

Faculté Des Sciences De Gabés



English for Science



Diploma: Fundamental License in Life Sciences



Level: 3rd Year Student



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Academic Year 2013 – 2014

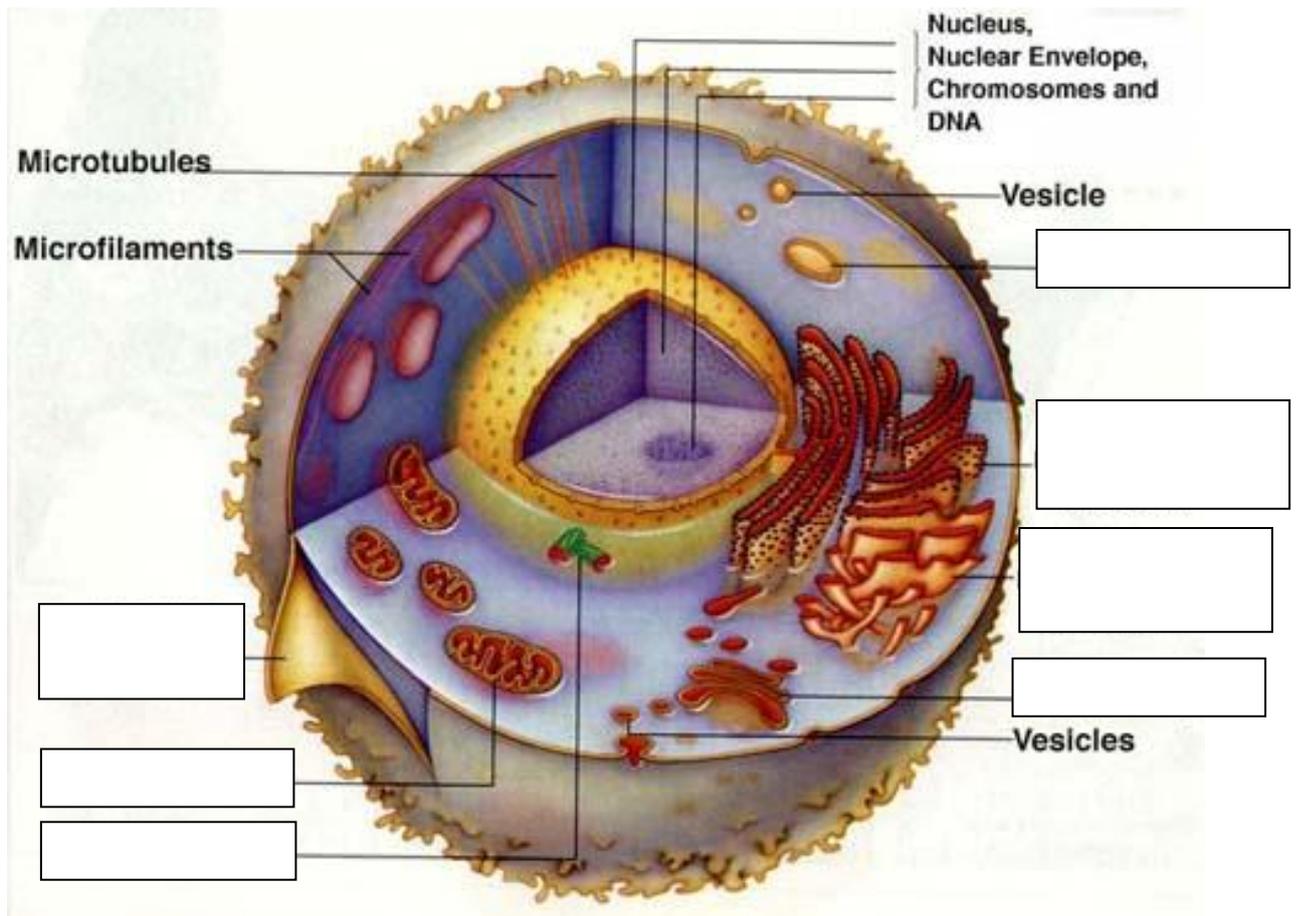
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SECTION 1: CELLS

Look at the following Cell. Can you identify the different structures?

MITOCHONDRIA – CENTRIOLE – LYSOSOME – GOLGI APPARATUS –
 PLASMATIC MEMBRANE – ROUGH ENDOPLASMATIC RETICULE – SMOOTH
 ENDOPLASMATIC RETICULE

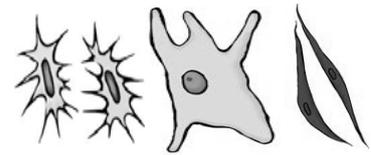
Is this a plant or an animal cell? How do you know?



Structure	Function
Plasmatic Membrane	<i>It protects the cell and distinguishes it from other cells. It also regulates the interchange of substances between the cellular interior and exterior.</i>
Ribosome	
Cytoplasm	
Golgi Body	
Centriole	
Lysosomes	
Endoplasmatic Reticule	
Nucleus	

Text 1:

WHAT'S IN YOUR CELLS?



Living things eat, grow, *get rid of* waste products, and reproduce. If you could look at the tiniest unit in any living thing, you would find a cell, because all living things are made of cells. Cells have special structures called organelles that help them do the work of moving materials around, dividing to make more cells, and making proteins for the body's needs. Cells get energy through a process called cellular respiration.

During cellular respiration, cells *convert* sugar (called glucose) and oxygen *into* carbon dioxide (the gas we breathe out) and water. This whole process releases energy for the cell to use. The energy is stored as ATP. ATP is like “*back up power*” in storage that can be taken out to be used as needed. That way, the cell always has the energy it needs to take care of business.

Living things can have just one cell, or many. Single-celled organisms include things like bacteria, yeast, and algae. They do all the things that living things do, within just one cell. Multi-cellular organisms have literally billions of cells that work together to provide for the organism's needs.

Plant and animal cells both have structures called organelles. Many of the same organelles are found in both types of cells, but some of the organelles are unique to plants or animals. All cells have a control center called a nucleus. The nucleus stores a special molecule called **DNA**. The organism's traits, or characteristics, are controlled by the coding found in its DNA.

All cells have a cell membrane, or covering, that surrounds the cell to protect it and control what goes in or out of the cell. Materials can move by diffusion, a process that contains materials in a gas or liquid, or osmosis, a special kind of diffusion that allows water to *pass through* the membrane, but keeps out many other materials. Plant cells have an extra layer called a cell wall that surrounds each cell's membrane. The cell wall is much stiffer to help the plant's stems stand up and support things like leaves and flowers. **Cytoplasm** is a thick fluid, kind of like jell-o, that fills the space between a cell's nucleus and its cell membrane. Floating in, and supported by, the cytoplasm are the organelles, such as **ribosomes**, which make proteins; **lysosomes** (found mostly in animal cells), which *break apart* nutrients; the **Golgi apparatus** (“goal-gee ap-par-at-us”), which packages up proteins to get them ready to be sent to various parts of the body; vacuoles, which are like bags of fluid that cells use to store things until they are needed, or until they can be disposed of; mitochondria, which generate energy for the cell; the **endoplasmic reticulum** (ER), which is a system of tubes and passages for transporting materials, and chloroplasts (in plants only) which allow food to be made using sunlight and carbon dioxide. All the organelles work together to make sure that the cells, and ultimately, the living organism can do all the things that are necessary for survival.

READING QUESTIONS

Answer the following questions based on the reading passage.

1) Contrast a plant cell with an animal cell. How can you tell them apart?

2) What is the purpose of this reading passage?

3) Predict what might happen if a cell lost its ability to perform cellular respiration

4) Cytoplasm has been compared to jell-o. How does this comparison help you understand what it is?

5) What structure in plants allows them to perform photosynthesis?

State what cellular structures the following functions are carried out in:

☼ _____ = Photosynthesis

☼ _____ = Control of the interchange of substances with the exterior.

☼ _____ = Contain the genetic information

☼ _____ = Synthesis of proteins

VOCABULARY

Match the following words with their synonyms from the list below:

☼ Get rid of = _____

☼ Convert into = _____

☼ Back up = _____

☼ Pass through = _____

☼ Break apart = _____

Cut up – Alter – Move across – Dispose of – Support

LANGUAGE: Prepositions

Prepositions – Time

English	Usage	Example
On	days of the week	on Monday
In	months / seasons time of day year after a certain period of time (<i>when?</i>)	in August / in winter in the morning in 2006 in an hour
At	for <i>night</i> for <i>weekend</i> a certain point of time (<i>when?</i>)	at night at the weekend at half past nine
since	from a certain point of time (past till now)	since 1980
For	over a certain period of time (past till now)	for 2 years
Ago	a certain time in the past	2 years ago
before	earlier than a certain point of time	before 2004
To	telling the time	ten to six (5:50)
past	telling the time	ten past six (6:10)
to / till / until	marking the beginning and end of a period of time	from Monday to/till Friday
till / until	in the sense of <i>how long something is going to last</i>	He is on holiday until Friday.
By	in the sense of <i>at the latest</i> up to a certain time	I will be back by 6 o'clock. By 11 o'clock, I had read five pages.

Prepositions – Place (Position and Direction)

English	Usage	Example
in	room, building, street, town, country book, paper etc. car, taxi picture, world	in the kitchen, in London in the book in the car, in a taxi in the picture, in the world
at	meaning <i>next to, by an object</i> for <i>table</i> for events place where you are to do something typical (watch a film, study, work)	at the door, at the station at the table at a concert, at the party at the cinema, at school, at work
on	attached for a place with a river being on a surface for a certain side (left, right) for a floor in a house for public transport for <i>television, radio</i>	the picture on the wall London lies on the Thames. on the table on the left on the first floor on the bus, on a plane on TV, on the radio

by, next to, beside	left or right of somebody or something	Jane is standing by / next to / beside the car.
under	on the ground, lower than (or covered by) something else	the bag is under the table
below	lower than something else but above ground	the fish are below the surface
over	covered by something else meaning <i>more than</i> getting to the other side (also <i>across</i>) overcoming an obstacle	put a jacket over your shirt over 16 years of age walk over the bridge climb over the wall
above	higher than something else, but not directly over it	a path above the lake
across	getting to the other side (also <i>over</i>) getting to the other side	walk across the bridge swim across the lake
through	something with limits on top, bottom and the sides	drive through the tunnel
to	movement to person or building movement to a place or country for <i>bed</i>	go to the cinema go to London / Ireland go to bed
into	enter a room / a building	go into the kitchen / the house
towards	movement in the direction of something (but not directly to it)	go 5 steps towards the house
onto	movement to the top of something	jump onto the table
from	in the sense of <i>where from</i>	a flower from the garden

Other important Prepositions

English	Usage	Example
From	who gave it	a present from Jane
Of	who/what does it belong to what does it show	a page of the book the picture of a palace
By	who made it	a book by Mark Twain
On	walking or riding on horseback entering a public transport vehicle	on foot, on horseback get on the bus
In	entering a car / Taxi	get in the car
Off	leaving a public transport vehicle	get off the train
out of	leaving a car / Taxi	get out of the taxi
By	rise or fall of something travelling	prices have risen by 10 percent by car, by bus
At	for <i>age</i>	she learned Russian at 45
about	for topics, meaning <i>what about</i>	we were talking about you

Fill in the blanks with the appropriate prepositions (*time – place – movement – ...*)

1. Helen was born _____ 1999
2. I'll phone you _____ lunchtime
3. I met her _____ Autumn.
4. He didn't get up _____ 11 o'clock.
5. Miriam sat _____ a chair.
6. You must be home _____ 9.00
7. We rented the flat _____ two months.
8. There's something _____ that bed.
9. The cat is playing _____ my sister.
10. The window is _____ the bed and the wardrobe
11. Why don't you come _____ Sunday?

