---5. actually | e. good for your health |
| ---6. volunteer | f. to make a connection; connect |
| ---7. likely | g. saying that something is really true |
| ---8. link | h. to break open especially because of pressure from inside |
| ---9. unique | i. covered in a lot of oil |
| ---10. burst | j. suddenly, very greatly and often surprisingly |

Reminder: Comparative and Superlative Adjectives

a. Form and use

We use comparative adjectives to compare two (or more) things or people, and superlative adjectives to distinguish one thing or person from a number of others. This table shows the forms of comparative and superlative adjectives and the basic patterns they are used in. Two syllable adjectives ending in -y, -er, -ar, -le take “**er**” and “**est**” for comparative and superlative forms.

Adjectives with one syllable: cheap	Comparative adjectives	Superlative adjectives
	Adjective+ -er (+than)	The +adjective+ -est
	The hamburger is cheaper (than the cheeseburger); This box is heavier than that one	The hotdog is the cheapest. This the heaviest box I have ever carried.
Adjectives with two or more syllables: expensive	More+ adjective	The most + adjective
	The hamburger is more expensive (than the hotdog).	The cheeseburger is the most expensive.
Irregular adjectives: good/bad far old	better/worse further/farther older/elder	The best/worst furthest/farthest oldest/eldest

We can use **than** to introduce a clause after a comparative adjective:

- Los Angeles is **bigger than** I expected it to be.

We can use other phrases between a comparative adjective and a **than** clause:

- Burgers were **more expensive** in this restaurant **than** in the others we visited.
2. **as ... as**

We can say that two things are equal by using **as + adjective + as**:

- The hamburger is **as expensive as** the fish burger.

We make this comparison more emphatic with just:

- We really shouldn't have gone; it's **just as bad as** I predicted it would be!

3. less and least

We use less and least as the opposite of more and most. We use these words with all adjectives including one-syllable adjectives:

- I prefer to order a hamburger; it's **less expensive than** the cheeseburger.
- The hot dog is **the least expensive**.

Exercises:

- a. Complete the sentences. Each time use the comparative form of one of the words below. Use than when necessary.**

serious early interested thin reliable big

1. Reza was feeling tired last night. So he went to bed usual.
2. I'd like to have a motorcycle. The one I've got keeps breaking down.
3. Unfortunately my friend's illness was we thought at first.
4. You look Have you lost weight?
5. We want a classroom. We don't have enough space here.
6. Unfortunately, he doesn't study very hard. He's in having a good time.

- b. Complete the sentences using asas.**

1. My income is high, but yours is higher. My income isn't.....
2. You know a bit about mechanics, but I know more. You don't
.....
3. It's still hot, but it was really hotter yesterday. It isn't
.....
4. She still feels quite tired, but she felt a lot more tired yesterday. She doesn't
.....
5. I'm quite tall, but you are taller. I'm not

- c. Complete the sentences. Use a superlative (-est or most...) or a comparative (-er or more ...).**

1. We dined at..... restaurant in the town. (cheap)
2. Our restaurant was..... than all the others in the town. (cheap).
3. The United States is very large, but Canada is (large)
4. What's city in the world? (small)
5. I wasn't feeling well yesterday, but I feel a bit..... today. (good)
6. It was an awful day. It was time in my life. (bad)
7. What is leisure activity in your country? (popular)
8. Everest is mountain in the world. It is
than any other mountain. (high)
9. My friends and I had a great holiday. It was one of
holidays we've ever had. (enjoyable)
10. I prefer this sofa to the other one. It's (comfortable)

Unit 2

Pre-reading Activities

A. Some Words that Work

toss away (v.)	to throw something carelessly
cluster (v.)	to come together in a small group or groups
smear (n./v)	(a substance) to spread on a surface of sth
gobble down(v.)	to eat something very fast, in a way that people consider it rude
alternative (n.)	a thing that you can choose to do or have out of two or more possibilities
restrict (v.)	to limit the size, amount or range of something
nibble (v.)	to take small bites of something, especially food

B. Words in Context

1. In the time of earthquake, the children ----- in the corner of the room.
2. You can spread a ----- of jam on your bread.
3. When eating fruits, we usually ----- some good parts, especially the skin which contains more fibers.
4. In the North, fog has----- visibility. We can hardly see anything.
5. The fat child ----- all the sandwiches. He ate them so fast that we couldn't quite believe what he did.
6. Is there any healthful ----- to the harmful snacks such as chips?
7. If you ----- some olives per week beside the main meal, your health will boost.

C. Discussion Questions

Think about the following questions. Then discuss each question in pairs or groups.

- a. What do you know about benefits of eating oranges?
- b. What are some benefits of eating nuts?

Reading

- Read the following passage silently.
- Try to guess the meanings of new words.



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Five Tasty Foods to Boost Your Health (2)

Orange Marmalade. Oranges are a great way to get your vitamin C, which several studies have shown may reduce risk of lung, cervical and stomach cancers. But you may be tossing away some of the fruit's most healthful parts. Flavonoids cluster in the orange's peel and in the white, pithy part underneath. A smear of orange marmalade, made with jellied orange peel, on your morning toast can give you a small amount of these healthful chemicals.

A compound formed naturally in the stomach's juices during digestion is believed to be a factor in gastric cancers. This is especially true among people who eat processed rather than fresh foods. In a study at Beijing Medical University, researchers gave 32 people two grams of a powder made from dried orange peel after each meal. The powder lowered the amount of these toxic compounds by 53 per cent in those with healthy stomachs and by 62 per cent in those who already had gastric cancer.

Nuts. Gobbling them down may not be a good idea if you're watching your weight- one serving (about an ounce) can pack about 175 calories. As an alternative to other snacks, however, nuts can be a surprisingly good way to keep cholesterol at bay and lower your risk of heart attack. *control*

Researchers at Loma Linda University's Centre for Health Research near Los Angeles surveyed the eating habits of almost 26,500 Seventh-day Adventists, a religious group with little history of heart disease. The group has strict dietary rules but does not restrict consumption of nuts. The study revealed a significant link between nibbling five handfuls of nuts per week and a lower risk of coronary heart disease. *showed*

Nuts are also a great source of fibre, protein and vitamin E. Almonds, in particular, are one of the best non-dairy sources of calcium for preventing osteoporosis, or a weakening of the bones.

Post-reading Activities

A. True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

- 1. The best way to get your vitamin C is to eat oranges.
- 2. Most people eat orange's peel to receive their daily vitamin C.
- 3. Orange marmalade may give you a small amount of healthful chemicals.
- 4. In some cases, eating orange marmalade may worsen gastric problems.
- 5. The people who eat processed foods are more at the risk of gastric cancers.
- 6. Nuts are not a good alternative to other snacks since they may endanger heart functioning.
- 7. Among nuts, almonds may weaken the bones.
- 8. There is a link between eating nuts and a lower risk of cardiac problems.

B. Comprehension Check Questions

Answer the following questions by choosing the correct answer from the options provided.

- 1. According to the text, people toss away orange peel since -----.
 - a. the white part underneath is not tasty
 - b. it is not good for making orange marmalade
 - c. orange peel contains no healthful chemicals
 - d. they are unaware of its benefits
- 2. Based on this reading selection, gastric cancers may result from eating -----
-----.
 - a. orange-peel
 - b. processed foods
 - c. a powder made from dried orange peel
 - d. orange marmalade

3. The orange peel contains ----- to lower the risk of gastric cancer.
 - a. white pithy parts
 - b. a powder
 - c. flavonoids
 - d. some juices
4. It is implied from the text that eating nuts may ----- .
 - a. contribute to your weight gain
 - b. help you to lose your weight
 - c. be a good idea to watch your weight
 - d. be suggested to keep your weight balanced
5. Nuts are a great source of all the following except ----- .
 - a. calcium
 - b. protein
 - c. vitamin C
 - d. fiber

C. Language Practice

Choose the best answer for the blank spaces.

1. We sat watching TV and ----- some nuts.
 - a. surveying
 - b. digesting
 - c. clustering
 - d. nibbling
2. Vegetable soup as a/an ----- to other foods is a very effective way for getting rid of cold and flues.
 - a. alternative
 - b. meal
 - c. amount
 - d. compound
3. Don't ----- your food like that! It's considered very impolite.
 - a. process
 - b. reveal
 - c. gobble
 - d. restrict
4. The educational system has ----- the number of students per class to 15.
 - a. clustered
 - b. restricted
 - c. weakened
 - d. processed
5. Peel the skin of the fruit, but don't ----- its seeds. They're very healthful and delicious.
 - a. gobble down
 - b. look for
 - c. serve out
 - d. toss away
6. In order to decide about the patient's condition, the doctors ----- around his bed.

- a. surveyed b. clustered c. packed d. tossed

D. Word Formation

Use the appropriate words given in the box in the following blanks.

Noun(s)	Verb(s)	Adjective (s)	Adverb(s)
reduction	reduce		
weight	weigh	weighty	
significance	signify	significant	significantly
weakness	weaken	weak	weakly

- His legs felt ----- . He couldn't stand on his feet.
- In order to ----- the risk of heart disease, you should give up smoking.
- This new drug has great ----- for the treatment of the disease.
- A: "How much do you -----?"

B: "About 60 kilos."

E. Vocabulary

Match the words in the left column with their synonyms in the right column.

- | | |
|-------------------|--|
| ---1. strict | a. that must be obeyed exactly |
| ---2. reveal | b. the part of food that helps to keep a person healthy |
| ---3. significant | c. limit the size, amount or range of something |
| ---4. handful | d. connect with the heart or heart disease |
| ---5. fiber | e. relating to a soft dry white substance inside the skin of oranges |
| ---6. cardiac | f. connected with the stomach |
| ---7. gastric | g. make something known to somebody |
| ---8. pithy | h. the amount of something that can be held in one hand |

---9. restrict

i. large or important enough to have an effect or to be noticed

---10. survey

j. study and give a general impression about something

✓ **Reminder: Simple Present Tense**

1. Present tense (active form):

The simple present is the most common way of expressing present time in English. The simple present describes things that are generally true. This unit looks at the present time uses.

1.1: General truths and facts

We often use the simple present to state truths and to describe things which we feel are facts or permanent situations:

- **Things which are generally true:**

British people **drink** a lot of tea, while Americans **drink** more coffee.

- **Facts:**

Broken bones in adults **don't heal** as fast as they **do** in children.

- **Permanent situations:**

Our body contains colonies of both friendly and unfriendly microorganisms.

1.2: Repeated events/actions

We use the simple present to describe things that happen on a regular basis:

- As temperatures **fall** with the approach of winter, the soil **freezes** and **contracts**.

We often use the simple present with adverbs of frequency (**always, usually, often, sometimes, never**) and expressions of frequency (**every ..., once a ...**):

- I **usually** go away at weekends.
- Our two chefs **provide** an excellent choice of hot meals **every day**.

2. Present tense (passive form):

We make the passive form of verbs in all tenses by using **be** in the appropriate tense plus the **past participle** of the main verb:

Active form: It's a big company. It has **employs** two hundred people.

Passive form: Two hundred people **have been employed** by the company.

More examples:

- Many accidents **are caused** by careless driving.
- I'm **often invited** to parties.
- How **is** this word **pronounced**?

Exercises:

1. Now complete the sentences using the following verbs:

Cause(s) drink(s) live(s) open(s) speak(s) take(s)

1. Ali English very well.
2. I don't often tea.
3. The swimming pool at 7:30 every morning.
4. Careless driving many accidents.
5. My friends in a very small flat.
6. The Olympic Games..... place every four years.

2. Put the verbs into the correct form.

1. Ali(not /watch) TV very often.
2. What time (the restaurants/close) here?
3. I've got a laptop, but I (not/use) it much.
4. A:"Where (Ali/ come) from?" B: "He's Iranian."
5. What(you/ do) ? I'm an engineer.
6. It (take) me an hour to get to school. How long(it/ take) you?

3. Complete the sentences using one of these verbs in the correct passive form:

surround hold cause show make

1. Many accidents by dangerous driving.
2. Cheese from milk.
3. A cinema is a place where films
4. In Iran, elections for president every four years.
5. You can't see the house from the road. It by trees.

4. Write questions using the passive.

1. Ask about glass. (how / make?) -----
2. Ask about rivers. (how / form?) -----
3. Ask about gold. (what / use for?) -----

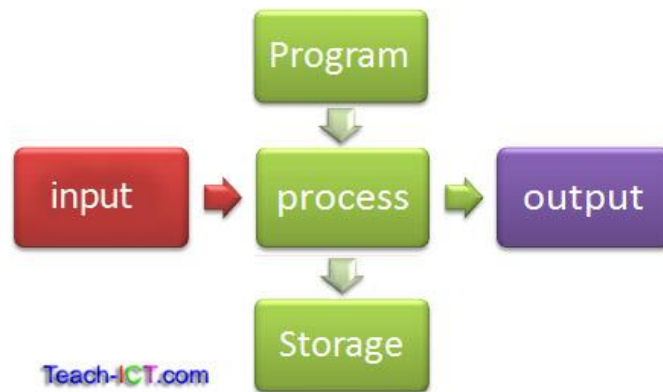
5. Put the verb into the correct form, active or passive.

1. It's a big factory. Five hundred people (employ) there.
2. Water (cover) most of the earth's surface.
3. How much of the earth's surface (cover) by water?
4. The park gates (lock) at 6.30 p.m. every evening.
5. Nurses(look) after patients in hospital.

Unit 3

A COMPUTER SYSTEM

The diagram below shows you the idea of a computer system in its most basic form.



A computer system is made up of a number of interconnected systems (subsystems). The heart of the computer is the central processor (c.p.). An input device converts information into electronic pulses and passes the program and the data into the c.p. In fact, a computer system is one that is able to take a set of inputs, process them and create a set of outputs. This is done by a combination of hardware and software.

The c.p. performs the necessary calculations and controls the input and output units. The c.p. is divided into three parts. The memory unit stores the data and the program. The control unit selects data and instructions from the memory unit, interprets them and controls the calculations. The arithmetic unit adds, subtracts and compares data.

The output device converts electronic pulses back into information and presents the information to the user.

Post-reading Activities

1) True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

- 1. The input device, central processor, and the output device make up the subsystems of a computer system.
- 2. The central processor is responsible for monitoring the input and output units.
- 3. The central processor is the heart of a computer system since it is composed of the memory, control, arithmetic, input, and output units.
- 4. The arithmetic unit performs and controls the necessary calculations.
- 5. The electronic pulses are converted into the information presented to the user by the output device.
- 6. An input device is responsible for passing the program and data into the computer screen.

1) Comprehension check questions

Answer the following questions by choosing the correct answer from the options provided.