22. Laura is staying _____ a nice hotel in Florida.
23. Martha is laying _____ the sofa.
24. They got _____ the bus.
25. She was looking _____ me happily.
26. The hospital is _____ of the park.
27. The boy fell _____ the boat.
28. I walked straight _____ to my house.
29. There a cozy café _____ the bank.
30. The children played _____ the swings.
31. You should get home _____ 6.300
32. Mildred invited me _____ dinner.

12. You need some pictures _____ the wall.
13. It was very cold _____ the morning.
14. Your mobile is _____ to the TV.
15. He always spends the day _____ home.
16. We walked _____ the cinema _____ the city centre.
17. When does the train get _____?
18. I'm afraid, it never comes _____ time.
19. You have lived here _____ 25 years.
20. They left me _____ noon.
21. John visited me _____ the summer.

33. We travelled _____ plane.
34. I usually go there _____ foot.
35. I want to take the picture _____ the wall.
36. Peter didn't come _____ last night.
37. He is waiting _____ the bus.
38. Tina jumped _____ the river
39. I enjoyed myself _____ the party.
40. My mother drove _____ the motorway.
41. The man was _____ the doorstep.
42. Sarah put her hand _____ her pocket.

WRITING

Writing an informal letter

Look at the organization of this letter. We begin all letters with *Dear...*, your address, and the date; but not your name.

The diagram illustrates the structure of an informal letter. On the left, there are several boxes with labels, each connected by a line to a corresponding part of the letter text on the right. The labels and their corresponding text are:

- Introduction**: Dear Maria
- Where you live**: I'm very pleased that we're going to be penfriends. I'll tell you a little about myself, and you can do the same when you write to me.
- Who you live with**: I live in an area of London called Maida Vale.
- What your family does**: It's quite near the centre, but there are parks nearby where I take my dog, Mickey, for a walk.
- What you do**: I live with my parents and my younger brother, Paul.
- What you like**: My father works for the post office and my mother has a part-time job as a nurse.
- Your hobbies and interests**: I go to the local comprehensive school, where I have a lot of friends. I like most subjects, but not all of them! In the evenings I sometimes visit friends or stay at home and listen to music, and at the weekends I like going swimming or horse-riding.
- What you're doing at the moment**: At the moment I'm working very hard because I have exams soon, so I'm spending a lot of time in the library!
- Ending**: I'm looking forward to hearing from you!
- You can end a letter to a friend with *Best wishes* or *Regards*, or *Love*, if you know them well.**: Write soon!
- Your signature**: Best wishes
Francis Jones

Additional text in the letter includes the address: 38 Clifton Gardens, London NW6 4GT and the date: 27 September.

Practice:

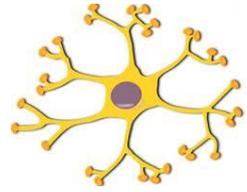
Write a similar letter to a pen friend in England. Your pen friend can be male or female.

Write about these things:

- ⊗ You
- ⊗ Where you live
- ⊗ What you do
- ⊗ What hobbies
- ⊗ Your family

Text 2:

Human Cells



Your body is made of trillions of tiny living things. They are called cells. There are 210 different kinds of cells in your body. Each kind of cell has a different shape. Each kind of cell is a different size.

Each kind of cell has a different job. The same types of cells usually work together in groups. The groups are called tissues. More cells can be made when the cells split. They form more cells that are just like the parents.

Some of your cells are nerve cells. They are also called neurons. They carry signals through your body. The signals are messages that tell your body to move. Your brain has about 100 billion neurons! The connections between neurons are called synapses. Each neuron has between 1,000 and 10,000 synapses. There are about one quadrillion synapses in your brain. That's 1,000,000,000,000,000 synapses in your brain! There are about 1 billion neurons in your spinal cord, the bundle of nerves that goes from your brain all the way down your back.

Some of your cells are red blood cells. They carry oxygen (O) through your body. They pick up carbon dioxide (CO₂) and help your body get rid of it. Your body wants to eliminate CO₂ because it is a waste product. Blood also helps your body stay warm. Conversely, blood cools off your brain, because it gets very hot.

Some of your cells are white blood cells. The white blood cells help your body fight sickness. Some of the white blood cells, called T-cells, fight viruses and other cells that do not belong in your body. T-cells work with B-cells to fight off the disease cells. They tell your brain to give you a fever so the disease cells will not be able to grow. Many diseases cannot grow when your body is hot. And some white cells eat disease cells! Go white blood cells!

Some of your cells are bone cells. They are also called osteocytes. Osteocytes make bone. The bone grows to form all around them. The osteocytes get food through tiny strings that go to nearby blood vessels. Blood vessels are the tubes that carry blood in your body. Some of your cells are skin cells. They are also called epithelial cells. They grow your skin. Your skin keeps dirt off your tissues. Your skin forms the outside of some organs, like your stomach and lungs. An adult has about 9 pounds of skin on his or her body.

Some of your cells are liver cells. They are also called hepatocytes. These cells check your blood. They make sure your blood has the right amount of sugars in it. They also help clean poisons from your body. They help make substances that help your blood to clot, or stick together. They clean alcohol from your body if you drink alcohol or take medicine with alcohol in it.

Some of your cells are fat cells. Their job is to store fat. The fat is a place where your body keeps or stores energy. The fat pads the organs in your body. The layers of fat also help keep your body warm. Your body weight depends on how fast your body stores fat compared to how fast your body uses up energy.

Some of your cells are muscle cells. Your muscles are made of these cells. They are also called myocytes. Your neurons send the messages to move muscles that are connected to your bones and your skeletal muscles. However, your nerve cells do not tell your heart muscles when to beat. Your heart muscles and smooth muscles have inner signals that tell them to move. Smooth muscles are muscles that you do not have to think about, like the muscles that work in the digestion of food. Your cells are busy all the time. Even while you are sleeping, your cells are working hard to keep your body alive and healthy.

READING QUESTIONS

Tick the right option

- 1) What is true about cells?
 - a) Each type has a different shape.
 - b) Each type has a different job.
 - c) Each type is a different size.
 - d) All of the above are correct.
 - e) Both A and C are correct.
- 2) Neurons are important because they...
 - a) Carry messages in your body.
 - b) Tell your body when to move.
 - c) Carry oxygen through your body.
 - d) Help your body fight sickness.
 - e) Both A and B are correct.
 - f) Both A and C are correct.
- 3) What kind of cells keeps dirt off your body's organs?
 - a) Neurons
 - b) Skin cells
 - c) Epithelial cells
 - d) Red blood cells
 - e) Both B and C are correct.
- 4) What do liver cells do?
 - a) They clear poisons out of your body.
 - b) They pad the organs in your body.
 - c) They tell your heart when to beat.
 - d) They fight viruses in your body.
 - e) They keep your body warm.
- 5) What is an example of smooth muscle?
 - a) The muscles connected to your bones
 - b) The muscles that digest food
 - c) Your arm muscles
 - d) Both A and B
 - e) None of the above

VOCABULARY

Tick the right option

- 1) Signals are...
 - a) signs.
 - b) neurons.
 - c) messages.
 - d) Both A and C are correct.
 - e) All of the above.
- 2) If you have a fever, your body is...
 - a) hot.
 - b) cool.
 - c) quiet.
 - d) in pain.
 - e) Both B and C are correct.
- 3) What is a bodily organ?
 - a) Tissues that do a certain job
 - b) A body part that has a task
 - c) Any group of cells
 - d) Both A and B are correct.
 - e) None of the above.
- 4) What is the best synonym for store?
 - a) Use
 - b) Keep
 - c) Burn
 - d) Move
 - e) Check

Quantifiers are words which show how many things or how much of something we are talking about. They are much, many, (a) little, (a) few, a lot (of), some, any, no, none, both, all, either, neither, each, every.

I. Basic uses of “some” and “any”

Some

1. Affirmatives: *There are some people waiting outside.*
2. Questions + “yes”: *Would you like some orange juice?*
3. Requests: *May I have some tea?*
4. (=certain): *Some people believe everything*
5. Some=several: *I haven’t phoned my uncle for some years.*

Any

1. Negatives: *I don’t want any sugar.*
2. Uncertain questions: *Do you have any money on you?*
3. With “hardly”, etc.: *There’s hardly any rain.*
4. With “at all”: *I haven’t any idea at all.*
5. After “if”: *Buy some apples if you see any.*
6. Any=it doesn’t matter who or which: *Any fool knows the right answer.*

General statements

We always use zero in general statements:
Beans are good for you.

Not...any, no, none

1. We can use “no” when we mean “not any”. We use an affirmative verb with no.
There aren’t any buses after midnight. = There are no buses after midnight.
2. We can also use “no” in place of “not a/an”: *I’m not an expert. = I’m no expert.*
3. None stands on its own as a pronoun: *We have no bananas. We have none.*
We do not use “no of”. Instead we use “none of” or “none” on its own: *None of the films that are shown in town look very interesting*

II. Basic uses of “much” and “many”

We use “much” with singular uncountable nouns: *much money.*

We use “many” with plural countable nouns: *many trees.*

1. In negative statements: *There isn’t much space in this flat.*
There aren’t many pandas in China.
2. In questions: *Is there much demand for silk stoking?*
Will there be many guests at the party?
3. In formal statements: *Much money is spent for shopping.*
Many teachers retire early.
4. In time references: *I’ve lived here for many years.*
5. With “as...as” *Take as much as you like.*

Basic uses of “a lot of” (lots of)

We use a “lot of” with plural countable or singular uncountable nouns: *a lot of books.*

1. in the affirmative sentences: *There were such a lot of people in the shops.*
 2. In negative statements for emphasis: *I haven’t got a lot of time for people like him.*
- If we use a quantifier on its own (not in front of a noun or pronoun) we do not use of:
Did you buy any fruit? – Yes, I bought a lot/lots. (Not a lot of)

Basic uses of “little/a little” and “few/a few”

We use “few” and “a few” with plural countable nouns: *a few friends, few friends.*

We use “*little*” and “*a little*” with uncountable nouns: *a little time, little time*.

1. A little means “some but not much”, “a small quantity”: *He knows a little French*.
2. A few – “a small number” *We are going away for a few days*.

Compare: *I’ve got a little money* (=some, but not much) Vs. *I’ve got little money* (=nearly no)
I’ve got a few friends (=some, but not many) Vs. *I’ve got few friends* (=nearly no)

We sometimes use only with a few and a little: *I’ve got only a little time*.

III. Basic uses of “both” and “all”

1. We use “*both*” and “*both the*” in exactly the same way to refer to two particular people or things (plural countable nouns): *Both children /both the children are in bed*.
2. We use “*all + noun*” to refer to things in general (=the whole number or amount):
All children like to play (plural countable).
All advice is useless (uncountable nouns).
3. “*All the*” refers to particular people or things: *All the children in our street like to play* (=all the+ plural countable nouns)

All the advice you gave me was useless (=all the+ uncountable noun)

Three basic positions of “*both*” and “*all*” in affirmative sentences

1. After be when it is the only verb in a sentence: *The girls are both ready* (=Both girls/Both the girls are ready)
The girls are all ready (=All the girls are ready)
2. After auxiliaries or the first auxiliary when there is more than one:
The boys can both speak French (=Both boys/Both the boys can speak French)
The committee should all have resigned (=All the committee should have resigned)
3. Before the main verb when there is only one verb: *The girls both left early* (=Both girls/Both the girls left early)

The girls all left early (=All the girls left early)

4. In negative sentences:

Both → neither: *Both the girls left early* = *Neither of the girls left early*

All → none: *All the girls left early* = *None of the girls left early*

All compared with everyone/everybody and everything

1. We rarely use “*all*” on its own to mean ‘everyone/everybody’: *Everyone/Everybody wanted Marilyn’s autograph*. (Not *All wanted*).
2. *All* means ‘everyone/everybody’ when we use other words with it: *All of us/We all agreed to sign the contract*. *All those who were present were in favor*. (= *Everyone/Everybody agreed to sign*. *Everyone/Everybody present was in favor*).
3. We often use *all* and *everything* with other words to refer to things: *All/Everything I have belongs to you*. *He taught me all/everything I know*.

But note: *He gave me everything*

IV. Basic uses of “each” and “every”

1. We often use “*each*” and “*every*” to refer to two people or things. When referring to more than two we can use both “*each*” and “*every*”. “*Each*” suggests ‘one by one’, ‘separately’. “*Every*” suggests ‘all together’: *My wife and I each ordered avocado to start with*.

Each child at the party had a piece of cake (*Every is possible*)

Every child in the world loves ice-cream

2. We must use "every" after *nearly* and after *not*: *Nearly every shop is shut today.*

3. We cannot use "of" after "every" and we cannot use "every" at the end of a sentence: *Each of the child received a present. They received a present each.*

Activities

Circle the right variant.

1. Give me ___ milk, please. *1 any 2 some 3 no 4 –*
2. We have ___ rivers but have ___ lakes. *1 some 2 any 3 no 4 –*
3. There is ___ taxi when you need ____ *1 any 2 – 3 one 4 no*
4. You can find ___ time between six and nine. *1 some 2 any 3 no 4 –*
5. When I needed help, he didn't ask ___ questions. *1 no 2 some 3- 4 any*
6. You may have ___ tea without milk because there isn't ___ at home. *1 any 2 no 3 one 4 some*
7. Ann is much younger than ___ other girls in her class. *1 some 2 any 3 no 4 –*
8. Shall I help you to ___ fruit? *1 any 2 – 3 some 4 no*

In the following sentences, fill in the gaps with one of the following quantifiers:

MUCH, MANY, A LOT OF, SOME, A LITTLE, LITTLE, A FEW, FEW

1. It seems to me that we haven't had _____ assignments in English this term.
2. How _____ material can we be expected to read in one week?
3. I've unfortunately had _____ headaches already because of stress.
4. Our yard looks awful this summer. There are too _____ weeds.
5. I didn't use _____ fertilizer last spring, and that has made a difference.
6. Also, I've paid very _____ attention to how _____ rain we've had.
7. I'm afraid it's rained _____ times this summer, and that is why the grass is turning brown and dying. Farmers are very upset.
8. How _____ good would it do if we watered the plants ourselves?
9. _____ of the advice I have ever received from so-called "experts" has been useless.
10. They said that just _____ help could make a big difference.
11. _____ people know as much about computers as Tomas does.

Choose between every, both, all and each.

1. _____ day he comes here, and _____ time he asks me the same question.
2. There was a huge building on _____ side of the square, _____ having a massive arched gate.
3. _____ windows in the house are open.
4. He shook hands and had a few minutes' talk with _____ of us.
5. I see him _____ day.
6. _____ his legs were broken in the accident.
7. You've been given _____ opportunity to do well in this company.
8. I've phoned him twice, but he's been out on _____ occasion.
9. _____ people are mortal.
10. By that time _____ his sisters had got married.
11. She had brown shining hair which hung down on _____ sides of her face.

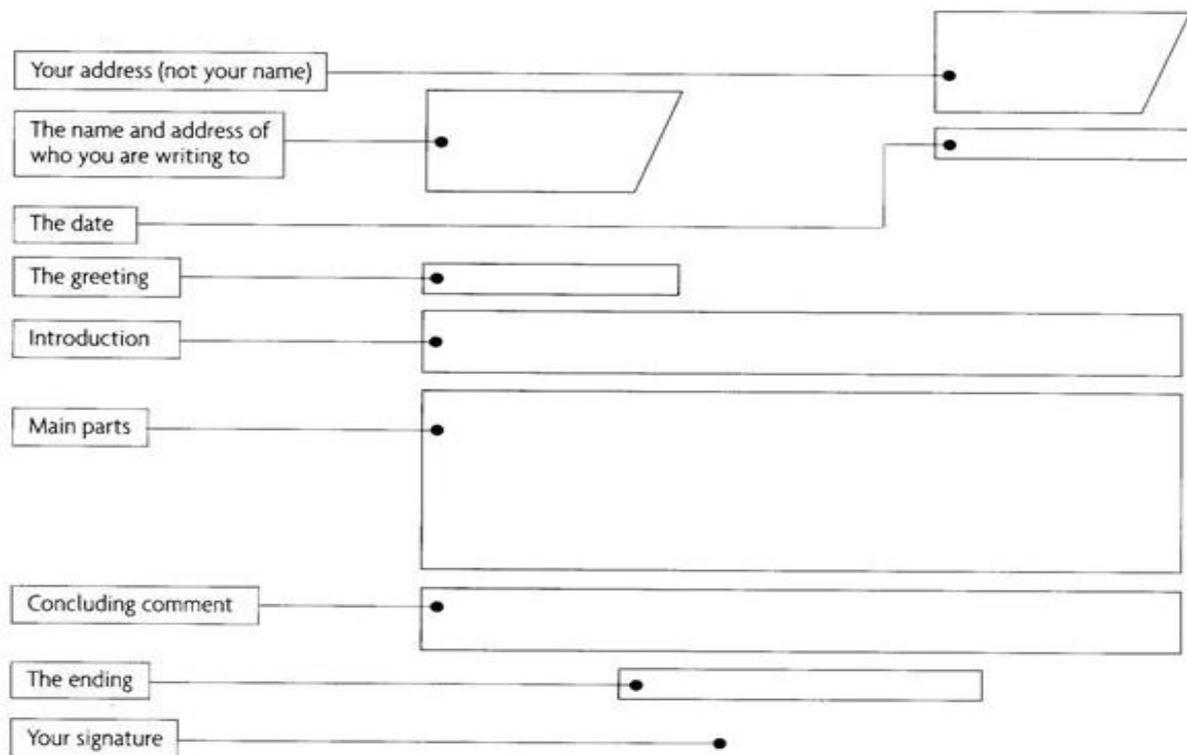
WRITING

Writing a formal letter

Match the greetings and the endings. Which are formal? Which are informal?

1. <i>Dear Helen</i>	a. <i>Yours Bob</i>
2. Dear sir or Madam	b. Yours faithfully Robert J Fleming
3. <i>Darling Rosie</i>	c. <i>Love Bob</i>
4. Dear Ms Mc Donald	d. <i>Lots of love</i> <i>Bobby xxx</i>
5. <i>Dear Philip</i>	e. Yours sincerely Robert Fleming

Look at this outline of a formal letter



Separate the different parts and write them in the boxes in the outline above.

Rua Luis de Deus 18, 3000 Coimbra, Portugal. 29th March 2013. The Principal, the Oxford English College, 234 Hilton RD, Westbourne BN43UA. Dear Sir or Madam, I saw your advertisement for English classes in this month's English Today magazine and I am interested in coming to your school this summer. I have studied English for three years but I have never been to England and I feel that this is now necessary, especially to improve your pronunciation. Please could you send me more information about your courses, and an application form? I would also like some information about accommodation. I look forward to hearing from you as soon as possible. Yours faithfully, Ana Maria Fernandez.

Text 3:

Tissues, Organs, & Systems

Multi-cellular organisms have many cells that work together in specific ways, each group performing certain functions. When each group does its part, the organism gets everything that it needs.

A tissue is a large group of cells that all have the same purpose or function. Each kind of cell has characteristics such as shape, size, flexibility, color, and texture that make it uniquely that kind of cell. Nerve cells combine with other nerve cells to make nerve tissue. Muscle cells combine with other muscle cells to make muscle tissue. Bone cells combine with other bone cells to make bone tissue, and so on.

An organ is a group of tissues that work together to do a certain job for the body. Some of the human body's organs include: the stomach, lungs, heart, kidneys, brain, and liver. Some of a plant's organs include: roots, stems, fruit, and leaves.

When several different organs join to meet the organism's needs, they are working together in an organ system. There are several different organ systems constantly working in most multi-cellular organisms. You are probably familiar with some of the human body systems. The respiratory system includes the lungs and all the body parts that allow us to breathe in air and exhale carbon dioxide. The circulatory system includes the heart and all the body parts that help move the blood around the body. The blood, in turn, carries nutrients and oxygen to all the cells of the body. The respiratory and circulatory systems work very closely together. The digestive system helps the body get nutrients from food that is eaten, and store energy for future use. The excretory system helps remove waste products that could harm the body otherwise.

Each of the body's systems is necessary for the overall health of the body. Like the body's building blocks, cells join to make tissues. Tissues join to make organs. Organs join to make systems. It's all organized to ensure the organism's survival.

READING COMPREHENSION

Answer the following questions based on the reading passage.

- 1) Which statements support the fact that bone cells are smaller than bone tissue?

- 2) Why is it necessary for the respiratory and circulatory systems to work together?

- 3) Predict what would happen if cell membranes stopped letting materials pass in and out of the cells.

Examples: *He began talking.*
He began to talk.