- 1. All of the following are performed by different units of c.p. EXCEPT:
 - a. controlling the input and output units
 - b. storing the data and the program
 - c. interpreting the data from the memory unit
 - d. converting information into electronic pulses

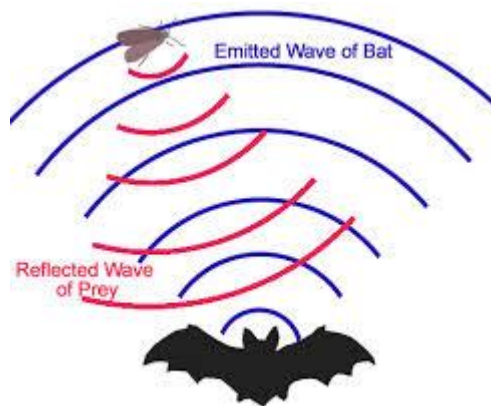
- 2. The control unit is responsible for
 - a. converting electronic pulses back into the information

- b. presenting the information to the users
 - c. interpreting the data and controlling the calculations
 - d. performing the necessary calculations
3. Which subsystem in a computer is responsible for passing the program and data to the c.p.?
- a. The memory unit
 - b. The input unit
 - c. The control unit
 - d. The output unit
4. The information is presented to the users through the
- a. output device
 - b. central processor
 - c. arithmetic unit
 - d. input unit
5. The underlined 'them' in the second paragraph refers to the
- a. three units in the c.p.
 - b. data in the control unit
 - c. data and instructions
 - d. necessary calculations

1) Language Practice

Choose the best answer for the blank spaces.

1. Please read these ----- carefully before using this computer, and save this manual for future use.
a. devices b. instructions c. processors d. pulses
2. Look at the means of ----- an image into digital computer data with a scanner or digital camera.
a. dividing b. interpreting c. converting d. performing
3. You will need to ----- how much time working with this computer takes.
a. perform b. interconnect c. calculate d. create
4. We don't have the ----- software to run this computer program. In fact, without this software we can't do anything.
a. central b. necessary c. peripheral d. secondary
5. You will need to ----- your paper in the forthcoming conference.
a. present b. make up c. create d. subtract



BATS

The bat is the only mammal that flies. Unlike birds, which are generally diurnal, bats are nocturnal and fly at night. They have very good hearing but poor eyesight. They cannot see well in the dark. They can see objects which are very near them but they cannot see distant objects. They can see moving objects but not stationary ones.

In order to avoid objects in their path, they use a type of radar system. They emit ultra-sonic sounds and are able to hear the echoes of these sounds. Their radar system enables them to know the position of the objects in their path and to avoid objects at night. They can estimate the distance of an object by using the sound echoes that bounce back to them. So, while bats may travel in total darkness, they “see” using sound. They are able to fly at great speed but are unable to walk fast on the ground.

These creatures can be found in many parts of the world. Bats live in cities, deserts, grasslands and forests. There are over one thousand two hundred bat species. Many people think bats are blind, but this is not true.

Post-reading Activities

True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

..... 1. Bats cannot avoid objects in their path.

..... 2. Bats are able to hear the echoes of the sounds they emit.

..... 3. Bats are not able to see the objects whether distant from or near to them.

-4. Concerning the place they live, bats are adaptable animals.
- 5. It's commonly known that many bat species have very good eyesight.
-6. "Estimate" in this passage means "guess".
-7. "While" in the last sentence shows a type of logical relationship which is called "consequence".
-8. We can infer from the text that bats cannot find their ways at all in total darkness.
-9. "Species" in the last line of the passage means types.

Comprehension check questions

Answer the following questions by choosing the correct answer from the options provided.

1. According to the passage, all of the following are features of the bats EXCEPT:
 - a. good hearing sense
 - b. inability to see the distant objects
 - c. using a type of radar system

- d. flying at great speed
- 2. Bats emit ultra-sonic sounds in order to -----.
 - a. see objects which are very near to them
 - b. hear the echoes of these sounds
 - c. locate the position of the objects
 - d. walk fast on the ground
- 3. Bats are adaptable mammals since -----.
 - a. they can be found in many parts of the world
 - b. there are over one thousand two hundred bat species
 - c. they are able to fly at great speed
 - d. there is a possibility for them to use ultra-sonic sounds
- 4. Which statement shows a fact regarding the bats?
 - a. Bats are blind and cannot see at all.
 - b. They avoid objects at night since they are nocturnal.
 - c. The stationary objects are generally not seen by the bats.
 - d. At night bats can walk fast on the ground.
- 5. The underlined 'them' in the second paragraph refers to -----.
 - a. objects
 - b. bats
 - c. echoes
 - d. paths

Language Practice

Choose the best answer for the blank spaces.

- 1. Leaves or flowers that open in daylight and close at night are called -----.
 - a. stationary
 - b. nocturnal
 - c. diurnal
 - d. moving
- 2/3. When we see the light of very -----2----- objects in the universe, we are actually seeing light -----3----- from them a long time ago.
 - 2. a. near
 - b. distant
 - c. great
 - d. stationary

3. a. avoided b. estimated c. emitted d. found
4. We should think of a conservation area to protect endangered -----.
a. objects b. deserts c. species d. echoes
5. The total number of the places where bats can leave has been -----
differently.
a. estimated b. emitted c. created d. bounced

Unit 4

Pre-reading Activities

1. Where does mercury contamination come from?
2. Should we be concerned about mercury in fish?

Mercury Contamination



Human industrial activities such as coal-fired electricity generation, smelting and incineration of waste, increase the amount of airborne mercury which eventually finds its way into lakes, rivers and oceans_where it is gobbled up by unsuspecting fish and other marine life.

Recently, mercury in the fish is a big problem all over the world. Although fish has always been recognized as an excellent source of protein, the risk of mercury contamination has thrown some of its nutritional benefits into question. In fact, mercury contamination of fish is a definite concern for all individuals, and particularly for women considering pregnancy, pregnant women, and children. Once this mercury gets into the marine food chain, it “bioaccumulates” in the larger predators. That’s why larger fish are generally riskier to eat than smaller ones.

Those of us who eat too much **mercury-laden fish** can suffer from a range of health maladies including reproductive troubles and nervous system disorders. The U.S. Environmental Protection Agency (EPA) reports that human fetuses that are exposed to mercury may be at an increased risk of poor performance on neurobehavioral

tasks, such as fine motor function, language skills, visual-spatial abilities and verbal memory.

Post-reading Activities

A) True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

- 1. In industrial activities, the increase of mercury contaminates water before the air.
- 2. According to the passage, mercury can only be eaten by wild fish and other sea animals.
- 3. Pregnant women and children are more at risk of mercury contamination than others.
- 4. Mercury contamination of fish is not related to the size of fish.
- 5. According to the passage, exposure to mercury may affect pregnant women's language skills.

B) Comprehension check questions

Answer the following questions by choosing the correct answer from the options provided.

- 1. All of the following are discussed in this passage Except:
 - a. industrial activities that enhance mercury contamination
 - b. where mercury contamination comes from

- c. the benefits of the human industry in the world
- d. how we can prevent mercury contamination

2. It can be inferred from the first paragraph that

- a. people throw a large number of mercury in water
- b. mercury moves from the air to water due to human industrial activities
- b. people throw the waste materials in water
- d. people throw the industrial materials in water

3. According to the passage, **mercury contamination** is an/a..... issue in our life.

- a. trivial
- b. critical
- c. satisfying
- d. preventable

4. In the last paragraph, “mercury-laden fish” means fishmercury.

- a. carrying
- b. producing
- c. suffering from
- d. reproducing

5. It can be inferred from the last paragraph that human fetuses that are exposed to mercury may not be able to....

- a. speak
- b. walk
- c. see
- d. all the above

C) Language Practice

Choose the best answer for the blank spaces.

1. The nutritionist advised him not tofood since he may take in too many calories by eating quickly.

- a. smell b. incinerate c. gobble d. consume
2. biologists are concerned about the effects of untreated sewage that is flowing into coastal waters.
- a. Reproductive b. Veteran c. Marine d. Environmental
3. The *patient* is conscious and comfortable. There has already been a/animprovement in her condition.
- a. definite b. inconstant c. unsuspecting d. inconsiderable
4. The doctor told me that my old bed could be the most likely cause of back
- a. trouble b. risk c. performance d. function
5. The fish have to be protected from whales and other
- a. generations b. fetuses c. individuals d. predators

Post-reading Activities

Sources of energy

¹The fuels of the body are carbohydrates, fats and proteins. ²**These** are taken in the diet. ³**They** are found mainly in cereal grains, vegetable oils, meat, fish, and dairy products.

⁴Carbohydrates are the principal source of energy in most diets. ⁵**They** are absorbed into the bloodstream in the form of glucose. ⁶Glucose not needed for the immediate use is converted into glycogen and stored in the liver. ⁷When the blood sugar concentration goes down, the liver reconverts some of **its** stored glycogen into glucose.

⁸Fats make up the second largest source of energy in most diets. ⁹**They** are stored in adipose tissue and round the principal internal organs. ¹⁰If excess carbohydrate is taken in, **this** can be converted into fat and stored. ¹¹The stored fat is utilized when the liver is empty of glycogen.

¹²Proteins are essential for the growth and rebuilding of tissue. ¹³**However, they** can, **in addition**, be utilized as a source of energy. ¹⁴**Indeed**, in some diets, such as the diet of the Eskimo, **they** form the main source of energy. ¹⁵Proteins are first broken down into amino acids. ¹⁶**Then they** are absorbed into the blood and pass round the body. ¹⁷Amino acids not used by the body are eventually excreted in the urine in the form of urea. ¹⁸**Therefore**, proteins, unlike carbohydrates and fats, cannot be stored for future use.

A) Based on the foregoing text decide whether the following statements are true (T) or false (F).

1. The fuels of the body are taken in the diet.
2. Carbohydrates, fats and proteins are found only in cereal grains, vegetable oils, meat, fish and dairy products.
3. Carbohydrates are found in the liver as glycogen.
4. Proteins are the main source of energy in most diets.
5. Amino acids which are not absorbed into the blood are excreted in the urine in the form of urea.
6. Carbohydrates and fats cannot be stored for future use.

B) Answer the following questions by choosing the correct answer from the options provided.

1. In general, the most important source of energy in most diets is.....
 - a. fats
 - b. carbohydrates
 - c. proteins
 - d. none of the above
2. It can be inferred from the passage thatcan be stored in the body for the future use.

- a. only carbohydrates
 - b. not only carbohydrates but also fats
 - c. either fats or proteins
 - d. carbohydrates, fats and proteins
3. Glucose is stored in the liver when..... .
- a. carbohydrates are absorbed into the bloodstream
 - b. there is only sufficient amounts of glucose for the immediate use
 - c. there is extra amount of glucose for the immediate use
 - d. carbohydrates are not absorbed into the bloodstream
4. According to the passage, proteins are.....
- a. the main source of energy for people
 - b. the second important source of energy for Eskimos
 - c. vital for human growth
 - d. not used when the liver is empty
5. In the first line, “These” refers to.....
- a. fuels
 - b. fats
 - c. carbohydrates
 - d. proteins

C) Language Practice

Choose the best answer for the blank spaces.

1. Recently, economic sanctions have had a great effect on exporting drugs.
The government must take action to lift them as soon as possible.
- a. unessential b. immediate c. internal d. unimportant

2. The number of nurses.....*to Islam* began to rise since they found it a *religion of peace*.
 a. changing b. exchanging c. converting d. belonging
3. Women more than 60 per cent of the students in Shiraz Medical School.
 a. make up b. make of c. take in d. take off
4. After a complete examination, she wasdiagnosed with a chronic heart condition.
 a. mainly b. principally c. essentially d. eventually
5. If Amino acids are not used by the body, they will naturally be the body.
 a. excreted from b. stored in c. broken down d. absorbed in

Unit 5

Pre-reading Activities

A. Some Words that Work

beverage (n.)	any type of drink except water
contribute (v.)	help to cause or bring about
savvy (adj.)	having practical knowledge or understanding of something; clever at doing something

process (v.)	to treat raw material, food, etc. in order to change it, preserve it, etc.
staple (n.)	a basic type of food that is used a lot
boost (v.)	to make something increase, or become better or more successful
whopping (adj.)	very big

B. Words in Context

1. Medical negligence was said to have ----- to her death.
2. The company made a ----- 75 million dollar loss.
3. Most of the food we buy is ----- in some way.
4. Getting that job did a lot to ----- his confidence.
5. Aid workers helped to distribute corn, milk, and other -----.
6. Coffee has the most caffeine, tea somewhat less and the cola ----- least of all.
7. He is a ----- manager. He has the ability to think about things in practical way and make reasonable decisions.

C. Discussion Questions

a. Think about the following questions. Then discuss each question in pairs or groups.

1. Should sugar be completely excluded from our daily diets? If yes why?
2. What are top sources of added sugar?

3. How can we be healthier consumers?

b. Now Scan the text and try to find the main idea.

Reading

Read the following passage silently. Try to guess the meanings of the words.



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**Do you know how much sugar is in your diet? See why
added sugar is a concern and how you can cut back.**

If you're like many people, you may be eating and drinking more sugar than ever because it's added to so many foods and beverages. It's thought that added sugar may be one of the factors in the rise in obesity and other health problems. *It's refers to-----*

Does that mean you can or should avoid all sugar? Not necessarily. Sugar occurs naturally in some healthy foods. But it's added to other foods and beverages. Desserts, sodas, energy and sports drinks are the top sources of added sugar in

most American diets. Foods high in added sugar do little more than contribute extra calories to your diet - and often are low in nutritional value. They can set the stage for potential health problems.

They refers to ---

Learn more about added sugar, including the types of added sugar, where it's most commonly found and how you can cut back on added sugar in your diet. When you know more about added sugar, you can be a savvy consumer - and maybe a healthier one, too. *reduce*

Why sugar is added to so many foods

All sugar, whether natural or processed, is a type of simple carbohydrate that your body uses for energy. Sugar occurs naturally in some unprocessed foods that are staples of a healthy diet - fruits, vegetables, milk and some grains. Sugar in various forms that is added to foods and beverages is known as added sugar. Sugar is added to processed foods because it: *basic foods*

- boosts flavour
- gives baked goods texture and colour
- helps preserve foods such as jams and jellies
- fuels fermentation, which enables bread to rise
- serves as a bulking agent in baked goods and ice cream
- balances the acidity of foods containing vinegar

Why added sugar can be a problem

Added sugar is often found in foods that also contain solid fats. Together solid fats and added sugars - called SoFAS - make up a whopping 35 per cent of total calories in a typical American diet. When you get so many calories from foods containing SoFAS, it's a sign that you aren't eating healthy foods that contain dietary fiber and essential vitamins and minerals. Chances are that you're also getting too many calories, contributing to excess weight and obesity.

Different names for added sugar

Sugar goes by many different names, depending on its source and how it was made. This can make it confusing to identify added sugar, even when you read ingredient lists and food labels. One easy way: check for ingredients ending in "ose"- that's the chemical name for many types of sugar, such as fructose. There's no natural advantage for honey, brown sugar, fruit juice concentrate, or other types of sugar over white sugar.

The final analysis

By limiting the amount of added sugar in your diet, you can cut calories without compromising on nutrition. In fact, cutting back on foods with added sugar and solid fats may make it easier to get the nutrients you need without exceeding your calorie goal. So the next time you're tempted to reach for a sugary drink, grab a glass of water instead.

Post-reading Activities

A. True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

- 1. You should avoid all sugar since sugar may lead to obesity.
- 2. Sugar is necessary to be included in our diet because it is high in nutritional value.
- 3. Sugar is a simple type of carbohydrate that provides energy for our bodies.
- 4. Sugar can be used to preserve all types of food.
- 5. 35% of total calories in American diets include both solid fats and added sugars.
- 6. How sugar is made and what source it is taken from will be used to determine its different names.
- 7. One way to identify added sugar is to check for special suffixes.

B. Comprehension Check Questions

Answer the following questions by choosing the correct answer from the options provided.

- 1. All of the followings are among top sources of added sugar except -----.
 - a. desserts b. sodas c. milk d. energy drinks
- 2. Added sugar -----.
 - b. is a complex carbohydrate
 - b. has high nutritional value
 - c. can be found both in processed and unprocessed foods
 - d. can only be found in beverages

3. Sugar is added to processed foods because it -----.
- a. makes the taste of foods better
 - b. makes some foods bulkier
 - c. helps the process of fermentation
 - d. all of the above
4. Obesity may occur as a result of -----.
- a. eating staples and minerals
 - b. consuming dietary fiber and vitamins
 - c. eating foods containing SoFAS
 - d. drinking a lot of beverages
5. We can be a healthier consumer if we -----.
- a. learn more about added sugar
 - b. consume only natural sugar
 - c. add natural sugar to processed foods
 - d. balance the acidity of foods by adding sugar
6. One easy way to identify added sugar is to check for -----.
- a. sugar source
 - b. ingredient lists
 - c. ingredient affixes
 - d. sugar chemicals
7. Cutting back on foods with added sugar -----.
- a. necessitates compromising on nutrition
 - b. facilitates getting the required nutrients
 - c. necessitates exceeding your calorie goal
 - d. facilitates tempting for sugary drink

C. Language Practice

Choose the best answer for the blank spaces.

1. You can ----- some foods for a longer time by keeping them in the refrigerator.

- a. preserve b. bake c. ferment d. contain

2. People are ----- about all the different labels on food these days as the labels are not clear enough to understand.

- a. tempted b. savvy c. limited d. confused

3. During the history and in all societies bread has been among the -----.

- a. beverages b. sodas c. staples d. textures

4. The psychological treatments did a lot to ----- his confidence.

- a. cut back b. boost c. put off d. exceed

5. Wherever we live, water is ----- to our well-being.

- a. whopping b. bulky c. essential d. typical

6. The city is not very big and the population here doesn't -----200,000.

- a. grab b. exceed c. compromise d. boost

7. In a large salad bowl, mix together the salad -----including slices of cucumber, tomato, and onion.

- a. ingredients b. minerals c. nutrients d. calories

8. Using solid fuels such as coal can ----- your health over time.

- a. consume b. exceed c. confuse d. compromise

D. Word Formation

Use the appropriate words given in the box in the following blanks.

Noun(s)	Verb(s)	Adjective (s)	Adverb(s)
avoidance	avoid		
contribution	contribute	contributory	
preservation	preserve	preserved	
Excess	exceed	excessive	excessively
concentrate concentration	concentrate		

1. Alcohol is a ----- factor in 10% of all road accidents.
2. Salt ----- the food from decaying.
3. If you drink -----, this can lead to stomach disorders.
4. Jams are made with fruit juice -----.
5. To ----- confusion, you have to use the standard system of categorization of diseases.

E. Vocabulary

Match the words in the left column with their synonyms in the right column.

- | | |
|--------------------|--|
| ---1. essential | a. more than is necessary or acceptable |
| ---2. fermentation | b. have something inside it, or as a part of it |
| ---3. contain | c. a sweet fizzy drink |
| ---4. excess | d. make something bigger, thicker or heavier |
| ---5. avoid | e. any foods or substances that are combined to make a particular dish |
| ---6. bulk | f. prevent something bad from happening |

---7. agent	g. a chemical or substance that produces an effect or a change
---8. soda	h. use something, esp. fuel, energy or time; eat or drink something
---9. consume	i. a chemical change because of the action of yeasts or bacteria
---10. ingredient	j. completely necessary

✓ **Reminder: PARTICIPLES (–ING OR –ED) as ADJECTIVES**

A. Position

We often use -ing and -ed participles as adjectives. We usually use them in the same positions as other adjectives.

- A win, even by only one goal, would be a **satisfying** result.
- I never find fast food very **satisfying**.
- Recommendations from **satisfied** customers were really useful.
- We follow up every complaint from customers **dissatisfied** with our service.

B. Use

When we use participles as adjectives, -ing participles have an active meaning and -ed participles have a passive meaning:

- I always seem to play for the losing team. (= the team which is losing)
- She found the lost ring under the sofa. (= the ring which had been lost)

We often use participles as adjectives to describe feelings or opinions. We use -ing participles to describe a feeling that something causes:

- It was a frightening film. (= it frightened us/it made us feel afraid)

We use -ed participles to describe a feeling that someone experiences:

- I felt frightened when I watched that film. (= I was frightened/I experienced fear)

Exercises:

A. Now find as many participle adjectives as possible in the reading selection in this unit and write them down in the following space.

B. Complete the sentences for each situation. Use the word in parentheses plus -ing or -ed.

- It's been raining all day. I hate this weather. (depress...)
 - This weather is
 - This weather makes me
 - It's silly to get..... because of the weather.
- Reza is going to India next month. He has never been there before. (excite....)
 - It will be an experience for him.
 - Going to new places is always
 - He is really about going to India.

C. Choose the correct form of the verb.

- Are you *interesting* / *interested* in watching TV?
- I had never expected to get the job. I was really *surprising* / *surprised* when I was offered it.
- I didn't find the situation funny. I was not *amusing* / *amused*.
- Why do you always look so *boring* / *bored*? Is your life really so *boring* / *bored*?
- He's one of the most *boring* / *bored* people I've ever met, he never stops talking and he never says anything *interesting* / *interested*.

Unit 6

Pre- reading Activities:

A. Vocabulary Preview

produce	(v.)	to grow or bring into existence naturally, make
recommendation	(n.)	advice or suggestion
fit	(v.)	to be suitable
principal	(adj.)	main, the most important

component	(n.)	part
nutrient	(n.)	a chemical or food which provides what is needed for life or growth
dehydration	(n.)	removing all the water from
drain	(v.)	to become gradually dry
beverage	(n.)	a liquid for drinking
temperate	(adj.)	a climate free from very high or very low temperature
calculate	(v.)	find out an amount especially by using numbers

B. Discussion Questions

Think about the following questions. Then discuss each question in pairs or groups.

- 1- How much drink does everybody need during the day?
- 2- How much of the body's weight is water?
- 3- What is dehydration?
- 4- What is the replacement approach to water intake?

Reading

Read the following passage silently. Try to guess the meanings of the words.

Water: How much water should you drink every day?

Water is essential to good health, yet needs vary by individual. These guidelines can help ensure you drink enough fluids. How much water

should you drink every day? It's a simple question with no easy answers. Studies have produced varying recommendations over the years, but in truth, your water needs depend on many factors, including your health, how active you are and where you live.

Although no single formula fits everyone, knowing more about your body's need for fluids will help you estimate how much water to drink each day.

Health benefits of water

Water is your body's principal chemical component and makes up about 60 percent of your body weight. Every system in your body depends on water. For example, water flushes toxins out of vital organs, carries nutrients to your cells and provides a moist environment for ear, nose and throat tissues.

Lack of water can lead to dehydration, a condition that occurs when you don't have enough water in your body to carry out normal functions. Even mild dehydration can drain your energy and make you tired.

How much water do you need?

Every day you lose water through your breath, perspiration, urine and bowel movements. For your body to function properly, you must replenish its water supply by consuming beverages and foods that contain water.

So how much water does the average, healthy adult living in a temperate climate need? In general, doctors recommend 8 or 9 cups. Here are the most common ways of calculating that amount:

approach = method

Replacement approach. The average urine output for adults is about 1.5 liters (6.3 cups) a day. You lose close to an additional liter (about 4 cups) of water a day through breathing, sweating and bowel movements. Food usually accounts for 20 percent of your total fluid intake, so if you consume 2 liters of water or other beverages a day (a little more than 8 cups) along with your normal diet, you will typically replace your lost fluids.

Eight 8-ounce glasses of water a day. Another approach to water intake is the "8 x 8 rule" ounce glasses of fluid a day (about 1.9 litres). The rule could also be stated, "drink Eight 8-ounce glasses of fluid a day," as all fluids count toward the daily total. Although the approach really isn't supported by scientific evidence, many people use this easy-to-remember rule as a guideline for how much water and other fluids to drink.

Which approach?

Dietary recommendations. The institute of medicine advises that men consume roughly 3 liters (about 13 cups) of total beverages a day and women consume 2.2 liters (about 9 cups) of total beverages a day. Even apart from the above approaches, if you drink enough fluid so that you rarely feel thirsty and produce 1.5 liters (6.3 cups) or more of colourless or slightly yellow urine a day, your fluid intake is probably adequate. If you're concerned about your fluid intake, check with your doctor or registered dietician. He or she can help you determine the amount of water that's best for you.

except for

Post-reading Activities

A. True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

- 1. The need to water intake is similar in all individuals.
- 2. One's living place is important to the individual's need to water.
- 3. More than half of the body's weight is water.
- 4. Not all the body organs need water to function.
- 5. Mild dehydration is as dangerous as severe one.
- 6. In case water is not supplied enough to the body, it will be dehydrated.
- 7. The body's need to water is not dependent on climate.
- 8. The body's required fluid can be supplied through food intake as well as water.
- 9. It is not easy to determine how much fluid our body needs through a day; only experts can recommend it.
- 10. The recommended water intake for women is more than that for men.

B. Comprehension Check Questions

Answer the following questions by choosing the correct answer from the options provided.

- 1. Water constitutes ----- of our body's weight.
 - a. most
 - b. over half

- c. all
- d. a little

2. The amount of water our body needs -----

- a. can be easily and properly estimated by every individual
- b. does not depend only on our health
- c. is not focused by experts
- d. has been variously recommended

3. If one is dehydrated, -----

- a. body organs can replenish it
- b. he/she will get bored due to lack of energy
- c. a temperate climate is necessary to help him/her
- d. he/she will sweat more

4. Water is lost through all the following ways except:

- a. urination
- b. sweating
- c. replenishment
- d. defecation

5. Water supply should be replenished in the body; otherwise, -----

- a. perspiration will be enhanced
- b. bowel movement will stop
- c. body functions will be deteriorated
- d. dehydration will be eradicated

6. "Many people use this easy-to-remember rule as a guideline ..." In which of the following statements does "AS" have the same meaning?

- a. Speaking as a teacher, I recommend the use of new methods.
- b. We have hoped to finish it today, but as it is, we probably won't finish it until tomorrow.
- c. As popular as he is, he did not succeed in winning the case.
- d. As I said before, you cannot attend the class.

7. According to this passage, -----.

- a. the amount of our body's activity influences our needed water
- b. the moisture produced by water is the factor that leads to dehydration
- c. everybody's need to water is similar
- d. water is a component in our body which is as essential as other fluids

C. Language Practice

Choose the best answer for the blank spaces.

1. The physician's ----- were followed by the patient. He soon recovered from the disease.

- a. intakes b. recommendations c. estimations d. perspirations

2. There is a growing gap between what the country produces and what it -----
-----.

- a. replenishes b. flushes c. registers d. consumes

3. The athletes ran for one hour and they were all----- after it.

a. breathing b. estimated c. sweating d. remembered

4. Boil the vegetables for 20 minutes and then ----- the water so that you can eat it; they should be consumed without water.

a. drain b. replenish c. perspire d. carry out

5. Everybody can pass these exams ----- studying hard.

a. in spite of b. through c. during d. as well as

6. Our office needs a/an ----- for the secretary who left.

a. replenishment b. intake c. replacement d. approach

7. I feel ----- ill; there is no need to see a doctor. I think if I rest, I will get better.

a. typically b. slightly c. principally d. properly

8. The amount of rainfall ----- the size of the crop in different countries.

a. produces b. perspires c. contains d. determines

9. A banana ----- most of the necessary nutrients for a 9 month old baby.

a. replenish b. excludes c. accounts for d. puts up

✓ **Reminder: Conditional Sentences**

There are three types of conditional sentences. In type 1, the action is probable to happen. Conditional sentences have two parts: the if-clauses and the main clauses. In type 1, in the if-clause the verb is in the present tense while the verb in the main clause is in the future tense.

EX: If it rains, he will get there on time.

Sometimes the conditional sentence is about a fact which is always true. In this case, in both clauses we use simple present tense.

EX: If water is heated up to 100C, it boils.

Put the verbs in the brackets in the correct form.

1. If the earth gets warmer, the ice at the North Pole ----- (melt)
2. If I see him, I ----- (give) him a lift.
3. Someone ----- (steal) your car if you leave it unlocked.
4. If you ----- (not go) away, I will call the police.
5. He will be late for the train if he ----- (not start) at once.

D. Match the words in column I with their equivalent in column II.

- | | |
|--------------|------------------------------------|
| 1- varying | a- to form an opinion of; judge |
| 2- fit | b- drink |
| 3- estimate | c- not severe |
| 4- component | d- different |
| 5- beverage | e- way, method |
| 6- amount | f- sum of money, a quantity of sth |
| 7- mild | g- enough |
| 8- lack | h- to be suitable for |

9- approach

10- adequate

i- not have

j- part

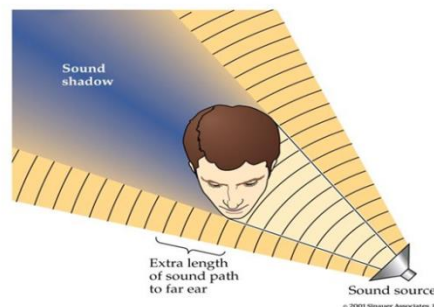
Unit 7

Sound Location



Human beings have two ears. Both ears can hear sounds. There are many sources of sound. Sounds from the same sources reach both ears. The brain can locate a sound source. It compares the sounds which arrive at each ear. People are usually good at locating sound sources. They can locate sources accurately. In certain circumstances normal people cannot locate sounds accurately.

Sound localization



Human beings can locate sound sources by comparing in the brain the sounds which arrive at each ear. Try a simple experiment. Ask a friend to sit in a chair and to close his eyes. Tell him to sit facing in one direction and not to move his head. Make a sharp sound (for example, by clicking the fingers, blowing a whistle or striking a piece of metal) about two meters away from him. Get your friend to point to the source of the sound. Now make the sound at different places around him, still about two meters away. See how good he is at locating the sound. Make sure that the room

is almost silent and do not distract the subject by other noises. Note carefully his performance with sounds in the medial plane. The result will probably show one important factor in location; it is not very accurate when the sound source is at points equidistant from the two ears.

Post-reading Activities

2) True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

- 1. Sounds should be from different sources to reach both ears.
- 2. Normal people usually cannot locate sound sources accurately.
- 3. The sound source will not be accurate if it is at equal distance from the two ears.
- 4. In the above experiment, a sharp sound should be made to distract the subject.
- 5. The subject in the experiment can locate sound sources made at different points about two meters away.

2) Comprehension check questions

Answer the following questions by choosing the correct answer from the options provided.

- 6. According to the passage, human beings locate sound sources by -----.
 - e. closing their eyes while being faced in one direction

- f. comparing the sounds which arrive at each ear in the brain
 - g. placing the sound sources in the medial plane
 - h. not moving his head and not being distracted
7. The purpose of the above experiment is to show -----.
- e. the type of a sound which can be located by humans
 - f. how far the sound source should be to be located
 - g. the people's posture when locating a sound source
 - h. when the ability to locate locating the sounds is not accurate
8. It is necessary for you and your friend to close your and his or her eyes in this experiment in order-----.
- e. not to see where the location of the sound is
 - f. not to be distracted by other noises
 - g. to locate the sound sources more accurately
 - h. to locate the sounds in the medial plane
9. Locating the sounds is not accurate when -----
- e. the sound source is in the medial plane
 - f. the sound is made at points not at equal distance from the ears
 - g. a sharp sound is made about two meters away
 - h. a subject closes his or her eyes facing in one direction

2) Language Practice

Choose the best answer for the blank spaces.