Some verbs have different meaning when used with Gerund or Infinitive: ***forget, go on, remember, regret, stop, and try.***

Word	Infinitive meaning	Gerund meaning
forget / remember	with regard to the future <i>Remember to switch off the lights.</i>	with regard to the past <i>Do you remember switching off the lights?</i>
go on	start something new <i>Go on to read.</i>	continue with the same action <i>Go on reading.</i>
Regret	with regard to the future <i>I regret to say that.</i>	with regard to the past <i>I regret saying that.</i>
Stop	interrupt another action <i>I stopped to smoke.</i>	terminate <i>I stopped smoking.</i>
Try	do something complicated <i>Try to solve this riddle.</i>	do it and see what happens <i>Try talking to him.</i>

Activities

Decide whether to use Infinitive (with/without to) or Gerund.

- 1) What can we do _____ (live) a healthy life?
- 2) In our society, people spend more and more time _____ (work).
- 3) So we often don't bother _____ (prepare) healthy meals.
In order to save time, we tend _____ (buy) fast food.
- 4) At fast food restaurants, we can _____ (eat) quite a lot without _____ (have) _____ (pay) a fortune.
- 5) And children enjoy _____ (eat) chips and burgers and _____ (drink) lemonade and cola.
- 6) That's a problem because _____ (eat) habits are hard _____ (shake)
- 7) The high amount of carbohydrates in fast food and sugary drinks is blamed for _____ (destabilize) the body's regulation of appetite.
- 8) So we keep on _____ (want) _____ (eat) more.
- 9) Bad _____ (eat) habits result in people _____ (become) obese.
- 10) Obese people risk _____ (suffer) from heart diseases.
- 11) We can avoid _____ (risk) such diseases by _____ (choose) _____ (eat) healthy food.
- 12) Be careful though. Some people are convinced _____ (do) something for their health by _____ (live) on energy bars or cornflakes.
- 13) And this is what the advertising for these products wants _____ (make) us think.
- 14) In reality, however, these foods are often heavily sugared _____ (give) them flavor.
- 15) But sugar is not mentioned as clearly as the low fat - that's why experts warn against _____ (rely) on the ads.
- 16) _____ (live) a healthy life, we ought _____ (choose) our food wisely.

17) We should _____ (eat) regular meals and try _____
(find) ways of _____ (exercise) more.

Complete the sentences with the correct form (infinitive or gerund) of the verb.

Early automobiles

Many inventors were trying _____ (build) gas-powered, self-propelled vehicles in the late 1800's. A French inventor succeeded in _____ (create) a steam-powered tricycle in 1769. A German engineer, Nicklaus August Otto, is known for _____ (invent) the four-stroke gas-powered engine in 1876. Both Gottlieb Daimler and Carl Benz managed _____ (build) and _____ (sell) autos in Germany in the 1880s.

By 1898 there were 50 companies responsible for _____ (market) cars in the United States alone. That number happened _____ (expand) to 241 by 1908. It was in 1908 when Henry Ford started _____ (make) automotive history. It was in that year that he managed _____ (put) together the first assembly line and _____ (lower) the price of automobiles so that everyone could buy one. He began _____ (arrange) workers so that they could each do a small part of the job in sequence. This prevented _____ (repeat) a log of unnecessary steps in the assembly process. By 1913 he managed _____ (produce) 250,000 cars a year. His first mass-produced car, the Model T, guaranteed _____ (give) modest-incomed Americans decent transportation for a reasonable (\$500 USD!) price.

Henry Ford went on _____ (lead) the U.S. automobile industry for many years. Though he tried, he failed _____ (get) elected to the U.S. Senate in 1918. His company was started with just \$28,000 and, by 1913, managed _____ (pay) dividends of \$11 million.

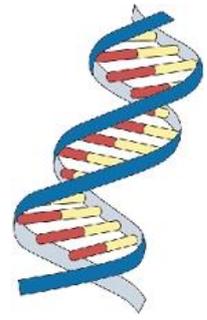
While Ford declined _____ (give) away more than a modest amount during his lifetime, the Ford Foundation arranges _____ (donate) millions of dollars each year to deserving causes.

TRANSLATION

Translate the following passage into French

An organ is a group of tissues that work together to do a certain job for the body. Some of the human body's organs include: the stomach, lungs, heart, kidneys, brain, and liver. Some of a plant's organs include: roots, stems, fruit, and leaves.

SECTION 2: GENETICS



Text 1:

DNA - The Double Helix DNA

Recall that the nucleus is a small spherical, dense body in a cell. It is often called the "control center" because it controls all the activities of the cell including cell reproduction, and heredity. How does it do this? The nucleus controls these activities by the chromosomes. Chromosomes are microscopic, threadlike strands composed of the chemical DNA (short for deoxyribonucleic acid). In simple terms, DNA controls the production of proteins within the cell. These proteins in turn, form the structural units of cells and control all chemical processes within the cell.

Chromosomes are composed of genes. A gene is a segment of DNA that codes for a particular protein, which in turn codes for a trait. Hence you hear it commonly referred to as the gene for baldness or the gene for blue eyes. Meanwhile, DNA is the chemical that genes and chromosomes are made of. It stands for deoxyribonucleic acid. DNA is called a nucleic acid because it was first found in the nucleus. We now know that DNA is also found in organelles, the mitochondria and chloroplasts, though it is the DNA in the nucleus that actually controls the cell's workings.

In 1953, James Watson and Francis Crick established the structure of DNA. The structure is a double helix, which is like a twisted ladder. The sides of the ladder are made of alternating sugar and phosphate molecules.

The rungs of the ladder are pairs of 4 types of nitrogen bases. Two of the bases are purines - adenine and guanine. The pyrimidines are thymine and cytosine. The bases are known by their coded letters A, G, T, C. These bases always bond in a certain way. Adenine will only bond to thymine. Guanine will only bond with cytosine. This is known as the Base-Pair Rule. The bases can occur in any order along a strand of DNA. The order of these bases is the code the contains the instructions. For instance ATGCACATA would code for a different gene than AATTACGGA. A strand of DNA contains millions of bases. Note that the bases attach to the sides of the ladder at the sugars and not the phosphate. Note that that the bases attach to the sides of the ladder at the sugars and not the phosphate.

The combination of a single base, a deoxyribose sugar, and a phosphate make up a nucleotide. DNA is actually a molecule or repeating nucleotides. Two of the bases are purines - adenine and guanine. The pyrimidines are thymine and cytosine. Note that the pyrimidines are single ringed and the purines are double ringed. The two sides of the DNA ladder are held together loosely by hydrogen bonds.

Messenger RNA

So, now, we know the nucleus controls the cell's activities through the chemical DNA, but how? It is the sequence of bases that determine which protein is to be made. The sequence is like a code that we can now interpret. The sequence determines which proteins are made and the proteins determine which activities will be performed. And that is how the nucleus is the control center of the cell. The only problem is that the DNA is too big to go through the nuclear pores. So a chemical is used to to read the DNA in the nucleus. That chemical is

messenger RNA. The messenger RNA (mRNA) is small enough to go through the nuclear pores. It takes the "message" of the DNA to the ribosomes and "tells them" what proteins are to be made. Recall that proteins are the body's building blocks. Imagine that the code taken to the ribosomes is telling the ribosome what is needed - like a recipe.

Messenger RNA is similar to DNA, except that it is a single strand, and it has no thymine. Instead of thymine, mRNA contains the base Uracil. In addition to that difference, mRNA has the sugar ribose instead of deoxyribose. RNA stands for Ribonucleic Acid.

The Blueprint of Life

Every cell in your body has the same "blueprint" or the same DNA. Like the blueprints of a house tell the builders how to construct a house, the DNA "blueprint" tells the cell how to build the organism. Yet, how can a heart be so different from a brain if all the cells contain the same instructions? Although much work remains in genetics, it has become apparent that a cell has the ability to turn off most genes and only work with the genes necessary to do a job. We also know that a lot of DNA apparently is nonsense and codes for nothing. These regions of DNA that do not code for proteins are called "introns", or sometimes "junk DNA". The sections of DNA that do actually code from proteins are called "exons".

DNA Replication

Each time a new cell is made, the cell must receive an exact copy of the parent cell DNA. The new cells then receive the instructions and information needed to function. The process of copying DNA is called replication. Replication occurs in a unique way – instead of copying a complete new strand of DNA, the process “saves” or conserves one of the original strand. For this reason, replication is called semi-conservative. When the DNA is ready to copy, the molecule “unzips” itself and new nucleotides are added to each side.

READING COMPREHENSION

Answer the following questions based on the reading passage.

1. Why the nucleus is called the "control center" of the cell?

2. What is a gene?

3. Where in the cell are chromosomes located?

4. DNA can be found in what organelles?

5. What two scientists established the structure of DNA?

6. Replication is called “semi-conservative” because half of the original strand is

7. What are the sides of the DNA ladder made of?

8. What three parts make up a single nucleotide:

9. What are the 4 bases that make up the rungs of the DNA ladder?

10. What sugar is found in DNA?

11. What sugar is found in RNA?

12. How do the bases bond together? A bonds with _____ G bonds with _____

13. Why is RNA necessary to act as a messenger?

14. Proteins are made where in the cell?

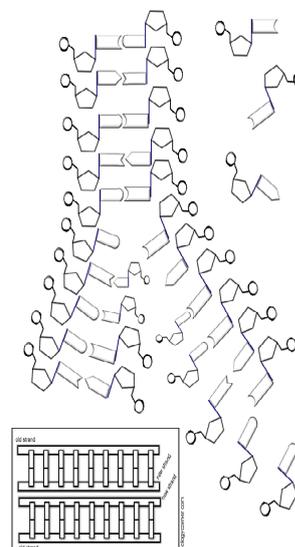
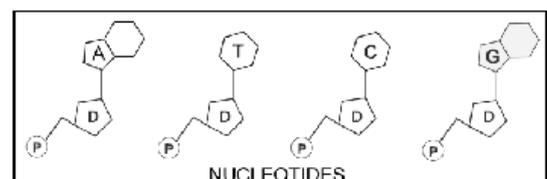
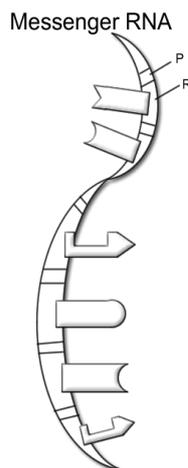
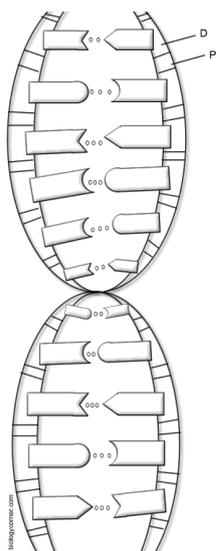
15. How is RNA different from DNA? (list 3 things)