6. My friend couldn't ----- estimate the source of the sound, so I had to repeat the experiment.
b. probably b. silently c. accurately d. sharply
7. We need to help the poor in whatever ----- they are in.
b. directions b. circumstances c. experiments d. points
8. My brother ----- on his coffee to cool it down.
b. tapped b. blew c. clicked d. knocked
9. Your final grade will be partly based on your ----- on these tests.
b. performance b. location c. distraction d. distance
10. Our sense of hearing allows us to identify and ----- objects in our path.
b. strike b. blow c. locate d. click



Man and his Environment

Throughout the history man has changed his physical environment in order to improve his way of life.

With the tools of technology he has altered many physical features of the earth. He has transformed woodlands and prairies into farmland, and made lakes and reservoirs out of rivers for irrigation purposes or hydroelectric power. Man has also modified the face of the earth by draining marshes and cutting through mountains to build roads and railways.

However, man's changes to the physical environment have not always had beneficial results. Today pollution of the air and water is an increasing danger to the health of the planet. Each day thousands of tons of gases come out of the exhausts of motor vehicles; smoke from factories pollutes the air of the industrialized areas of countryside. The air in cities is becoming increasingly unhealthy.



The pollution of water is equally harmful. In the sea, pollution from oil is increasing and is killing enormous numbers of algae, fish and birds. The whole ecological balance of the sea is being changed. The same problem exists in rivers. Industrial wastes have already made many rivers lifeless.

Conservationists believe that it is now necessary for man to limit the growth of technology in order to survive on earth.

Post-reading Activities

3) True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

- 1. Man's changes to the physical environment have improved his way of life.
- 2. Cutting through mountains to build roads and railways is an example of man's attempt to improve his way of life.
- 3. The air in the countryside is becoming unhealthy mainly because of the exhausts produced by cars.
- 4. The pollution of water is more harmful than air pollution.
- 5. Pollution has changed the ecological balance of both seas and rivers.

..... 6. The job of a conservationist is to limit the growth of technology.

3) Comprehension check questions

Answer the following questions by choosing the correct answer from the options provided.

1. The reason why man has changed his physical environment is to -----.

- a. endanger the health of the planet
- b. make the rivers lifeless
- c. change the ecological balance of the sea

improve his way of life

2. The ecological balance of the sea has been changed in all of the following ways

EXCEPT:

- a. pollution from the oil
- b. wastes from industries
- c. enormous numbers of algae
- d. the growth of technology

3. Today pollution is an important problem since -----

- a. the physical environment has not been changed
- b. it is a real threat to the health of the planet
- c. woodlands and prairies have been transformed
- d. it limits the growth of technology

4. “The same problem” in paragraph 4 line 3 refers to -----.

- a. changes in the ecological balance

- b. the large numbers of fish
- c. the pollution of water
- d. the pollution from oil

5. ----- shows that man's changes to the physical environment are not always beneficial.

- e. Making reservoirs for irrigation
- f. Building industrialized areas in the countryside
- g. Cutting mountains to build roads
- h. Changing prairies into farmland

3) Language Practice

Choose the best answer for the blank spaces.

1. We haven't ----- our plans despite the poor weather.
 a. polluted b. altered c. built d. improved
2. Many people are concerned about genetically- ----- foods and their effects on our health.
 a. transformed b. irrigated c. drained d. modified
3. This country has a/an----- variety of wild life.
 a. enormous b. lifeless c. harmful d. physical
4. It has been proved that sunshine is ----- to plants.
 a. harmful b. beneficial c. unhealthy d. equal
5. The air was dirty with the ----- fumes of thousands of cars.
 a. factory b. industry c. exhaust d. vehicle

Unit 8

Pre-reading Activities

A. Some Words that Work

severe(adj.) extremely bad or serious

temporary(adj.)	lasting for a short time; not permanent
partly(adv.)	to some extent; not completely
suspect(v.)	to have an idea that sth is probably true or likely to happen, especially sth bad, but without having proof
willing(adj.)	ready or pleased to help
throb(v.)	(of a part of the body) to feel a series of regular painful movements
suppress(v.)	to prevent sth from growing, developing, or continuing

B. Words in Context

1. The drug will give you a/an ----- relief from the pain.
2. The latest research proves what scientists have long -----.
3. In the most ----- cases, the disease can lead to blindness.
4. Take this medicine to ----- your cough.
5. The project failed ----- because of lack of money.
6. My feet were ----- after the long walk to my home.
7. People are ----- to pay more for better services.

C. Discussion Questions

- a. Think about the following questions. Then discuss each question in pairs or groups.**

1. Have you ever had a headache?

2. How often does it take place?
3. What is it like?
4. Have you ever tried any methods of treatment?
5. If yes, were they effective?

b. Now skim through the following reading selection and try to find the main idea.

-----.

c. Scan the text and try to answer the following questions.

1. What is migraine headache? What is it like?
2. What are some underlying causes?
3. Are there any methods of treatment for it?

Reading

Read the following passage silently. Try to guess the meanings of the words.

What Doctors Are Doing About Headaches, and What You Can Do



Today we tell about headaches, the pain that strikes almost everyone at some time.

Have you had a headache recently? If your answer is yes, you are like many millions of people worldwide who experience pain in the head. The pain can be temporary, mild and cured by a simple painkiller like aspirin. Or it can be severe.

*'severe' is the
opposite of
mild*

The National Headache Foundation says more than forty five million people in the United States suffer chronic headaches. Such a headache causes severe pain that goes away but returns later.

*continuing for
a long time*

Some headaches may prove difficult and require time to treat. But many experts today are working toward cures or major help for chronic headaches.

The US Headache Consortium is a group with seven member organizations. They are attempting to improve treatment of one kind of headache -- the migraine. Some people experience this kind of pain as often as two weeks every

month. The National Headache Foundation says about seventy percent of migraine sufferers are women.

Some people describe the pain as throbbing, causing pressure in the head. Others compare it to someone driving a sharp object into the head. Migraine headaches cause Americans to miss at least one hundred fifty million workdays each year. A migraine can be mild. But it also can be so severe that a person cannot live a normal life.

One migraine sufferer lives in Ellicott City, Maryland. Video producer Curtis Croley had head pain as a child. He does not know what kind of headaches they were. But when he suffered severe headaches as an adult, doctors identified the problem as migraine.

Today, Mister Croley says months can pass without a headache. But then he will have three migraines within a month. If he takes the medicine his doctor ordered early in his headache, it controls the pain. If not, the pain in his head becomes extremely bad. Sometimes he has had to be treated with a combination of drugs in a hospital.

It refers to----

Some people take medicine every day to prevent or ease migraine headaches. Others use medicine to control pain already developed. Doctors treating migraine sufferers often order medicines from a group of drugs known as triptans.

Most migraines react at least partly to existing medicine. And most people can use existing medicine without experiencing bad effects. Doctors sometimes use caffeine to treat migraine headaches. Interestingly, caffeine also can cause some migraines.

Medical experts have long recognized the work of the Mayo Clinic in Rochester, Minnesota. The Mayo Clinic says several foods are suspected of causing migraines. Cheese and alcoholic drinks are among them. Food additives like salt and monosodium glutamate also are suspected causes.

The Mayo Clinic tells patients to avoid strong smells that have seemingly started migraines in the past. Some people react badly to products like perfume, even if they have a pleasant smell.

The clinic's experts say aerobic exercise can help migraine sufferers. Aerobic exercise increases a person's heart rate. It can include walking, swimming or riding a bicycle. But a sudden start to hard exercise can cause headaches.

The experts advise that people should plan to exercise, eat and sleep at the same times each day.

The Mayo Clinic has advice about estrogen for women who suffer from migraines. The female body makes estrogen.

Drugs like birth control pills contain a version of this chemical.

Such medicines may produce headaches or cause them to worsen, the clinic says. The same is true for estrogen replacement drugs for women. Doctors sometimes order estrogen replacement for women who are no longer able to have children. *not any more in time*

The clinic also says hypnotherapy might help suppress headaches. It says the method could reduce the number and severity of a patient's headaches. In hypnotherapy, willing people are placed in a condition that lets them receive suggestions. They look like they are sleeping. The suggestions they receive may be able to direct their whole mental energy against pain.

The Mayo Clinic says the hypnotizer can never control the person under hypnosis. It also says the hypnotized person will remember what happened during the treatment.

Post-reading Activities

A. True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

-1. Most headaches are proved to be incurable.
-2. People with migraine headache usually experience it every two weeks.
-3. People may have different interpretations about pain.

-4. Migraine may interrupt a person's normal life activities.
-5. Most migraines react completely to the available medicine.
-6. Following a regular exercise program can be helpful to migraine sufferers.

B. Comprehension Check Questions

Choose the correct options for the following sentences.

1. Research shows that many American people suffer from headaches that -----
-----.

 - a. are temporary and may not return again
 - b. are mild and need no difficult treatment
 - c. last for a longer time and involve difficult treatment modalities
 - d. are extremely severe and incurable

2. In the case of migraine headaches, ----- are especially vulnerable.

 - a. children b. elderly c. males d. females

3. The already existing medicine -----.

 - a. is to some extent proved to be helpful to migraine sufferers
 - b. results in bad effects in migraine sufferers
 - c. can surely be used to treat all types of migraine
 - d. can both prevent and control the migraine headaches

4. All the followings can be among the factors which bring about migraine except for -----.

 - a. perfumes b. caffeine c. salt d. hypnotherapy

5. Hypnotherapy could -----.

 - a. help the severity of a sufferers' headaches
 - b. increase the heart rate of the patients

- c. ease the migraine headaches in patients
 - d. reduce the patients' mental energy to ease the pain
6. A sudden hard exercise is -----.
- a. beneficial for treatment of migraine
 - b. harmful for migraine sufferers
 - c. helpful for curing migraine headaches
 - d. pleasant to migraine sufferers

C. Language Practice

Choose the best answer for the blank spaces.

1. First we have to ----- the basic causes of headaches and then find a proper treatment.
- a. identify b. suffer c. strike d. avoid
2. It is very ----- to walk or cycle in a place where there is no traffic.
- a. harmful b. temporary c. recent d. pleasant
3. The milkshakes come in chocolate, strawberry, and vanilla, or any -----
----- of these.
- a. pressure b. treatments c. combination d. additives
4. A new ----- of word processing program should be available soon.
- a. version b. suggestion c. object d. cure
5. She has a ----- type of flu. She can use simple treatments at home.
- a. chronic b. severe c. sharp d. mild

D. Word Formation

Use the appropriate words given in the box in the following blanks.

Noun(s)	Verb(s)	Adjective (s)	Adverb(s)
treatment	treat	treatable	
identification	identify	identifiable	
addition additive	add	additional	additionally
	worsen	worse	

1. The areas of the problem were not ----- . We couldn't recognize them.
2. Shall I ----- your name to the new list?
3. He's receiving available medical ----- for his illness.
4. His health is steadily ----- . We are worried about his condition.

✓ **Reminder: Modal Auxiliaries (Can & Could)**

Can:

Use can

Examples

To say sth is possible or allowed.	✓ A migraine can be mild or severe. ✓ Aerobic exercise can help migraine sufferers.
To say sb has the ability to do sth.	✓ Some people can control the pain by using medicine.

+/-	I/You/We/They	can/can't(cannot)	simple verb	...
+/-	He/She/It	can/can't(cannot)	simple verb	...
?	Can/Can't	I/you/we/they	simple verb	...?
?	Can/Can't	he/she/it	simple verb	...?

Could:

Use could

Examples

To say that sb had the general ability or permission to do sth.	✓ My grandfather could take some especial medicine to prevent migraine headaches.
To say sth is possible now or in future(esp. to make suggestions)	✓ The research center has found that this medicine could largely ease the patient's headache.

+/-	I/You/We/They	could/couldn't	simple verb	...
+/-	He/She/It	could/couldn't	simple verb	...
?	Could/couldn't	I/you/we/they	simple verb	...?
?	Could/ couldn't	he/she/it	simple verb	...?

Exercises:

a. Complete the sentences using can or could in their positive or negative forms. Justify your answers.

1. My father has travelled a lot. He ----- speak five languages.
2. I looked for the book in the library, but I ----- find it.
3. Can you speak louder? I ----- hear you.
4. The weather is nice now, but it ----- change later.
5. I can see you on Saturday, but I ----- meet you on Friday.
6. Maybe she ----- stay with her mother when she goes to Tehran.

b. Now scan the text for more examples of can and could if any. What usages do they serve in the text?

-----.

c. Fill in the blanks using *could, can, couldn't, can't*.

1. In his first year as a teacher, he almost lost his self-confidence because he----
----- teach anything.
2. Mary tried hard to persuade her friend, but she ----- change her
mind.
3. Bijan says he ----- speak four languages but he -----
communicate with the tourists yesterday, because he was a bit nervous.
4. Mary and her mother ----- open the door because it was locked.
5. I ----- finally talk to John after I tried to reach him on the phone for
hours.
6. Mike was the only one who ----- understand me, but now he -----.
7. Before the nuclear disaster in the 1980's, people ----- grow
everything in their gardens.
8. No matter how hard I try, I ----- see the 3D picture Susan says
she -----.
9. The teams ----- choose their opponents. That will be decided by the
jury.

Unit 9

Pre-reading Activities

A. Vocabulary Preview

expert	(n)	a specialist in a field
remedy	(n.)	treatment
confirm	(v.)	to say sth is true
carry out	(v.)	do
recommend	(v.)	suggest
break down	(n.)	the act of breaking into parts
evaluate	(v.)	to form an opinion of the amount, quality, etc. of sth
ethnic	(adj.)	racial
antibacterial	(adj.)	related to sth acting against bacteria
heal	(v.)	treat
inhibit	(v.)	prevent
sort	(n.)	kind

B. Skim through the passage and answer the following questions.

1. Do experts believe that traditional remedies are helpful?
2. Which herbal remedies are mentioned in the passage?
3. Which diseases have been proved to be healed by herbal remedies?

Reading

Traditional Remedies

Scientific tests on a range of traditional remedies have shown *cures* they have "real benefits", researchers say.

Experts from King's College London said the treatments from

around the world had properties which may help treat conditions *known* such as diabetes and cancer.

The remedies included India's curry leaf tree, reputed to treat *tests* diabetes.

However complementary medicine experts said full clinical trials would have to be carried out to confirm the treatments' benefits. They suggest their findings will help local people identify which plants to recommend and could lead to potential new compounds for pharmacists to study.

Wound treatments

One of the plants examined was the curry-leaf tree (*Murraya koenigii*) from India, which is reputed to have potential benefits in treating diabetes. The researchers found extracts from the curry-leaf tree appeared to restrict the action of a digestive enzyme called pancreatic alpha-amylase which is involved in the breakdown of dietary starch to glucose.

A patient with diabetes does not produce enough insulin to cope with rapid rises in blood glucose levels. Slowing the rate of starch breakdown, by blocking alpha-amylase, can lead to a more even trickle of glucose into the bloodstream from the intestine.