16. The process of copying DNA is called

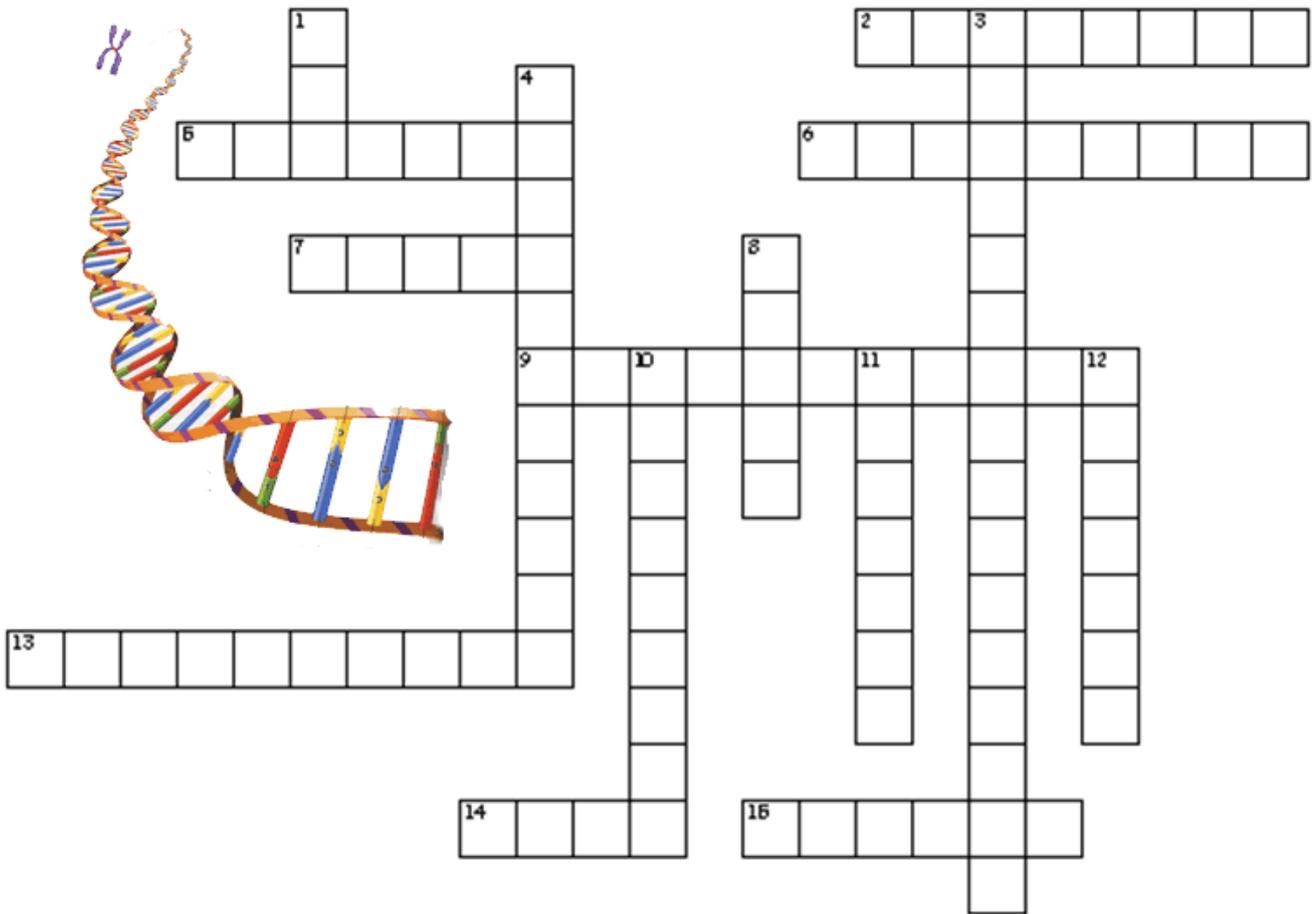
17. What is the shape of DNA?

18. How do some cells become brain cells and others become skin cells, when the DNA in ALL the cells is exactly the same. In other words, if the instructions are exactly the same, how does one cell become a brain cell and another a skin cell?

19. Why is DNA called the "Blueprint of Life"?



DNA CROSSWORD



Across

- 2. the two sides of DNA held together by weak ____ bonds
- 5. always pairs with cytosine
- 6. where protein is assembled from the message on the RNA
- 7. the shape of DNA, double ____
- 9. process of copying DNA
- 13. composed of a sugar, a base, and a phosphate
- 14. sections of DNA that code for a trait
- 15. replaces thymine in RNA

Down

- 1. carries the message of DNA to ribosomes
- 3. the long form of DNA, ____ acid
- 4. the sugar found in DNA
- 8. DNA's structure established by Watson and ____
- 10. the sides of the DNA ladder composed of sugar and ____
- 11. always pairs with thymine
- 12. where DNA is found in the cell



WRITING

Writing CV

There are three types of CVs:

CHRONOLOGICAL CV

A chronological CV focusses on presenting the candidate's experience on an employer by employer basis, with the posts being listed in reverse chronological order. It also contains detail of education and qualifications, together with hobbies. Some chronological CVs also contain a brief personal statement at the front which sets out the key skills and strengths of the candidate. This is the most common type of CV.

How to structure a chronological CV

- A chronological CV typically uses the following structure:
- Personal details (i.e. name and contact details)
- Personal profile or career objectives. This should not exceed 5 lines.
- Employment in reverse chronological order. Under each employer, you should set out a number of bullet points which describe your key achievements. In order

to be fully effective, you should ensure that you use power words.

- Key qualifications
- Professional memberships
- Hobbies and personal interests

FUNCTIONAL CV

A functional CV typically starts with a personal profile which highlights the achievements, skills and personal qualities that you possess. This is then followed by a succession of sections, each relating to a different skill or ability. These should be ordered in decreasing order of importance. Instead of focussing on any particular job, you should describe your experience in its globality. Since you are not focussing on any particular past employment, this means you can include any skills or experience gained in voluntary or unpaid work.

COMBINED CV

A combined CV follows both the chronological and functional format, which makes the CV slightly longer than normal.

Français	English
Chapitres d'un CV	CV chapters
État civil	Civil status
Nom + prénom	Name + first name
Sexe (féminin – masculin)	Sex (female – male)
Date de naissance	Date of birth
Adresse	Address
Téléphone	Telephone
Études et formations	Education and training
Expérience professionnelle	Professional experience
Centres d'intérêt	Interests
Activités	Activities
Activités annexes	Extracurricular activities
Divers	Additional information
Divers	Miscellaneous
Références	References

A propos du travail	About the job
Une carrière	A career / A line of work
Un métier	A trade / job
Expérience professionnelle	Work experience
Être responsable de...	To be responsible for..., in charge of...
Accéder au poste de ...	To reach the position of ...
Travail temporaire	Temporary work
Travailler à temps partiel	To work part-time
Travailler à mi-temps	To work half-time
Travail à plein temps	Full time work
Job d'été	Summer job
Petits boulots	Odd jobs
Stage de formation	Training session
Stage (dans une entreprise)	Internship
Formation continue	Personal training
Licenciement économique	Economic lay off
Chômage	Unemployment

Postuler	To apply
Postuler / poser sa candidature	To apply for a job
Entretien de recrutement	Recruitment interview
Correspondre au profil demandé	To fit the job
Un candidat	An applicant
Une candidature	An application
Être expérimenté	To be experienced
Compétences (niveau de...)	Skills (level of proficiency)
Mes attentes	My expectations
Capacités	Abilities
Expérience (solide ... en)	Experience (strong ... in)
Maîtriser (quelque chose)	Be familiar with
Être capable de ...	To show ability / to be able to
Prendre des décisions	Make decisions
Être digne de confiance	To be reliable
Motivé (très...)	Motivated (strongly ...)
Faire preuve d'initiative	To show initiative
Se consacrer à...	To commit oneself to...
Un vif intérêt pour...	A keen interest in
Être mobile (accepter les déplacements)	To be willing to travel
Avoir le sens du contact	To be able to relate well with people
Bonne maîtrise de l'anglais oral et écrit	Good skills at English both written and oral
Bonne connaissance de l'anglais	Good knowledge of English

Parlons d'argent	Salary
Salaire	Salary / wages
Rémunération actuelle (per annum = p.a) :	Present salary (par an)
Bien payé	Well-paid
Mal payé	Badly-paid
Sous-payé	Underpaid



Personnes	Persons
Un patron	A manager
Un employeur	An employer
Un cadre	An executive
Un responsable de projet	A supervisor
Un employé	An employee
Un intérimaire	A temporary worker/employee
Un ouvrier	A worker / a blue-collar
Un stagiaire	A trainee

Useful expressions

Dear Sir or Madam

(Madame, Monsieur - quand on ne sait pas qui va la recevoir)

To Whom It May Concern ...

(très impersonnel - A qui de droit)

I am writing to you about your advertisement.

Je vous écris à propos de votre annonce...

I am writing to you to apply for the position of....

Je vous écris pour postuler au poste de...

I am writing to you in reference to your advertisement.

Je vous écris concernant votre annonce...

As indicated in your advertisement...

Comme indiqué dans votre annonce...

Your advertisement in (source) for the position of (job) sparked my interest.

votre annonce dans (source) pour le poste de (emploi) a attiré mon attention.

I have worked as a ... (/in)

Je travaille comme...

In my current position I have worked ... developed... created ...

Dans mon poste actuel, je travaille... je développe... je crée

I would define myself as a

Je me définirais comme...

I believe it is time for me to move to another company / department ... like yours

Je pense qu'il est temps pour moi d'aller dans une autre entreprise... telle que la vôtre

I believe my qualifications would match your requirements.

Je pense que mes compétences seraient en adéquation avec vos besoins



I am available for an interview.

Je suis disponible pour un entretien.

Please find my résumé enclosed.

veuillez trouver ci-joint mon CV.

I am sending my résumé as an attachment.

Je vous envoie mon CV en pièce jointe.

I look forward to hearing from you soon. / sincerely yours; yours faithfully. / ...

En attente de vos nouvelles (formules de politesse de fin de lettre: cordialement - respectueusement etc.)

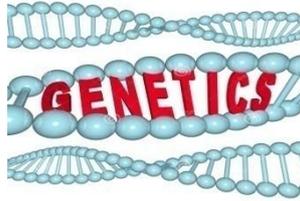
More tips

- ⚙ **Ideally your CV in English should not be longer than one page. Two pages are only acceptable if you have had many different jobs and a variety of experience.**
- ⚙ **Spacing, aligning and layout are very important when you write your CV, in order to create a positive and professional impression.**
- ⚙ **Use 'dynamic' and 'action' verbs such as attained, accomplished, conducted, established, facilitated, founded, managed, etc.**
- ⚙ **Do not use the personal pronoun 'I' in your CV; use sentences without a personal pronoun: Established and managed a new sales force, not ~~I-established and managed a new sales force.~~**

Activities

Use the information below to write a CV about Dominique Dupont

My name's Dominique Dupont. I live in Cannes at 226 Avenue de la Mer. I'm 20 years old. I was born on 22 March 1990. You can send me an email via ddupont@orange.fr and my mobile phone number is 33 7456322114. I attended high school in Cannes until I passed my baccalaureate in 2008. I've just finished a two-year training course in business management and now I have a diploma in management. My IT skills are excellent and I speak and write English well. I did a summer job at Techno Diagnostics in Cannes working with the Sales Manager, Mr. Daniel Blanc. I'm hard-working and get on easily with people. I'm not afraid of responsibility or challenges.