The researchers are now looking at which compound in the curry-leaf tree has this effect. They say that once it has been identified, it should be possible to evaluate if it could be better than the existing antidiabetic drugs.

King's College researchers, working with experts from the Kwame Nkrumah University of Science and Technology, Ghana, also looked at plants used by the Ashanti ethnic group. They interviewed traditional healers to identify plants that are used to help wound healing, and tested the plants to see whether there was scientific justification for this use. They found that an extract of the *Commelina diffusa*, or climbing dayflower, had both antibacterial and antifungal activity.

This would suggest it could help wounds heal and stop them getting infected.

In a third study, researchers from King's College studied Thai and Chinese plants used as traditional remedies in the treatment of cancer.

The researchers carried out lab tests to see how effective they were in inhibiting the growth of cancer cells. They saw "Promising activity" was seen against lung cancer cells, particularly in tests of the Thai plant *Ammannia baccifera*, an aquatic weed and the Chinese plants *Illucium verum*, star anise.

'No surprise'

Edzard Ernst, professor of complementary medicine at the Peninsula Medical School in Exeter, told BBC News Online: "This research is very interesting, very promising. We need much more research of this sort.

"More and more research of this kind is coming out. It is no surprise to those who work in first field." But he added: "This type of study can only be the first step in a line of research and at the end of this line, it's necessary to have good clinical proof that this works."

A. True/False Questions

Put "T" for true and "F" for false statements. Justify your answers.

- 1. According to experts, diabetes and cancer are treated by herbal remedies.
- 2. Indians believe that curry leaves can treat diabetes.
- 3. Complementary medicine experts completely reject the Indian's idea about the healing effect of curry leaves on cancer cells.

- 4. The researchers who work on the effect of herbs on diseases are not hopeful about the result of their tests.
- 5. Alpha- amylase's activity has proved to be restricted in labs.
- 6. According to this passage, insulin helps the body to deal with the increase in the blood glucose.
- 7. If the activity of Alpha-amylase is blocked, the rise in glucose will be slower in the blood stream.
- 8. The existing antibiotic drugs have been proved to be less effective than the plants used by ethnic groups.
- 9. Scientists have found some effects of Thai and Chinese plants on cancer cells.
- 10. Scientists have not yet reached the complete clinical proof of the effect of herbal remedies.

B. Comprehension Check Questions

Choose a, b, c or d which best completes each item.

1. According to this passage, the effect of herbal remedies is by the writer.
a. rejected b. criticized c. partly approved d. entirely confirmed

2. Researchers are..... about the result of their studies on the potential of herbal remedies in treatment of diseases.
a. pessimistic
b. neutral
c. optimistic
d. indifferent

3. The researchers' studies on the potential benefit of curry-leaf tree in treating diabetes
- a. came to no specific result
 - b. seemingly approved the effect
 - c. found no effect
 - d. were completely promising
4. It in line 2 paragraph 5 refers to
- a. curry
 - b. leaf
 - c. tree
 - d. compound
5. "This type of study" in the last paragraph refers to the studies on
- a. antibacterial effect of drugs
 - b. Thai and Chinese plants
 - c. Ghanaian wound healing agent
 - d. all of the above
6. Curry leaf tree and Ghanaian wound healing agents
- a. are reported to be promising agents
 - b. need more studies to be conducted to show their effect
 - c. are effective only locally rather than for people living in other areas
 - d. are reputed globally by many experts to be effective

7. Alpha amylase
- a. decreases the rate of starch breakdown
 - b. blocks the activity of insulin
 - c. is responsible for starch breakdown
 - d. acts similar to insulin

C. Choose a, b, c or d which best completes each item.

1. The results of his activities are the..... of his great ability; he is really expert in his field.
- a. proof b. breakdown c. component d. remedy
2. He was chosen as the best and most..... actor in the movie.
- a. existing b. digestive c. complementary d. promising
3. A lack of oxygen may brain development in the unborn child.
- a. evaluate b. inhibit c. climb d. recommend
4. It takes a long time for the wounds to; try to be patient.
- a. spread b. heal c. work d. burn
5. People here are from various races and nations; actually, their community consists of different groups.
- a. potential b. dietary c. aquatic d. ethnic
6. Many studies are on the causes of AIDS, but they have not come to a conclusion yet.

- a. justified b. carried out c. rejected d. carried away

7. Vanilla is used in this cake to make it delicious.

- a. stream b. sort c. trickle d. extract

8. Our research attempts to the effectiveness of different drugs.

- a. evaluate b. inhibit c. extract d. benefit

9. Time is a great.....; it helps people cope with their sadness.

- a. breakdown b. healer c. rate d. expert

10. There are a number of possible to this problem.

- a. compounds b. remedies c. potentials d. healers

D. Word Formation

Fill in the blanks in the table and then use the words to fill in the following sentences.

noun	verb	adj	adv
remedy			
	treat		
	restrict		
production			
		healing	
			effectively

1. The students have a lot of problems; they need education.
2. There are various available for cancer patients.
3. Your talk was very; everybody liked it.
4. Iran is one of the..... of oil in the world.
5. Modern medicine is investigating the..... effects of herbs.
6. You should the number of students in each class to 20.

Unit 10

A. Discussion Questions

1. **How many elements do animals and plants have?**
2. From which sources are these elements obtained?
3. Do you know what forms proteins, fats and carbohydrates?

B. Reading

Read the passage and complete the statements.

The Interaction of Plants and Animals

Plants and animals interact with each other. Animals depend on plants for their food. In the same way, plants depend on animals. All plants and animals must have four elements: carbon, nitrogen, hydrogen and oxygen. These elements are combined to form proteins, fats and carbohydrates in the animal or plant. They are then used for building cells and tissues or as a source of energy. Oxygen is obtained from air and water. Water is also a source of hydrogen for living things. Carbon and nitrogen come from the air, sea or soil.

The use of these four elements by plants and animals involves complex cycles. The cycles demonstrate the dependence of animals and plants on each other.

In the nitrogen cycle nitrates are absorbed from the soil by plants. The nitrates are used to make proteins. Plants are eaten by animals. When plants and animals die, bacteria in the soil cause decomposition. As the dead animal or plant is decomposed, the tissues are converted to nitrates. In this way, the nitrates are returned to the soil.

A. True/False Items

Based on the foregoing text decide whether the following statements are true (T) or false (F).

1. Proteins, fats and carbohydrates make up carbon and nitrogen.
2. Plants and animals depend on each other.
3. Living things obtain the hydrogen from the soil.
4. Nitrates are used to make fats and carbohydrates.
5. Bacteria cause the dead plants and animals to decompose.

B. Choose a, b, c, or d which best completes each item.

1. According to the text, -----.
 - a. plants and animals must have three components
 - b. plants and animals are interdependent
 - c. plants do not have effects on animals
 - d. animals differ from plants in their elements
2. The conversion of the plants' and animals' tissues to nitrates occurs -----.
 - a. after the death of plants or animals
 - b. before the bacteria cause decomposition
 - c. through an unknown process
 - d. before the death of animals
3. Proteins, fats and carbohydrates are used for all of the followings EXCEPT:
-----.

- a. building tissues
- b. making cells
- c. as a source for decomposition
- d. as a source of food

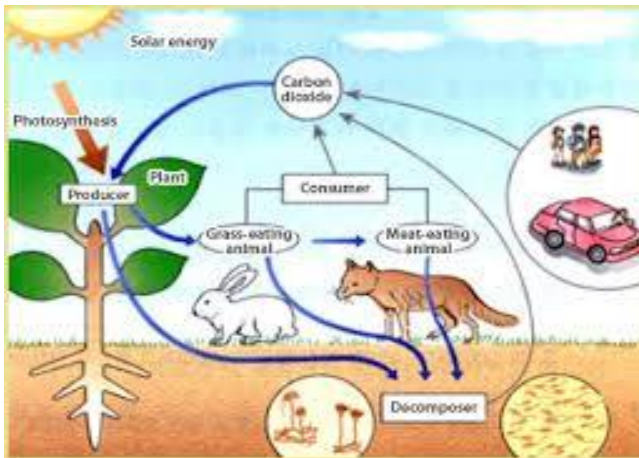
4. It is stated in the text that -----.

- a. hydrogen can be obtained from the soil
- a. the soil and sea provide the required oxygen
- c. both hydrogen and oxygen can be taken from water
- d. carbon and nitrogen is provided from two sources

5. It is implied from the text that -----.

- a. the cycles show that plants and animals are independent
- b. simple cycles are included in the use of different elements by plants
- c. animals can absorb nitrates directly from the soil
- d. the use of carbon, nitrogen, hydrogen and oxygen involves complex cycles

C. Reading



Read the passage and complete the statements.

Ecosystems

An ecosystem consists of a number of living organisms and their physical environments. The living organisms and their non-living environment are interrelated and interact with each other. There is a flow of energy from the non-

living organisms to the living organisms. There are a number of materials cycles—that is exchanges of materials between living and non-living parts. When we study an ecosystem, we can therefore analyze its components (the structure of the ecosystem) and its processes (the functions in the ecosystem). There are six major components in an ecosystem.

1. Inorganic substances such as carbon, nitrogen, oxygen, water, carbon dioxide, etc.
2. Organic compounds such as proteins, carbohydrates, etc. The organic and inorganic substances in an ecosystem partly the work of the whole system.
3. Climate and other physical factors: Temperature, wind, light and rain are important physical factors. They affect all processes in an ecosystem.
4. Producers: Only green plants are able to manufacture food from simple inorganic substances. In the process known as photosynthesis green plants in the light of the sun combine carbon dioxide and water and produce carbohydrates.
5. Consumers: Consumers obtain their energy from green plants. Herbivores, such as cows and sheep, eat green plants but do not eat other animals. They are called primary consumers. Carnivores, such as dogs and cats, feed on other animals and are called secondary consumers.
6. Decomposers: These microorganisms, such as bacteria and fungi, break down the tissues and excretions of other organisms. Bacteria break down the flesh of dead animals. Fungi break down plant materials. They enable chemical substances to return to the physical environment.

D. Based on the foregoing text decide whether the following statements are true (T) or false (F).

1. Light and temperature are among important physical factors.
2. Carbohydrates and proteins are examples of inorganic substances.
3. Dogs and cats are considered as secondary consumers.
4. Fungi and bacteria can break down the waste matters of other organisms.

5. There is no important interaction between living organisms and their non-living environment.

E. Answer the following questions by choosing the correct answer from the options provided.

1. According to the text, -----.
 - a. secondary consumers eat green plants
 - b. sheep and cows are among carnivores
 - c. herbivores do not feed on other animals
 - d. carnivores are primary consumers
2. It can be inferred from the passage that -----.
 - a. physical substances can return to chemical environments
 - b. fungi can decompose the flesh of dead animals
 - c. bacteria can break down plant materials
 - d. fungi help chemical substances return to the physical environment
3. ----- were considered as exchanges of materials between living and non-living organisms.
 - a. Materials cycles
 - b. Components of an ecosystem
 - c. Flows of energy from the living to non-living organisms
 - d. Flows of energy from the non-living to living parts
4. In an ecosystem, ----- control the functioning of the whole system.
 - a. organic and inorganic substances
 - b. microorganisms such as fungi and bacteria
 - c. herbivores and carnivores
 - d. climate and other physical factors
5. It can be inferred from the passage that -----.

- a. animals can produce food from simple inorganic substances
- b. the sun is an important element in the process of photosynthesis
- c. organic substances lead to the production of food by green plants
- d. animals can combine water and carbon dioxide to produce carbohydrates

F. Language Practice

Choose the best answer for the blank spaces.

1. If you put a sponge in water, it ----- water until the sponge is completely wet.
 a. combines b. absorbs c. decomposes d. involves
2. She ----- children appropriately; she can communicate well with them and they respond to her.
 a. depends on b. converts from c. interacts with d. differs from
3. As he returned home after three years, there was a great ----- of love between him and his parents.
 a. exchange b. excretion c. decomposition d. consumption
4. Through -----, waste products of metabolism and other non-useful materials are removed from an organism.
 a. combination b. demonstration c. regulation d. excretion
5. Children need to be educated by teachers and parents on how the factors of faith, happiness and hope are -----.
 a. recorded b. interrelated c. returned d. enabled

Unit 11

Pre-reading Activities

A. Vocabulary Preview

connection	(n.)	link, the act or state of being connected
epidemic	(n.)	sudden rapid increase of a disease in a community
identify	(v.)	to find or discover, recognize
cope with	(v.)	deal with
author	(n.)	writer
psychiatrist	(n.)	a doctor who studies or treats mental illnesses
awareness	(n.)	knowing sth, knowing that sth exists
regulate	(v.)	to control or direct by a rule
key	(adj.)	most important
confusion	(n.)	A state of not being certain about what's happening, what you should do, what sth means

B. Read the following passage and answer the following questions.

1. What is dementia?
2. Is there a connection between alcoholism and dementia?
3. How does alcohol affect the brain?
4. Does dementia happen only in ages over 50?
5. Does alcohol bring about Alzheimer's?
6. What is Korsakoff's syndrome?

Reading

The adverse effects of drinking alcohol

Heavy drinking could be the cause of one in four cases of dementia, a serious brain condition which leads to a loss of memory. Doctors have identified a connection

between drinking alcohol and dementia in between 10 and 24% of the 700,000 people in the UK who have the disease. They say that binge drinking and increased use of alcohol will probably produce an epidemic of alcohol-related brain damage in the future, with drinkers beginning to experience serious memory problems in their 40s.

1. Women who drink a lot are in much greater danger than men of suffering problems because their bodies are less able to cope with the effects of alcohol.
2. It is well-known that alcohol kills brain cells, but an article in the journal *Alcohol and Alcoholism* says that the problem may be much more common than people think. The increase in the amounts that people drink means "it is probable that the amount of alcohol-related brain damage is greater than we thought and may rise in future generations", say the authors of the article.
3. Dr Jane Marshall! one of the co-authors of the report and a consultant psychiatrist at a hospital in London, said: "People think that dementia is something that happens to people over the age of 65. But a lot of those under 65 have got memory problems and a large number of the problems in that group are related to alcohol. Alcohol-related brain damage may be the cause of 10-24% of all cases of all forms of dementia. We know that alcohol is associated with serious problems. It reduces memory and general awareness," she added.
4. These findings follow research in America last year which showed that drinking more than two drinks a day can cause Alzheimer's to begin by up to 4.8 years earlier. Two thirds of all the 700,000 people in the UK with dementia have Alzheimer's, "Drink is more likely to cause dementia in women than men because women have more body water and

less body fat, which means that they process alcohol differently and are in more danger as a result," said Marshall!

5. Women who drink the same as men are in more danger of loss of memory for that reason, in the same way that they are in more danger of getting alcohol-related liver disease. However, if a heavy drinker of either sex stops drinking alcohol, their brain cells will regenerate and there will be an improvement in key areas of brain activity.
6. Gayle Willis of the Alzheimer's Society said: "We know that the use of alcohol over a long period of time can lead to memory problems. Only one third of the people with Alzheimer's are actually diagnosed with the disease but the problem of under-diagnosis of people with alcohol-related memory loss could be even greater." But the society believes that only a few cases of dementia, perhaps as few as 3%, are directly caused by alcohol.
7. Marshall and her colleagues studied Korsakoff's syndrome, a rare form of dementia linked to alcohol use, which leads to short-term memory loss, changes in behaviour and confusion. It is becoming more and more common in Scotland and the Netherlands, especially among poorer people with poor diets. One study of people suffering from the condition found that half of them were under the age of 50.
8. Professor Ian Gilmore, president of the Royal College of Physicians, said: "It is a real worry that some clinical staff do not recognize the important link between alcohol and dementia, because if the early signs of the condition are diagnosed quickly, it is possible to treat it. It is very important that we improve understanding among doctors and nurses about the links between heavy drinking and damage to the nervous system. It is equally important that people understand

that alcohol-related brain damage can happen at any time of life."