Text 2:

Genetics is a branch of biology that deals with heredity and the ways in which characteristics are passed on from parents to children. As a science, it has recently developed, thanks to technology, through many extensive studies which were able to identify carriers of harmful genes and genetic disorders.

Individuals often seek genetic counseling if they have a family history of genetic disorder or after a child is born with a defect. The counselor may suggest various tests that can help determine whether there is a risk of parents transmitting a genetic disorder to children.

So, a genetic specialist will counsel four groups of people: couples who already have at least one child with a genetic disorder, couples who have a known family genetic disorder but wish to have children, couples who have a genetic disorder of their own such as diabetes and wish to know the chances of passing on those genes to their children, and elderly couples who are expecting a baby or have been exposed to drug or toxin that may cause a genetic disorder in the embryo.

READING COMPREHENSION

A. Mark the following statements as True or False.

1. Despite technology genetics is still at its early stages. T / F

2. Carriers of harmful genes and genetic disorders were identified by chance. T / F

3. Genes transmit characteristics from parents to their children. T / F

4. Diabetes is a type of disorder that can pass from parents to their children. T / F

5. Couples who have a known family disorder mustn't seek genetic counseling. T / F

B. Complete these statements.

1. The _____ may recommend different _____ to find out if there is a risk of parents passing on a genetic disorder to children.
2. _____ studies heredity and how _____ are passed from parents to children.

C. Answer these questions.

1. When must people seek genetic counseling?

2. What is the recent revolution which occurred in the field of genetics?

They are used in scientific writing to indicate cause and effect of actions or in experiments. They can also be used to compare ideas, contrast ideas and introduce examples. There are three main types of linking words: **conjunctions**, **transitions**, and **prepositions**.

1. Conjunctions

The most important conjunctions are **because**, **as**, **since**, and **so**. “Because”, “as”, and “since” introduce a **cause**; “so” introduces an **effect**. These are used to join two complete sentences (or independent clauses) together. They are often used like this:

➔ *First sentence conjunction second sentence.*

For example:

*I stayed at home **because** it was raining.*

Or: Conjunction

*It was raining, **so** I stayed at home.* (use a comma before “so”)

Conjunction

You can also reverse the order of the sentences with **because**, **as**, and **since**.

For example:

Conjunction **Because** it was raining, I stayed at home. (use a comma between the first and second sentences) Note that this is **not** possible with “so”.

2. Transitions

The most important transitions are **therefore**, **consequently**, and **as a result**. All of these introduce an **effect**. These are used to join two complete sentences (or independent clauses) together. They are often used like this:

➔ *First sentence; transition, second sentence.*

➔ *First sentence. transition, second sentence.*

For example:

*It was raining; **therefore**, I stayed home.*

Or: Transition

*It was raining. **Consequently**, I stayed at home.*

Transition

3. Prepositions

The most important prepositions are **due to** and **because of**. Both of these introduce a **cause** in the form of a **noun phrase**. They are often used like this:

➔ *Sentence due to noun phrase.*

➔ *Because of noun phrase, sentence.*

For example:

*I stayed at home **due to** the rain.*

Or: Preposition

***Because of** the rain, I stayed at home.*

Preposition

Activities

Tick the right answer

- a) Many species of wildlife are becoming extinct, _____ the rainforests are being destroyed.
 - a. therefore
 - b. since
 - c. so
 - d. consequently
- b) _____ logging provides jobs and profits, the government is reluctant to control it.
 - a. So
 - b. Consequently
 - c. Due to
 - d. Since
- c) Hemp can be used to make paper, _____ it could reduce the need for logging.
 - a. therefore
 - b. so
 - c. due to
 - d. because
- d) Hemp was grown throughout history _____ its versatility; it can be used to make many different things.
 - a. due to
 - b. because
 - c. since
 - d. as a result
- e) Hemp is related to the marijuana plant; _____, it is illegal in many countries.
 - a. so
 - b. because
 - c. due to
 - d. as a result
- f) Hemp cannot be used to produce marijuana, _____ its low THC content.
 - a. because
 - b. as
 - c. because of
 - d. consequently
- g) Marijuana is less toxic than alcohol or tobacco. _____, some people believe it should be legalized.
 - a. So
 - b. Therefore
 - c. Due to

- d. Because
- h) _____ Canada has legalized hemp farming, we can expect to see pulp and paper produced from hemp very soon.
- a. Therefore
- b. Due to
- c. So
- d. As

Join the following sentences as follow:

1. Link the following two sentences using "because":

- Hemp is related to the marijuana plant.
 - It is illegal.
-

2. Link the following sentences using "as a result":

- In the last ten years, many BC valleys have been clearcut.
 - 142 species of salmon have become extinct.
-

3. Link the following sentences using "since":

- Forestry is important to Canada.
 - It generates a lot of export income.
-

4. Link the following sentences using "therefore":

- Some people believe marijuana should be legal.
 - Marijuana is less toxic than alcohol or tobacco.
-

5. Link the following sentences using "due to" (you will have to change one of the sentences into a noun phrase):

- Many species in BC are threatened.
 - Logging is taking place.
-

Text 3:

GENETIC ENGINEERING OF FOOD



Despite the global overproduction of food, millions of people suffer from hunger and die of starvation each year. The problem is most severe in the underdeveloped and developing countries of the United States. Politicians, scientists and human aid organizations have been trying to work out a concrete solution to the problem of starvation for years. However, it appears that aid concerts, charity donations and political disputes are not sufficient because the needs of poor and starving people are not well-defined or the measures taken are not adequate. It may seem that the question of global starvation is not a difficult one to resolve judging by the ample amount of food produced by developed and wealthy countries. Yet, the issue of satisfying hunger in the Third World is hindered by many obstacles most of which are political and financial.

As the population of the planet increases and the poverty becomes more acute in the poor regions, the question of food availability turns into a matter of major concern. It is common knowledge that global food resources are sufficient to feed every person in need. There are suggestions for increasing global food production, but to specialists these suggestions make little or no sense at all. The core of the problem lies in food distribution and financial constraints. Many people are simply too poor to buy readily available food. At this point, the problems of humiliating starvation and abject poverty overlap and the conclusion that emerges is that there is no other way to end starvation than by abolishing global poverty. However commendable the objective may sound, it is highly unlikely to be accomplished within the next decade or so. No wonder then that a host of alternative proposals crop up every now and then. Genetic engineering of food is one of them and has attracted a great deal of attention in the mainstream media in many countries.

Genetic engineering is the field of science that can open many new doors and can have multiple applications in the future. To mention just a few, geneticists have cloned animals and are getting close to cloning man, however controversial the idea may be. They have grown transgenic animals with genes from other species, they can modify viruses to make them harmless to humans and they may be able to grow parts of the human body for transplantation. Genetic engineering has also made its way into food production. However, the idea of genetically engineered foods has as many opponents as advocates.

It may sound surprising to some people that a lot of foods we eat today contain genetically altered ingredients. Many of the changes have been effected without our knowledge and many such products are not clearly labeled. For example, considerable genetic changes have been introduced in many types of crops to make them grow bigger, faster, and more healthily. Some genetically modified crops may contain greater amounts of vitamins, minerals or proteins than their naturally grown counterparts. Genetically altered cattle produces milk with a higher content of calcium whereas genetically modified pigs' meat is known to be leaner and more tender. Biotechnology experts claim that the genetic engineering of food is a direct response to the problem of global starvation. They believe that modified foods may help alleviate hunger and increase cheaper food production.

There are however many questions and uncertainties about the genetic alternative. There is a growing wave of concern among consumers, farmers, scientists and politicians about the feasibility and the ultimate outcome of the genetic engineering of food. Some of them point to the fact that the problem of hunger in the world does not stem from a shortage

of food. They claim it is the political and economic constraints that keep many people dying of hunger and that there is no need for increased food production. Adversaries of the concept say technology does not represent a direct solution to the problems of famine. Other critics say that innovations in agricultural biotechnology are profit-driven rather than need-driven. Huge corporations have invested exorbitant amounts of money in a genetic research and hope it will bring financial yield and will make the populations in need dependent on their own products. The motives of the food producers are recognized as clearly commercial. The companies that have launched genetically engineered foods on the market have recently come under severe criticism for selling products which have not been adequately tested for health safety. Some critics say that genetically engineered foods can be dangerous as there is no certainty about the ultimate effect of gene manipulation and the alternations made in the new products.

Those who hope to resolve the problem of global starvation with the use of genetic engineering are sure to encounter even more obstacles. The problem will not be solved as long as the real sources are not addressed. Poverty and economic limitations must be dealt with first if people in poor countries are to be able to buy a sufficient amount of food. And if genetically engineered foods will not be targeted at the suffering populations for humane reasons, they may land on the shop shelves in developed countries for commercial reasons. In this case, it may make sense to get accustomed to reading labels on food packages to make sure to what extent we are affected by the new obscure technologies.

READING COMPREHENSION

Match the words with their definitions.

1. Advocate	a. someone who has the same qualities as someone else	1. +...
2. Aid	b. something that worries someone	2. +...
3. Ample	c. notorious lack of something	3. +...
4. Concern	d. (price/amount of money) much higher than it should be	4. +...
5. Constraint	e. help in form of food or money given to people in need	5. +...
6. Counterpart	f. someone who is against someone else's plans or ideas	6. +...
7. Dispute	g. money given to a charity organization as help	7. +...
8. Donation	h. profit, result, effect	8. +...
9. Exorbitant	i. more than enough, sufficient	9. +...
10. Obscure	j. the result of an action or discussion	10. +...
11. Opponent	k. a restriction or limitation	11. +...
12. Outcome	l. death or suffering caused by lack of food	12. +...
13. Shortage	m. a disagreement about something important	13. +...
14. Starvation	n. someone who supports or speaks in favour of something	14. +...
15. Yield	o. unknown, unimportant, hard to understand	15. +...

Discuss the following questions and justify your opinion.

1. What makes the problem of famine in Third World countries so difficult to solve?

2. What happens to the overproduced food in wealthy countries?

3. If genetic engineering fails, what other solutions can there be to global starvation?

4. Why may genetically engineered foods be considered dangerous to humans?

5. Do you make a point of reading labels on food packages? Does it make sense?

WRITING

Summarization Skills Techniques

A summary is a short statement or statements that give only the main points or core information of something excluding redundant information. Basically it reproduces main points of a speech, article, section, chapter or book.

How do I Summarize?

When summarizing, follow the guidelines listed below:

- * Include only the main points of the original passage
- * Do not worry about following the original order of ideas.
- * Keep the length down to no more than half the length of the original.

Writing a summary essentially takes four steps:

1. Identify the main points of the passage. In some paragraphs, the main idea is expressed in the topic sentence, yet in others, it may not be explicitly stated at all. Additionally, a passage may contain one or more points that are vital to its meaning. These elements must be mentioned in your summary. However, *you will not include all the details*. Instead, only choose the most important.
2. Organize and present these main points in a coherent way. Be careful not to use the author's words or to follow the sentence structure of the original passage.
3. Make sure that you are faithful to the meaning of the source and that you have accurately represented the main ideas.
4. Cite appropriately and integrate the summary into the text effectively.

Example Summaries:

Original Passage:

Height connotes status in many parts of the world. Executive offices are usually on the top floors; the underlings work below. Even being tall can help a person succeed. Studies have shown that employers are more willing to hire men over 6

feet tall than shorter men with the same credentials. Studies of real-world executives and graduates have shown that taller men make more money. In one study, every extra inch of height brought in an extra \$1,300 a year. But being too big can be a disadvantage. A tall, brawny football player complained that people found him intimidating off the field and assumed he "had the brains of a Twinkie." (p. 301)

Locker, K. O. (2003). *Business and administrative communication* (6thed.). St. Louis, MO: Irwin/McGraw-Hill.

Let's first identify the main points in the original passage.

Topic sentence: "Height connotes status in many parts of the world."

Main point: "Even being tall can help a person succeed."

Main point: "Executive offices are usually on the top"

Main point: "being too big can be a disadvantage"

For this example, we'll look at multiple summaries. As you read the sample summaries below determine if the main points were included and if the unimportant points were discarded.

Also check to see if both wording and sentence structure do not follow those of the original.

Summary A:

Throughout the world, being tall will lead to professional success. In fact, research shows that employers are more likely to hire taller men and to pay them more, as compared to shorter men with the same qualifications (Locker, 2003).

- *[This summary is too brief. Further, it changes the meaning slightly, giving the impression that being tall guarantees success.]*

Summary B:

In most countries, height suggests status. For instance, higher executives normally use top floors of office buildings. Further, research shows that men over six feet tall are more likely to be hired than those shorter than them but with the same qualifications. Taller men also receive greater incomes, possibly as much as \$1,300 a year more than those only one inch shorter than them. However, as a tall and muscular football player points out, a disadvantage to being tall is that some individuals may perceive you as threatening or even dumb (Locker, 2003).

- *[This summary is too long. Instead of focusing on the main points, it includes all of the details that are in the original passage.]*

Summary C:

Though height may connote slowness to some people, in the business world, it is almost universally associated with success. For example, taller men are more likely

SECTION 3:

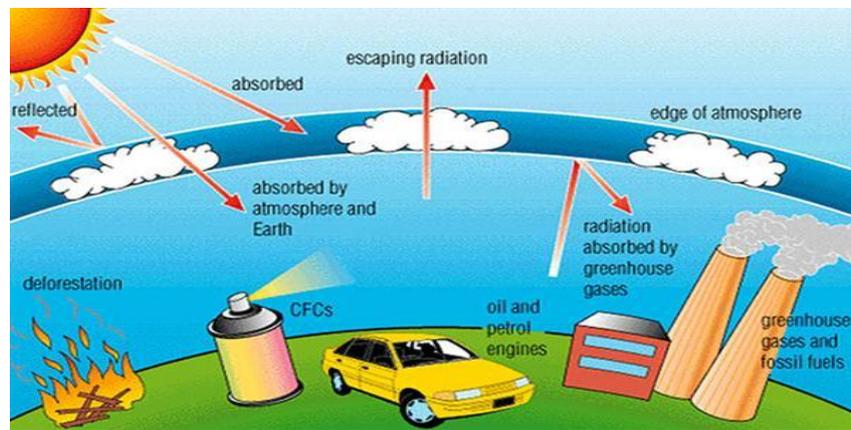
ENRIVONMENT

Match the words with their synonyms

1. Acid rain	a. A development that is causing little or no damage to the environment and therefore able to continue for a long time.	1. +...
2. Biodegradable	b. A gradual increase in world temperatures caused by polluting gases such as carbon dioxide which are collecting in the air around the earth and preventing heat escaping into space.	2. +...
3. Biodiversity	c. A large amount of water covering an area that is usually dry.	3. +...
4. Carbon dioxide	d. A layer of air high above the earth, which contains a lot of ozone, and which prevents harmful ultraviolet light from the sun from reaching the earth.	4. +...
5. Carbon monoxide	e. A layer of oil that is floating over a large area of the surface of the sea, usually because an accident has caused it to escape from a ship or container.	5. +...
6. Climate	f. A long period when there is little or no rain.	6. +...
7. Deforestation	g. A mountain with a large circular hole at the top through which lava (= hot liquid rock), gases, steam and dust are or have been forced out.	7. +...
8. Desertification	h. A sudden violent movement of the earth's surface, sometimes causing great damage.	8. +...
9. Disposable products	i. Able to decay naturally and harmlessly.	9. +...
10. Drought	j. An extremely large wave caused by movement of the earth under the sea, often caused by an earthquake (= when the earth shakes)	10. +...
11. Earthquake	k. An increase in the amount of carbon dioxide and other gases in the atmosphere which is believed to be the cause of a gradual warming of the surface of the earth.	11. +...
12. Endangered species	l. An organization that fights for the protection of the environment.	12. +...
13. Energy	m. Air, water and land in or on which people, animals and plants live	13. +...
14. Environment	n. Cutting down of trees in a large area; the destruction of forests by people.	14. +...
15. Extinction	o. Damage caused to water, air.... By harmful substances or waste.	15. +...
16. Flood	p. Degradation of natural resources because of human pressure	16. +...
17. Fumes	q. Describes a form of energy that can be produced as quickly as it is used.	17. +...
18. Global warming	r. Describes a type of petrol or other substance that does not contain lead.	18. +...
19. Green peace	s. Describes an item that is intended to be thrown away after use.	19. +...

20. Greenhouse effect	t. Endangered birds/plants/species animals or plants which may soon not exist because there are very few now alive.	20. +...
21. Natural resources	u. Gas formed when carbon is burned, or when people or animals breathe out.	21. +...
22. Oil slick	v. General weather conditions usually found in a particular place.	22. +.
23. Ozone layer	w. Many species of plants and animals are in danger of/threatened with extinction (= being destroyed so that they no longer exist)	23. +...
24. Pollution	x. Number and variety of plant and animal species that exist in a particular environmental area or in the world generally, or the problem of preserving and protecting this.	24. +...
25. Recycle waste	y. Poisonous gas formed by the burning of carbon, especially in the form of car fuel.	25. +...
26. Renewable energy	z. Power from something such as electricity or oil, which can do work, such as providing light and heat. There are different types of energy: solar, nuclear, hydroelectric...	26. +...
27. Sustainable development	aa. Process by which land changes into desert.	27. +...
28. Tsunami	bb. Rain which contains large amounts of harmful chemicals as a result of burning substances such as coal and oil	28. +...
29. Unleaded petrol	cc. Strong, unpleasant and sometimes dangerous gas or smoke.	29. +...
30. Use up natural resources	dd. Things such as minerals, forests, coal, etc. Which exist in a place and can be used by people.	30. +...
31. Volcano	ee. To collect and treat rubbish to produce useful materials which can be used again.	31. +...
32. Waste	ff. Unwanted matter or material of any type, often that which is left after useful substances or parts have been removed.	32. +...

Text 1:



Climate Change and Global Warming

Climate change

Wikipedia defines climate as follows:

Climate encompasses the statistics of temperature, humidity, atmospheric pressure, wind, rainfall, atmospheric particle count and other meteorological elements in a given region over a long period of time. Climate can be contrasted to weather, which is the present condition of these same elements and their variations over shorter time periods.

Climate may be inherently variable as evidenced by the irregularity of the seasons from one year to another. This variability is normal and may remain partially understood. It is related to changes in ocean currents, volcanic eruptions, solar radiation and other components of the climate system. In addition, our climate also has its extremes (such as floods, droughts, hail, tornadoes and hurricanes), which can be devastating. However, in recent decades, a number of indicators and studies show more and more evidence of climate warming across the globe. A disturbing phenomenon that challenges human habits and activities which are responsible for greenhouse gas emissions.

The green house effect

The greenhouse effect is the process by which absorption and emission of infrared radiation by gases in the atmosphere warm a planet's lower atmosphere and surface. It was proposed by Joseph Fourier in 1824 and was first investigated quantitatively by Svante Arrhenius in 1896. Naturally occurring greenhouse gases have a mean warming effect of about 33 °C (59 °F). But Human activity since the Industrial Revolution has increased the amount of greenhouse gases in the atmosphere, leading to increased radiative forcing from CO₂, methane, tropospheric ozone, CFCs (chlorofluorocarbon) and nitrous oxide. The concentrations of CO₂ and methane have increased by 36% and 148% respectively since 1750. These levels are much higher than at any time during the last 650,000 years, the period for which reliable data has been extracted from ice cores. Over the last three decades of the 20th century, GDP (Gross Domestic Product) per capita and population growth were the main drivers of increases in greenhouse gas emissions. CO₂ emissions are continuing to rise due to the burning of fossil fuels and land-use change.

Consequences of global warming

There are two major effects of global warming: the increase of temperature on the earth by about 3° to 5° C (5.4° to 9° Fahrenheit) by the year 2100 and Rise of sea levels by at least 25 meters (82 feet) by the year 2100. Other consequences are listed below:

Sea levels are rising due to thermal expansion of the ocean, in addition to melting of land ice.

Amounts and patterns of precipitation are changing.

The total annual power of hurricanes has already increased markedly since 1975 because their average intensity and average duration have increased.

Changes in temperature and precipitation patterns increase the frequency, duration, and intensity of other extreme weather events, such as floods, droughts, heat waves, and tornadoes.

Higher or lower agricultural yields, further glacial retreat, reduced summer stream flows, species extinctions.

Diseases like malaria are returning into areas where they have been extinguished earlier.

Sources: Wikipedia / Time for change

READING COMPREHENSION

Say whether the following statements are true (T) or false (F):

- | | |
|--|-------|
| a) Climate is by definition variable. | T / F |
| b) Climate change observed in the last decades is natural. | T / F |
| c) Global warming is caused by industrialization. | T / F |
| d) Greenhouse effects have no impacts on our health. | T / F |

Choose the right words:

- a) There is a growing concern over _____ (*used up - gases - the protection - wind mill - biodiversity - pollution - deforestation - effect - recycle*) of species habitat and _____ (*used up - gases - the protection - wind mill - biodiversity - pollution - deforestation - effect - recycle*)
- b) The earth's resources are _____ (*used up - gases - the protection - wind mill - biodiversity - pollution - deforestation - effect - recycle*) being at an alarming rate.
- c) The greenhouse _____ (*used up - gases - the protection - wind mill - biodiversity - pollution - deforestation - effect - recycle*) is an increase in the amount of carbon dioxide and other _____ (*used up - gases - the protection - wind mill - biodiversity - pollution - deforestation - effect - recycle*) in the atmosphere which is believed to be the cause of a gradual warming of the surface of the Earth.
- d) The energy generated by the _____ (*used up - gases - the protection - wind mill - biodiversity - pollution - deforestation - effect - recycle*) is both very efficient and clean.
- e) There have been many reports about _____ (*used up - gases - the protection - wind mill - biodiversity - pollution - deforestation - effect - recycle*) which is destroying large areas of tropical rain forest.
- f) The Japanese _____ (*used up - gases - the protection - wind mill - biodiversity - pollution - deforestation - effect - recycle*) more than half their waste paper.
- g) We're not doing enough to protect the environment from _____ (*used up - gases - the protection - wind mill - biodiversity - pollution - deforestation - effect - recycle*).