A. True/False Questions

Read the following sentences. Put "T" for true and "F" for false statements. Justify your answers.

- 1. Heavy drinking certainly leads to loss of memory.

- 2. The majority of British people are drinkers who have dementia.

- 3. Women's bodies are more sensitive to damages of alcohol as
----- compared with men.
- 4. Women are less able to withstand alcohol damages.

- 5. Alzheimer's disease can occur earlier in those who drink alcohol.

- 6. Those with fatty body might suffer the problems associated with
----- alcohol more than lean people.
- 7. Dementia and Alzheimer are not the only physical problems
----- resulting from drinking alcohol.
- 8. Korsakoff's syndrome is a very common disease among people.

- 9. Dementia is an untreatable disease.

- 10. Drinking alcohol may lead to dementia at any time in life.

B. Comprehension Check Questions

Choose a, b, c or d which best completes each item.

1. of dementia cases in the UK have occurred due to alcohol.
a. The majority b. Most c. Less than half d. A great number

2. British physicians predict that in future.
a. the epidemic of alcoholism is inevitable
b. a rapid increase in damage to the brain due to alcohol will occur
c. British people will be binge drinkers
d. a connection between dementia and alcohol will be identified

3. As to male and female drinkers,
a. the former are more sensitive to problems of alcohol
b. both can cope with damages of alcohol similarly
c. the latter are less resistant to problems caused by alcohol
d. both are in danger equally

4. According to the passage, fat in the body, risk of Alzheimer's.
a. the more/ the more
b. the less/ the more
c. the more/ the less
d. the less/ the less

5. All of the following are the symptoms of Korsakoff's syndrome except:

- a. short term loss of memory
- b. confusion
- c. behavioral problems
- d. Alzheimer's

6. The phrase "lead to" can be replaced with all the following except:

- a. cause
- b. give rise to
- c. bring about
- d. give in to

7. Which of the following statements is **false**?

- a. Dementia is not a disease of old people.
- b. The damage to the brain cells as the result of heavy drinking is irreversible.
- c. Female drinkers get more liver disease as compared to men.
- d. Korsakoff's syndrome is more common among those living in poverty.

C. Choose a, b, c or d which best completes each item.

1. They are suffering injury (ies) after the accident; the doctors are worried about their survival.

- a. slight
- b. trivial
- c. negligible
- d. serious

2. Some experts are trying to what is wrong with the present system in order to solve the problem.

- a. disregard
- b. identify
- c. diagnose
- d. increase

3. All the students were before the interview; they were worried about the result.

- a. nervous b. calm c. diagnosed d. satisfied

4. There has been a sharp in the number of people out of work; unemployment is a great problem at present

- a. fall b. drop c. rise d. steep

5. All the family members have a health problem; they need to develop a/an of the importance of eating a healthy diet.

- a. reduction b. behavior c. memory d. awareness

6. Once destroyed, the brain cells do not

- a. regenerate b. degenerate c. spread d. diffuse

7. They have promised to my application in a week.

- a. process b. produce c. experience d. lead

8. The made by the doctor shocked everybody; he has a dangerous disease.

- a. promise b. diagnosis c. connection d. impression

9. To avoid, please write the children's name clearly on all the school clothes.

- a. awareness b. understanding c. confusion d. link

10. Headache is a of stress; try to cope with your problems.

- a. damage b. sign c. link d. loss

D. Match the words in column I with their equivalents in column II.

- | | |
|-------------------------|----------------------------------|
| a. improve ---- | a. related to |
| b. syndrome ---- | b. harm |
| c. colleague ---- | c. really |
| d. actually ---- | d. a combination of symptoms |
| e. likely ---- | e. the state of losing |
| f. consultant ---- | f. coworker |
| g. damage ---- | g. get better |
| h. associated with ---- | h. a person with whom we consult |
| i. loss ---- | i. probable |

F. Match the beginnings and endings to make a sentence about the text.

1. Dementia is a serious brain condition which -----.
 2. Doctors can treat dementia if -----
 3. The number of people suffering from alcohol related damage -----
 4. Women who drink a lot -----
 5. Women are in more damage because -----
 6. The use of alcohol over a long period of time can -----
- a. ----- their bodies are less able to cope with alcohol.
 - b. ----- cause loss of memory.
 - c. ----- leads to a loss of memory.
 - d. ----- will probably rise in future generations.
 - e. ----- are in more damage than men.
 - f. ----- they diagnose the early signs of the disease quickly.

✓ **Reminder: Prepositions**

Prepositions are short words normally placed before nouns, pronouns or after verbs.

Prepositions of time and date are at, on, by, in, from, since, during, for, after, before.

Examples:

at six o'clock	in the afternoon
at noon	in the morning
at midnight	in the evening

Complete the sentences from the text using these prepositions.

of in to

1. Binge drinking and increased use of alcohol will probably produce an epidemic of alcohol-related brain damage ----- the future.
 2. Drinkers beginning to experience serious memory problems ----- their forties.
 3. Heavy drinking could be the cause of one ----- four cases of dementia, a serious brain condition which leads to a loss ----- memory.
-
4. It's found that half ----- the people suffering from dementia were under the age -----50.
 5. Drinking alcohol leads ----- serious problems
 6. Drinking more than two drinks a day can cause Alzheimer's to begin by up --- --- 4.8 years earlier.
-

F. Complete the tables and make a sentence using each one.

verb	noun	adjective	adverb
lose			
connect			
improve			
behave			
confuse			
diagnose			

Unit 12

Pre-reading Activities

A. Vocabulary Preview

management	(n.)	the act of dealing with people or situations successfully
imply	(v.)	to suggest sth is true without saying so directly
goal	(n.)	aim
alter	(v.)	change
accurate	(adj.)	correct and true
perception	(n.)	understanding
impact	(n)	effect, influence
vulnerable	(adj.)	sensitive, prone
notion	(n.)	an idea, belief or understanding of sth
effective	(adj.)	producing a successful result
instructor	(n.)	a person who teaches

B. Read the following passage and answer the following question.

1. What is "time management?"
2. Which skill is necessary for success in the university?
3. Why is time management difficult for university students?
4. What is "peer pressure"?

Reading

Time Management

When you think about "time management," what comes to mind? The word "management" *implies* taking an active role in choosing how time is used, as opposed to just letting things happen or allowing others to plan. It also implies that there is a degree of decision-making involved which can include setting goals and priorities, *manipulating* resources, monitoring progress; and taking responsibility for the outcome.

suggests

*control or use
in a skillful way*

We can't change or alter time - every day has the same number of hours, every hour the same number of minutes, so the term "time management" isn't really an accurate term for this skill. Time management really means self-management - we manage ourselves to make the most of time. Time management is closely connected with learning and study issues at the university level. It's probably the single most important skill necessary for success at university. How you use your time has a major impact on your academic *accomplishments*, satisfaction, and stress level.

achievements

Challenges for University Students

University students are particularly vulnerable to difficulties with time management, and it's useful to understand the reasons why this is so:

- Despite its importance in university and beyond, many high schools don't formally address time management; so many students arrive at university knowing little, if anything, about it. Consider the notion that the only difference between a high school student and an entering university student is the two months between June of Grade 12 and September of first semester.
- Many university students find they spend relatively few hours each day in classes and labs. This relatively

unstructured learning environment is different from the way that the school day is organized in most high schools. Students must discover how much structure they need to work effectively, and must create most of that structure for themselves, according to their needs and the demands of their courses.

- University students are expected to be more independent and "self-directed" when it comes to learning and studying than they were in high school. Instructors give less direction about what work to do. Students must usually decide for themselves what work to do, what is most important, how much to do, and when to do it.
- Some high-school students spread their university-level courses out over two years or more, sometimes combining a part-time course load with a job to get the highest marks they can. A full-time university course load can come as quite a shock, one for which these students are not well prepared.
- Even new students who have done a full-time course load may find that the amounts of work, and therefore the amount of study time expected of them is very different from high school. Once the semester is underway, readings, assignments and labs may pile up faster than they can be completed.
- Because many university students study, live, and play in the same environment, setting the boundaries of "work" vs. leisure time is a challenge.
- In the university environment, particularly in residence, there is usually something more enjoyable to do than studying. Many activities compete for a limited number of hours in a week and studying can all too easily get pushed to file-bottom of the list. Some students struggle semester after semester to find the right balance between studying and socializing.

A. True/False Questions

Read the following sentences. Put "T" for true and "F" for false statements. Justify your answers.

- 1. In time management, one should feel responsible for the end result of his/her decision.
- 2. Time management actually refers to self-management.
- 3. Many students neglect proper management of their time.
- 4. The students' needs and the demands of university courses determine how much structure they need in their affairs.
- 5. Studying at the university is like that in high school.
- 6. University instructors usually force the students to study and manage things.

B. Comprehension Check Questions

Choose a, b, c or d which best completes each item.

- 1. Time management implies all of the following except:
 - a. spending time requires the active role of the one who is deciding
 - b. allowing other people help us in deciding about our time
 - c. decision making is a component of time management
 - d. determining what to do first and what to do later
- 2. The main idea of paragraph 2 could be
 - a. time management and self-management are contrasting concepts

- b. time is not changeable
 - c. we, as decision makers, can change time from a static phenomenon to a dynamic one
 - d. to manage our time successfully, we should manage ourselves
3. Which in paragraph 1 line 5 refers to
- a. degree
 - b. decision making
 - c. plans
 - d. letting things happen
4. Time management affects all of the following except:
- a. attainment
 - b. stress level
 - c. feeling of satisfaction
 - d. time perception
5. 'It' in the phrase 'about it' in (paragraph 4, line 4) refers to
- a. school
 - b. university
 - c. loss of time
 - d. management of time
6. As to high school and university,
- a. both need the same skills and strategies on the part of the students
 - b. both address time management
 - c. the former needs the students to have an active role in making the structure of working while the latter does not
 - d. the latter requires self-directed role of the students
7. "one for which these students are not well prepared". One and which in this sentence (paragraph 7) refer to
- a. university/ course
 - b. course load/ course load
 - c. course load/ student

d. high school load/ university load

10. What is not a challenge in the university is.....

- a. making a balance between work and free times
- b. establishing work and leisure time boundaries
- c. making a balance between socializing and studying
- d. finding enjoyable activities in the university

C. Choose a, b, c or d which best completes each item.

1. The disease will be ----- if you don't take her to the hospital.

- a. worsened b. improved c. quitted d. approved

2. He is always working; he actually has no time to visit us.

- a. frequent b. wasted c. leisure d. remembered

3. I hope we are doing the thing; if not, please let us know.

- a. dangerous b. funny c. problematic d. right

4. She lives in a country which is for independence; people want to be free, with no dependence.

- a. struggling b. connecting c. happening d. coping

5. She her arms and the child ran toward her.

- a. improved b. spread c. reduced d. experienced

6. A course refers to the number and difficulty of courses taken in an academic setting.

- a. peak b. structure c. load d. direction

7. Her speech made a great on the audience; everybody was talking about her brilliant talk.

- a. loss b. link c. impact d. remedy

8. Young children will usually their mother's attention.

- a. bring about b. compete for c. lead to d. give up

9. Good parents always their children to see they are doing the right thing.

- a. monitor b. avoid from c. compete with d. identify

10. The good news was a for the family; she did not have a serious disease.

- a. suffering b. shock c. pressure d. relief

11. Destruction of environment is one of the most serious

- a. thoughts b. articles c. challenges d. reasons

✓ **Reminder: Gerund**

The gerund has the form of verb + ing. It is used as the subject of a sentence, after prepositions, and after certain verbs.

Example:

1. Reading French is easier than speaking it.
2. I enjoy playing music.
3. He is interested in studying.

Use the correct form of the verbs in the blanket. (Use infinitives or gerunds)

1. He stopped (smoke)
2. He lost no time in (get) down to work.
3. You cannot make an omelet without (break) eggs
4. I do not like (work) hard.
5. I hate (borrow) money.
6. I arranged (meet) them here.
7. I wish (see) you.
8. At dinner she annoyed me by (smoke) between the courses.
9. Would you mind (write) your name here.
10. By (work) day and night, he finally succeeded.
11. I am prepared (wait) here all night.

Use the following prepositions in the sentences.

on at of from in about

1. You need to think the problems quickly.
2. Most the time, you need to manage your day.
3. Your behavior has a lot of impact others.
4. My university is different yours.
5. peak times the university, work load is high.

Change the following words into a noun.

1. manage
2. decide
3. motivate
4. connect

5. accomplish
6. succeed
7. instruct
8. compete
9. struggle
10. intend

D. Word Formation

Complete the following table. Then fill in the blanks using the words in the table.

Noun	Verb	Adjective	Adverb
	manipulate		
		important	
	instruct		
preparation			
assignment			
		relieved	
	compete		
interest			

1. Money played a/an role in his life.
2. There is a/an movie on TV tonight.
3. You need to well for the exam.
4. Three were given to the students by the teacher.
5. It was a to hear that he is ok.
6. The students in a class usually for better grades.
7. He is well known as a good
8. We need to the data so that we could analyze them.