Speaking in public in a foreign language is very difficult. However, we are lucky when we do this because there are many standard phrases that we can use to structure and construct our presentation. This means that we can concentrate on the content of the presentation, and communicating what we need to say. The following are some useful phrases that you can use when you make your presentation.

Remember: when you give a presentation there are three main parts to the presentation:

The Introduction
The Main Body
The Summary

Introduce yourself

Good morning/afternoon Ladies and Gentlemen, my name is X from Y (name of company, country etc) ...

Introduce the topic

Today/This morning I'm going to talk about/I'd like to talk about ...

The aim of my presentation is to ...

I'd like to tell you a little about ...

List what the stages of your presentation are

I've divided my presentation into X parts.

First, I'd like to talk about ...

Second, ...

Then, (I'll move on to/consider/deal with/focus on) ...

After that, ...

Next, ...

Introducing a new section

Let's move on to ...

Moving on to ...

This leads to ...

Let's turn to ...

Finally ...

Moving backwards and forwards

As I mentioned earlier, ...

I'll be talking more about this later.

I'll return to this point.

Using visual information

This slide/diagram/transparency shows ...

If you look at this graph it shows that ...

What is interesting here is ...

I'd like to draw your attention to ...

Replying to difficult questions (when you don't have an answer or don't want to answer a question)

That's a good point.

I'll come to that later if you don't mind.

I'm afraid I don't have that information to hand.
I'm afraid I'm not the right person to answer that.

How long will you speak for and do you want to answer questions?

I'm going to speak for about X minutes/hours/days.
Please keep any questions until the end.
If you have any questions please feel free to interrupt.
I'd be happy to answer any questions at the end.

Summing up

So, to summarize, ...

In conclusion, ...

That concludes my talk. If you have any questions I'll do my best to answer them.

Text 2:

Can Ocean Desalination Solve the World's Water Shortage?

Environmentalists concerned about long-term effects of desalination. By Larry West

Fresh *water scarcity* is already posing major problems for more than a billion people around the world, mostly in *arid* developing countries. The World Health Organization predicts that by mid-century, four billion of us—nearly two-thirds of the world's present population—will face severe fresh water shortages.

With human population expected to balloon another 50 percent by 2050, resource managers are increasingly looking to alternative scenarios for *quenching* the world's growing thirst. *Desalination*—a process whereby highly pressurized ocean water is pushed through tiny membrane filters and distilled into drinking water—is being held forth by some as one of the most promising solutions to the problem. But critics point out it doesn't come without its economic and environmental costs.

According to the non-profit Food & Water Watch, desalinated ocean water is the most expensive form of fresh water out there, given the infrastructure costs of collecting, distilling and distributing it. The group reports that, in the U.S., desalinated water costs at least five times as much to harvest as other sources of fresh water. Similar high costs are a big *hurdle* to desalination efforts in poor countries as well, where limited funds are already stretched too thin.

On the environmental front, widespread desalination could take a heavy toll on ocean biodiversity. "Ocean water is filled with living creatures, and most of them are lost in the process of desalination, even some fairly large organisms...part of the hidden cost of doing business," says Sylvia Earle, one of the world's foremost marine biologists and a National Geographic Explorer-in-Residence.

Earle also points out that the very salty residue left over from desalination must be disposed of properly, not just dumped back into the sea. Food & Water Watch concurs, warning that coastal areas already battered by urban and agricultural run-off can ill afford to absorb tons of concentrated saltwater *sludge*.

Food & Water Watch advocates instead for better fresh water management practices. "Ocean desalination hides the growing water supply problem instead of focusing on water management and lowering water usage," the group reports, citing a recent study which found that California can meet its water needs for the next 30 years by implementing cost-effective urban water conservation. Desalination is "an expensive, *speculative* supply option that will drain resources away from more practical solutions," the group says.

Despite such arguments, the practice is becoming more common. Ted Levin of the Natural Resources Defence Council says that more than 12,000 desalination plants already supply fresh water in 120 nations, mostly in the Middle East and Caribbean. Environmental advocates may just have to settle for pushing to "green" the practice as much as possible in lieu of eliminating it altogether.

READING COMPREHENSION

Answer the following questions:

1. What are the pros and cons of ocean desalination?
-
-

2. What are the main arguments claimed by Food & Water Watch?

3. How could desalination influence the oceans and the organisms that live in there?

4. Where is the area that supports and uses the desalination plants?

5. How do you understand the last sentence of the article? Is it derogatory, complimentary or neutral towards the environmental activists?

Match the following words with their definitions:

- 🌍 Scarcity = _____
- 🌍 Arid = _____
- 🌍 Quenching = _____
- 🌍 Desalination = _____
- 🌍 Hurdle = _____
- 🌍 Sludge = _____
- 🌍 Speculative = _____



- something that makes an achievement difficult
- to relieve or satisfy with liquid
- a very small supply
- relating to a financial
- very dry
- a soft, thick material that is produced in various industrial processes

LANGUAGE

AFFIXES

Prefixes

Definition

Prefixes are small parts of words that are added to a word to change the meaning. Prefixes are added to the beginning of a word.

Example Prefix

"happy" becomes "unhappy" when you add the prefix "un" ("un-" means "not," so "unhappy" means "not happy")

Explanation

Prefixes:

- are added to the beginning of words.
- can be added to nouns, verbs, adjectives, and adverbs

Chart of common negative and positive prefixes

	Prefix	Meaning	Examples
Negative:	anti-	against	antiglare, antistatic
	de-	reduce, reverse	demagnetize, decode
	dis-	opposite feeling	disagree
	dis-	opposite action	disconnect
	il-	not	illegal
	im-	not	impossible
	in-	not	incomplete
	ir-	not	irregular, irrelevant
	mal-	bad, wrong	malfunction
	mis-	bad, wrong	misdirect
	non-	not connected with	non-programmable
	un-	not	unmagnetized
under-	too little	underestimate	
Positive:	over-	too much	overload
	re-	do again	reorganize

Chart of common prefixes of size

Prefix	Meaning	Examples
equi-	equal	equidistant
macro-	large, great	macroeconomics
mega-	large, great	megabyte
micro-	very small	microcomputer, microscopic
mini-	small	minicomputer
semi-	half, partly	semiconductor

Chart of common prefixes of location

Prefix	Meaning	Examples
ex-	out	exclude, extrinsic
extra-	beyond	extraordinary
infra-	below	infra-red
inter-	between, among	interface, interactive
mid-	middle	midbrain
peri-	around	peripheral, periscope
sub-	under	subschema, subtraction
super-	over	supersonic
trans-	across	transmit, transfer

Chart of common prefixes of number

Prefix	Meaning	Examples
bi-	two	binary
cent-	hundred	centenarian
dec-	ten	decimal
hex-	six	hexadecimal

mono-	one	monochromatic
multi-	many	multiplexor, multicoloured
oct-	eight	octal
penta-	five	pentagon
poly-	many	polysaccharide
quad-	four	quadruple
semi-	half	semicircle
sept(em)-	seven	September
tri-	three	triangle
uni-	one	unicellular

Chart of common prefixes of time and order

Prefix	Meaning	Examples
ante-	before	antecedent
post-	After	postdated, post-natal
pre-	before	prefix, preceding, precedent
prime-	First	primary, primitive
retro-	backward	retrograde, retroactive

Chart of other prefixes

Prefix	Meaning	Examples
a-, ab-	without, away	abiotic, abstinence
aqua-, hydro-	water	aquatic, hydrolytic
auto-	self	automatic
co-	together with	co-ordinate, co-operate
con-	together with	connect
geo-	earth	geology
hyper-, super-	exceeding	hypertension, superior
pro-	before, in advance, forward	programme, progress, procreation
vita-	life	vitalise

Suffixes

Definition

Suffixes are small parts of words that are added to a word to change the meaning. Suffixes are added to the end of a word.

Example Suffix

"paint" becomes "painter" when you add the suffix "-er" ("-er" means "person who does something," so "painter" means "the person who paints")

Explanation

Suffixes:

- are added to the end of words.
- can be added to nouns, verbs, adjectives, and adverbs.

Chart of noun-forming suffixes

Suffix	Meaning	Examples
-ance	state	performance

-dom	domain/condition	freedom
-ence	quality of	independence
-er, -or	a person who	programmer, operator, biographer
-er, -or	a thing which	compiler, processor, calculator
-ian	pertaining to	electrician
-ing	activity	multiplexing
-ion	action/state	conversion
-ism	condition/state	magnetism
-ist, -yst	a person who	analyst, typist
-ity	state, quality	electricity
-ment	state, action	measurement, requirement
-ness	condition of	readiness, cleanliness, happiness
-ship	condition/state	relationship, partnership
-tion, -ation	the act of	compilation

Chart of verb-forming suffixes

Suffix	Meaning	Examples
-ate	to make	automate, activate, calculate
-en		harden, widen, lengthen, shorten
-ify		simplify
-ize/-ise		computerize

Chart of adverb-forming suffixes

Suffix	Meaning	Examples
-ly	in the manner of	electronically, logically, comparably, slowly, quickly, automatically, carefully

Chart of adjective-forming suffixes

Suffix	Meaning	Examples
-able	capable of being	comparable
-al	having the quality of	computational, logical
-ar	having the quality of	circular, rectangular, cellular, regular
-ble	capable of being	divisible
-ed	having the quality of	computed, processed
-ful	characterized by	helpful, careful
-ic	having the quality of	magnetic, automatic
-ical	having the quality of	electrical
-ish	like	yellowish
-ive	having the quality of	interactive
-less	without	careless, meaningless
-ous	like, full of	dangerous, insidious, miraculous

Chart of biological suffixes

Suffix	Meaning	Examples
-algia	pain	neuralgia
-ase	designating, an enzyme	amylase
-cidal	killing	bactericidal
-ectomy	excision, cut away	appendectomy
-gnosis	knowledge, to know	diagnosis
-gram	record	spirogram
-graph	to write	cardiograph
-itis	inflammation	appendicitis
-lysin, -lysis, -lytic	dissolve, destroy	haemolysis
-lysis, lyso-, lyse-	dissolve, destroy	lysosome
-meter	measure	thermometer
-ology	study of	biology
-phyll	leaf	chlorophyll
-scope	to view	microscope
-sect	to cut	dissect
-sonic	sound	supersonic
-verse	turn	reverse