Unit 13

Unit 1

A. Discuss the following questions:

1. What is the circulatory system?
2. Why is it important to keep our circulatory system work at its best?

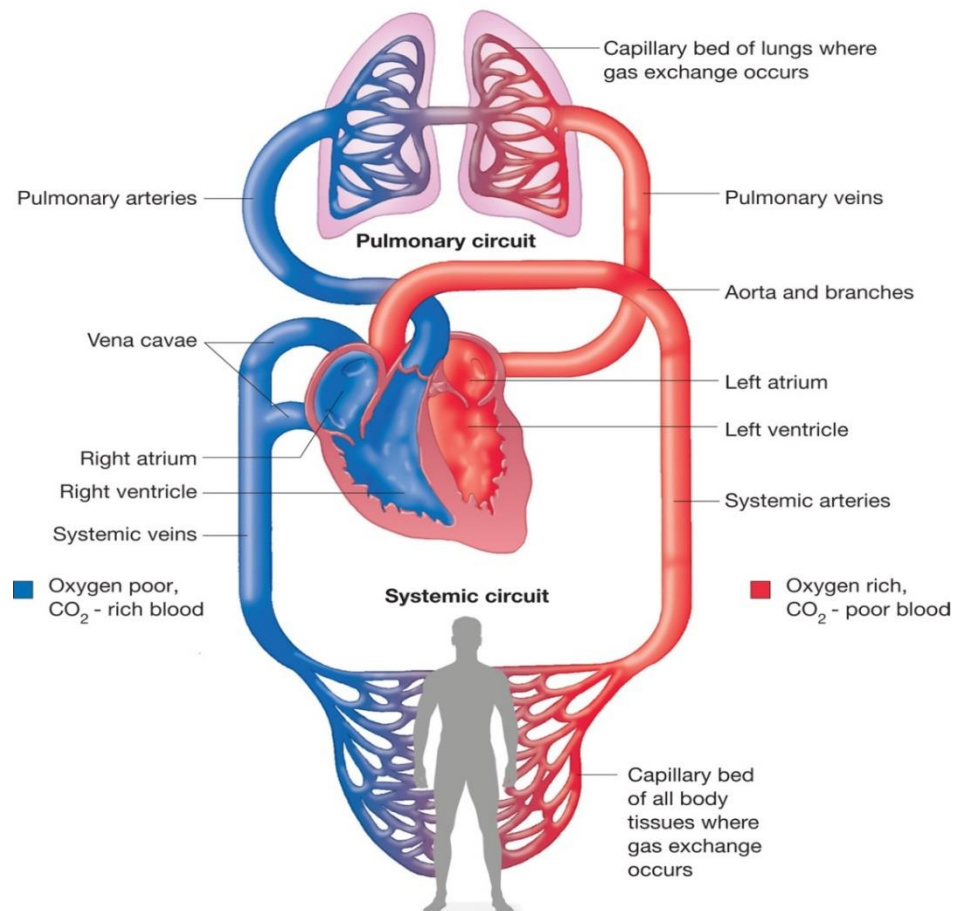
Reading

Circulatory System

Most of the cells in the human body are not in direct contact with the external environment, so they rely on the circulatory system to act as a transport service for them. Two fluids move through the circulatory system: blood and lymph. The blood, heart,

form

and blood
vessels
the

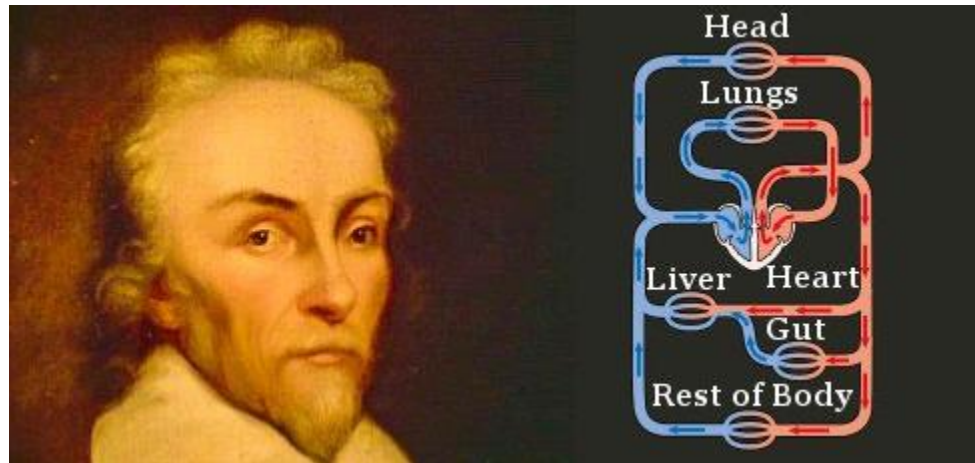


cardiovascular system. The lymph, lymph nodes and lymph vessels form the lymphatic system. The cardiovascular system and the lymphatic system collectively make up the circulatory system.

The circulatory system consists of three independent systems that work together: the heart (cardiovascular), lungs (pulmonary), and arteries, veins, coronary and portal vessels (systemic). The circulatory system is responsible for transporting materials throughout the entire body. It transports nutrients, water, and oxygen to your billions of body cells and carries away wastes such as carbon dioxide that body cells produce. It is an amazing highway that travels through your entire body connecting all your body cells.

The heart pumps blood around the body via two different classifications of blood circulation - pulmonary circulation, carrying deoxygenated blood to lungs and systemic circulation, carrying oxygen-rich blood to all oxygen-needed cells. Each type of system plays a different role in the overall process of circulation.

William Harvey was the first person to correctly describe blood's circulation in the body. He showed that arteries and veins form a complete circuit. The circuit starts at the heart and leads back to the heart. The heart's regular contractions drive the flow of blood around the whole body.



A. Put “T” for true and “F” for false statements. Justify your answers.

- 1. Cells are usually in the process of interaction with their external environment.
- 2. The blood and lymph are the delivery systems responsible for transporting cellular components throughout the body.
- 3. The main difference between the two circulatory systems is the destination of the blood being circulated.
- 4. Systemic circulation is the portion of the cardiovascular system which carries deoxygenated blood away from the heart.

B. Choose a, b, c, or d which best completes each item.

1. The cardiovascular system consists of all of the following EXCEPT the -----.
 a) blood
 b) lymph
 c) blood vessels
 d) heart

2. The main function of the circulatory system is to ----
 a) break down the food so that it can be used by the body
 b) distribute the blood and lymph throughout the body

- c) give the body shape and support
- d) help us link to the external environment

3. With circulation, the heart provides the body with all of the following EXCEPT - -----.

- a) oxygen
- b) nutrients
- c) wastes
- d) water

4. Which of the following is not part of the circulatory system?

- a) arteries
- b) stomach
- c) heart
- d) veins

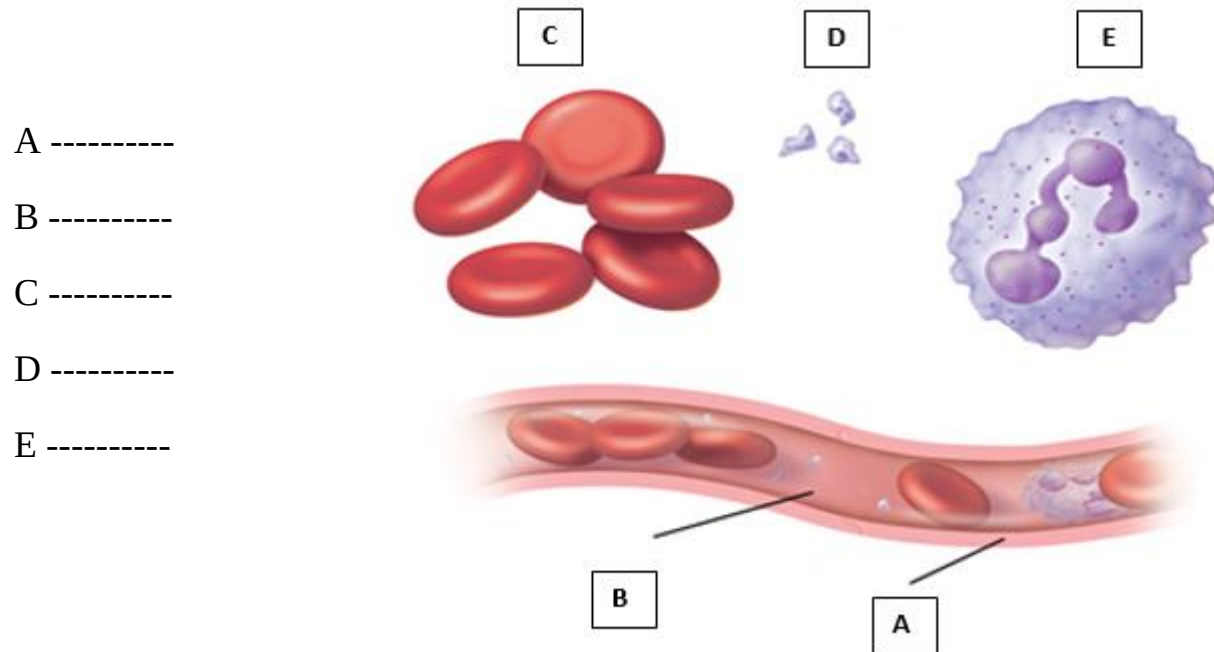
5. The best topic for the last paragraph is -----.

- a) William Harvey: an English Physician
- b) William Harvey and the discovery of the circulation of the blood
- c) Views of the circulation of blood before Harvey
- d) The contribution of Harvey's discovery on the heart's contractions

Further Reading: Blood vessels

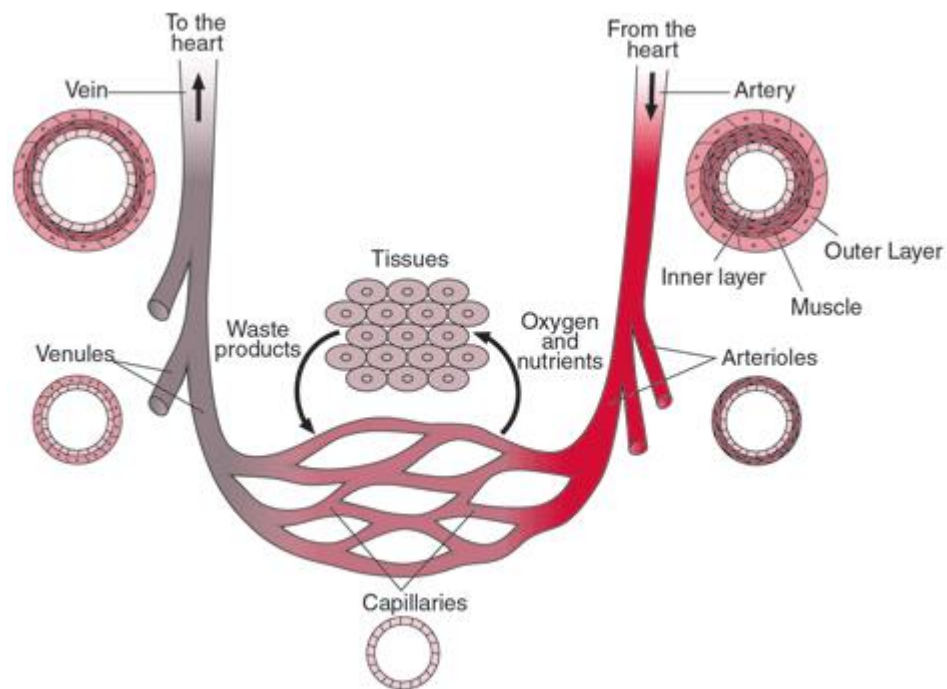
There are three types of blood vessel in the human body: arteries, veins and capillaries. All blood is carried in these vessels. An average adult has 5 to 6 quarts (4.7 to 5.6 liters) of blood, which is made up of plasma, red blood cells, white blood cells and platelets.

Task 1: The diagram shows the blood vessel, platelet, plasma, red and white blood cells. Do you think you can identify them?



Task 2: Before reading about different types of blood vessels in detail, take a look at the following picture and complete the following summary.

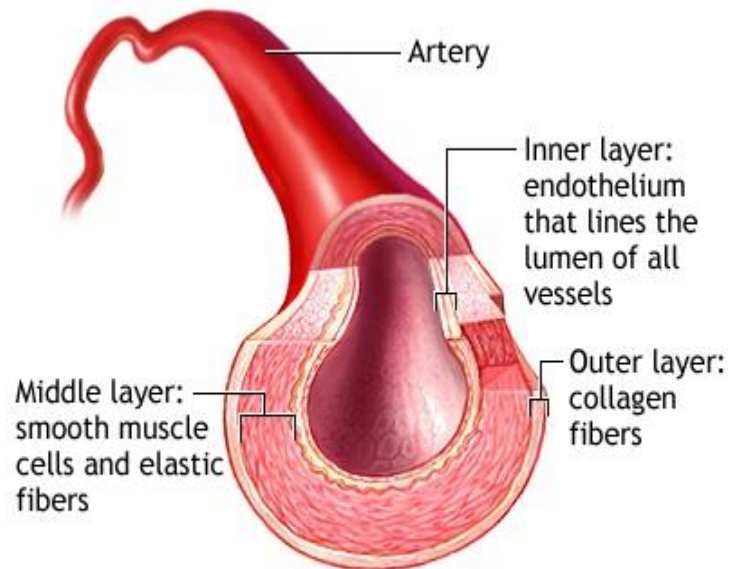
Blood travels from the heart in -----, which branch into smaller and smaller vessels, eventually becoming ----- . Arterioles connect with even smaller blood vessels called ----- . Through the thin walls of the capillaries, oxygen and nutrients pass from blood into tissues, and waste products pass from tissues into blood. From the capillaries, blood passes into -----, then into ----- to return to the heart.



Arteries

Arteries and arterioles have relatively thick muscular walls because blood pressure in them is high and because they must adjust their diameter to maintain blood pressure and to control blood flow. Arteries carry oxygen-rich blood away from the heart to the organs and tissues of the body. The arterial system is under high pressure as it receives blood from the pumping heart.

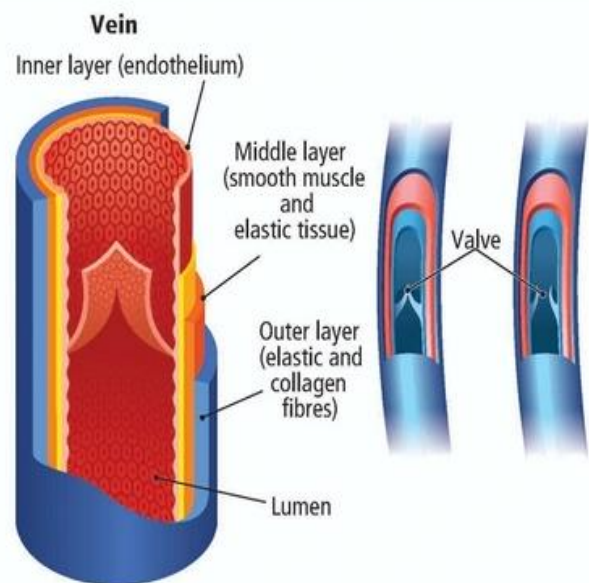
Therefore, the walls of arteries are thick. They contain elastic fibers and muscle cells, which help propel the blood through them. Commonly known arteries of the human body include the aorta, the pulmonary artery, the femoral arteries, the carotid arteries and the coronary arteries.



Veins

Veins and venules have much thinner, less muscular walls than arteries and arterioles, largely because the pressure in veins and venules is much lower. Veins may dilate to accommodate increased blood volume. Veins have a system of valves to prevent back-flow.

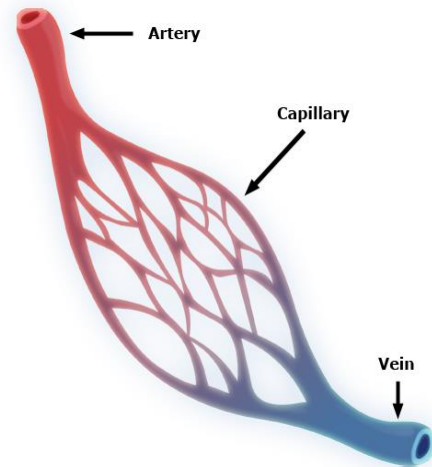
The flow of blood is aided by the action of muscles, especially the large muscles of the leg. Like the artery the vein has a single cell layer, the tunica intima, as its lining.



Unlike the artery, the vein has a poorly developed middle layer, the tunica media. This is because the vein is not working under pressure and does not stretch in the same way as the artery. Unlike the artery the vein has a thick outer layer, the tunica adventitia. It needs this for strength, as it does not have muscle in its walls. The lumen (inside) of the vein is much larger than in an artery, reflecting the slower rate of blood flow.

Capillaries

Capillaries are the smallest blood vessels. The average diameter is eight micrometers with a very thin wall of 0.2 micrometers. The body has approximately 100,000 km. of capillaries. They are the site for exchange of gases, nutrients and wastes between circulation and body tissues.



If a blood vessel breaks, tears, or is cut, blood leaks out, causing bleeding. Blood may flow out of the body, as external bleeding, or it may flow into the spaces around organs or directly into organs, as internal bleeding.

A. Put “T” for true and “F” for false statements. Justify your answers.

- 1. Blood pressure is higher in veins than in arteries.
- 2. An artery can expand to accommodate the sudden increase in blood volume after each heartbeat.
- 3. Arteries carry the oxygen-poor blood back from the body to the heart.
- 4. Valves prevent the backward flow of the blood when closed.
- 5. The blood contained in an artery is rich in carbon dioxide (CO₂).
- 6. An artery has a poorly-developed middle layer.

B. Choose a, b, c, or d which best completes each item.

1. What is the function of the blood vessels and capillaries?
 - a) They pump blood to the heart.
 - b) They filter impurities from the blood.
 - c) They carry the blood to all parts of the body.
 - d) They carry messages from the brain to the muscles.

2. Which type of blood vessels carries blood away from the heart?
- a) Veins
 - b) Arteries
 - c) Capillaries
 - d) Arteries, veins and capillaries
3. The exchange of gases and nutrients between the blood and tissues is a major function of -----.
- a) capillaries
 - b) veins
 - c) arteries
 - d) venules
4. As arteries branch out, they become increasingly smaller. The smaller portion of an artery is referred to as a (an)..... .
- a) vessel
 - b) capillary
 - c) arteriole
 - d) venule
5. In which choice can the blood vessels' wall be classified as the thinnest to the thickest?
- a) artery, vein, capillary
 - b) vein, artery, capillary
 - c) capillary, arteriole, artery
 - d) capillary, vein, artery
6. Which of the following statements is TRUE about the veins and arteries?
- a) Arteries have tunica media while veins don't.
 - b) Both arteries and veins have thick intermediate layers of elastic and muscular fibers
 - c) The lumen of the vein is much smaller than in an artery.

d) Veins and arteries have two more additional layers that surround the endothelium.

C. Language practice

1. People refer to various medical conditions -----as heart disease.
a) jointly b) collectively c) equally d) evenly
2. Hereditary breast cancers -----only a small proportion of all breast cancer cases.
a) drive around b) travel through c) carry away d) make up
3. Vegetarians can get some help by eating iron- ----- foods such as beans and spinach.
a) wealthy b) rich c) nutritious d) carrying
4. It is very dangerous when blood vessels near the surface of the brain burst and blood -----in the brain.
a) leaks b) alters c) develops d) adjusts
5. The atria have thinner walls and do not -----the blood very far.
a) propel b) aid c) accommodate d) reflect
6. The function of the respiratory system is to -----two gases: oxygen and carbon dioxide.
a) extinguish b) distribute c) exchange d) classify
7. When blood vessels-----, the flow of the blood is increased.
a) contract b) dilate c) shrink d) tighten

Unit 14

Pre-reading Activities

A. Some Words that Work

graceful (adj.)	beautiful, well formed
dwarf(n.)	a person or thing that is much smaller than typical
sway(v.)	to move rhythmically back and forth
ardent(adj.)	very enthusiastic; showing strong feelings about sth
durable(adj.)	lasting for a long time, even with frequent use
fertile(adj.)	capable of producing; rich in resources
fodder(n.)	food given to farm animals
enormous(adj.)	bigger than the usual size

B. Words in Context

1. The ----- elephants are believed not to be larger than monkeys.
2. It's absolutely -----, but if you have time, it's definitely worth a scan.
3. She is ----- with a baby in her arms to try to relax the baby.
4. Plastic is more ----- than wood because it binds the fibers together to resist moisture penetration.
5. Usually the soil is more -----in a sunny site.
6. I didn't quite cook it for long enough, so the onion was a bit too -----.
7. After the performance, the pianist gave ----- bow to the audience.
8. The factory has come up with a new system of providing ----- for horses and farm animals.

9. He is a /an ----- supporter of environmental issues.

C. Discussion Questions

Think about the following questions. Then discuss each question in pairs or groups.

- a. Is bamboo the most important plant in the world? If yes why?
- b. What are all the purposes bamboo is used for?
- c. What are the things that are made of bamboo?

Reading

-Read the following passage silently.

-Try to guess the meanings of new words.



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Robert Butler is known as ‘Bamboo Bob’ by his friends: he’s a botanist, an agriculturalist and a leading expert on the bamboo answered plant. I went to ask him why he thinks bamboo is the most important plant in the world.

I found him at home in his garden but before I could ask any questions Bob had one for me.

‘Is there any bamboo in your home?’

I replied instantly that of course there wasn’t, but he made me think again. Then I remembered that I had some lampshades made of bamboo in the bedroom, some bamboo canes in the garden to support my plants against the wind, and a bamboo tray.

‘Bamboo,’ said Bob ‘can be used for almost anything.’

Before I could ask for some more examples he had another question for me – ‘What do you know about bamboo?’ I replied that I thought it was a beautiful tree, very tall and graceful with delicate leaves. I knew that it was one of the fastest growing plants in the world and that pandas liked eating it. Then Bob surprised me by saying that bamboo was not a tree at all but a grass, and that it could vary in height from dwarf, 30cm plants to giant timber bamboos that grow to well over 30m. ‘And just how fast can they grow?’ he asked. I really had no idea – 10 or perhaps 20cm a day? Well, apparently a Japanese scientist had measured the growth of one variety of bamboo and claimed it had grown 60cm over a 24-hour period! That would have been in ideal conditions of heat, humidity and fertile soil explained Bob, but even in his garden he’d seen bamboo grow half that in a day. What was more remarkable, he added, was that some 20m tall bamboos reach that height in one growing season, which might be as short as two months! Now that is fast!

very large

important

‘And where does bamboo grow?’ asked Bob. I felt more confident with my answer this time: It grew in Asia. Yes, agreed Bob, it grew in most Asian countries including India (with the largest bamboo forests), China and Vietnam. It grew in both tropical and subtropical climates, in jungles and high on mountains. It could also be found growing naturally in Africa, the Caribbean and Latin America. In fact it could be found on all the continents except Antarctica.

Bob told me that he had become fascinated by bamboo when, as a student, he went on an agricultural study trip to Asia. While in Vietnam he had stayed in a stilt house and after climbing the stairs to the first (and only) floor he was surprised, and a little alarmed, to discover the floor was made with strips of bamboo.

‘I could see through the floor very easily,’ recalls Bob ‘and the strips were quite narrow, not whole poles of bamboo, I just knew I was going to fall through it!’ Instead the bamboo held his weight quite easily. ‘I then discovered that there are hundreds of millions of people who live in houses made from bamboo,’ said Bob. ‘In Bangladesh, most people live in bamboo houses. It provides not only walls and floors but also window frames, ceilings and roofs. It’s amazing!’

Then in Hong Kong he witnessed another scene that confirmed how strong bamboo was.

‘I was watching some men building one of those skyscrapers and I realized that the scaffolding was swaying in the wind. Then getting nearer I saw that the men weren’t using steel scaffolding,

but bamboo!’ Astonished by this he spoke to the foreman who explained that bamboo was much better to use than steel, iron or aluminum. There were three reasons: it was almost as strong as steel, but it was lightweight so easy to transport and set up, and very flexible too so that it bent in strong winds without breaking – ideal scaffolding material then for a country prone to typhoons. ‘With the added benefit of not getting too hot to touch in the scorching sun either!’ grinned Bob.

Finally it was in Japan that Bob found out how durable the plant was too. ‘There I discovered that some bamboo plants which had been growing near ground zero at Hiroshima in 1945 had survived the atomic blast and sent up new shoots within days.’

Bob also saw bamboo used for building bridges, for musical instruments and furniture. *passionate*

Inspired, he returned home and has been an ardent fan of bamboo ever since, growing it, writing books about it and studying it. ‘There are about 1,500 documented traditional uses for bamboo, from fishing baskets to flowerpots, from flagpoles to fences, from firewood to fodder,’ said Bob. ‘Which reminds me – come and have lunch with me.’

We went inside and sat down to eat. I wasn’t surprised that the food was presented in beautiful bamboo bowls. What I hadn’t expected was that to the vegetables he had added some bamboo - bamboo shoots! ‘They’re low in fat and calories, and a good source of fiber and potassium,’ said Bob. As I ate the crisp, tasty

shoots I thought perhaps Bob was right – bamboo is the most important plant in the world after all!’

Post-reading Activities

A.True/False Questions

Based on the foregoing text decide whether the following statements are true (T) or false (F).

- 1. Bamboo is a fast growing tree which has delicate leaves.
- 2. All varieties of bamboo grow at the same speed.
- 3. Bamboo can grow almost in all climates.
- 4. Bamboo can hold the weight easily, so it’s used in constructing the houses.
- 5. Bamboo is not as strong as steel, but it’s very flexible.
- 6. According to the text, bamboo is the most important multipurpose plant in the world.
- 7. Bamboo shoots are barely edible and beneficial to the body.

B.Comprehension Check Questions

Answer the following questions by choosing the correct answer from the options provided.

- 1. What kind of plant is bamboo?
a. a tree b. a bush c. a grass d. a flower
- 2. How tall can bamboo grow?
a. 20m b. 30m c. 40m d. unlimited
- 3. Where can bamboo be found growing?

- a. only in tropical climates
- b. only in tropical and subtropical climates
- c. everywhere except for Antarctica
- d. in every climate

4. According to the reading selection, which sentence is true?

- a. Bamboo is much stronger than steel.
- b. Steel is much lighter than bamboo.
- c. Bamboo is as light as steel.
- d. Bamboo is almost as strong as steel.

5. After the atomic blast in 1945 in Hiroshima, bamboo started growing -----.

- a. a few days later
- b. a year later
- c. a few weeks later
- d. a few months later

6. Bamboo provides food -----.

- a. only for pandas
- b. only for pandas and other bears
- c. for humans and animals
- d. just for animals

C.Language Practice

Choose the best answer for the blank spaces.

1. Miller, the celebrated English ----- and gardener, among many others, has disproved producing an edible vegetable from this wild root.

- a. botanist
- b. foreman
- c. fireman
- d. zoologist

2. I thought bamboo can grow only in tropical climates, but ----- it doesn't.

- a. instantly
- b. apparently
- c. easily
- d. finally

3. The quality of new solutions to environmental problems ----- in quality.
- a. sways b. stays c. remains d. varies
2. Banana is a -----plant. It can grow up to 30 feet up.
- a. giant b. delicate c. prone d. fertile
3. Cut the meat into ----- . So every piece can be cooked well.
- a. canes b. timbers c. poles d. strips
4. It has been ----- that the meeting by botanists will take place next week.
- a. measured b. alarmed c. confirmed d. transported
5. She was surprised by the astonishing scene she had ----- last night.
- a. confirmed b. witnessed c. claimed d. replied
6. The professor wanted the students to feel ----- about asking questions when they don't understand.
- a. astonished b. graceful c. amazed d. confident
7. There was a----- high up on the outside wall of a building for the workers to stand on.
- a. scaffolding b. basket c. flagpole d. bridge

D. Word Formation

Use the appropriate words given in the box in the following blanks.

Noun(s)	Verb(s)	Adjective (s)	Adverb(s)
delicacy		delicate	delicately
variety	vary	various	variously
fascination	fascinate	fascinated fascinating	fascinatingly
survival survivor	survive	survived	
leader leadership	lead	leading	

1. His only chance of ----- was a very difficult surgery.

2. You have to use special body lotions for very ----- skin of babies.
3. It's ----- to see how a plant like bamboo is so strong and at the same time so flexible.
4. He played a ----- role in agriculture and botany.
5. His age has been ----- estimated between 15 and 17.

E. Vocabulary

Match the words in the left column with their synonyms in the right column.

- | | |
|------------------|--|
| ---1. instantly | a. very large |
| ---2. delicate | b. likely to suffer from something bad |
| ---3. giant | c. amazed, very much surprised |
| ---4. apparently | d. see something happen |
| ---5. strip | e. according to what you have heard or read |
| ---6. recall | f. continue to exist despite a dangerous event or time |
| ---7. witness | g. small and having a beautiful shape or appearance |
| ---8. astonished | h. immediately |
| ---9. prone | i. a long, narrow piece of paper, metal, cloth, etc |
| ---10. survive | j. remember something |

✓ **Reminder: PERSONAL PRONOUNS**

A. Forms:

Subject pronouns	Object pronouns	Possessive adjectives	Possessive pronouns	Reflexive pronouns
I	me	my	mine	myself
you	you	your	yours	yourself/yourselfs
he	him	his	his	himself
she	her	her	hers	herself
it	it	its	(no pronoun)	itself
we	us	our	ours	ourselves
they	them	their	theirs	themselves

B. Use:

After we mention a person or an object once, or if the context makes it clear who or what we are referring to, we usually use pronouns to refer to them.

We use subject pronouns instead of a noun as the subject of a verb:

If **Martin** works too hard, **he** becomes ill.

We use object pronouns instead of a noun as a direct or indirect object:

- Direct object: I met Julian yesterday. I like **him**, don't you?
- Indirect object: Those books belong to Julian. Can you give them to **him**, please?

We use possessive adjectives before a noun to express 'belonging':

- Adjective: Chris is the owner of this restaurant. Last night we had a meal in **his** restaurant.

We use possessive pronouns instead of a possessive adjective + noun:

- Pronoun: Your name is at the top of the page. This exam booklet is **yours**.

We usually use reflexive pronouns when the subject and object are the same person or thing:

X Quick! The baby's burnt **her**.

✓ Quick! The baby's burnt **herself**!

Exercises:

A. Choose the appropriate options to complete the sentences

1. We all told the boss that we wanted to have ---- salaries paid in advance but he just ignored ----.

- a. ours / it
- b. his / we
- c. their / our

- d. we / his
- e. our / us

2. When the man asked me how I had got ---- address, I told him that I was given it by a relative of ----.

- a. my / me
- b. his / his
- c. mine / his
- d. his / him
- e. him / him

3. I hope you will enjoy ---- at the re-union party this weekend because I won't be able to be there ----.

- a. you / myself
- b. yourself / mine
- c. yours / oneself
- d. yourself / myself
- e. you / me

4. You and ---- brother need to take time to prepare ---- for the long journey which will start next month.

- a. his / yourself
- b. yours / ourselves
- c. their / you
- d. your / yourselves
- e. her / by themselves

6. Trademarks enable a company to distinguish ---- products from ---- of another company.

- a. their / it
- b. it / that
- c. our / this
- d. its / those
- e. my / these

7. ---- cannot see through translucent materials, but light can pass through ----.

- a. We / it
- b. Anything / their
- c. One / them
- d. No one / its
- e. Everyone / their

B. Choose the correct personal pronouns.

1. They saw Steve and me / I at the movies last night after class.
2. He is going to the park with you and me / I if you don't mind.
3. You and her / she should return the books to the library because they are already overdue.
4. Prof. Brown left a message for you and me / I. He needs to see us.
5. Bill invited Mary and me / I to have dinner with him .
6. John is a good basketball player. I watch Bill and he / him carefully during games.
7. Tom and me / I, both want to travel to Africa.
8. The manager has to choose between he and I / him and me.
9. The new student has been assigned to work on the group research project with you and I / me.
10. He rang Mary and invited she / her to dinner.

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