

Upload 5

Student Book & Workbook **US**

Upload US 5 is a modular course for learners of English at the upper intermediate level based on Competences Development program. The series combines active English learning with a variety of lively topics presented in six themed modules.

Key Features

- ◆ an integrated approach to the development of all four language skills
- ◆ a variety of stimulating texts
- ◆ clear presentation and thorough practice of the target language
- ◆ development of vocabulary and grammar skills
- ◆ activities encouraging critical thinking
- ◆ Writing sections containing models
- ◆ web links to help students further research a topic
- ◆ systematic development of reading, listening, speaking and writing skills
- ◆ Study Skills to help students become autonomous learners
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- ◆ a Language Review section
- ◆ fully dramatized audio CDs

Components

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Virginia Evans - Jenny Dooley

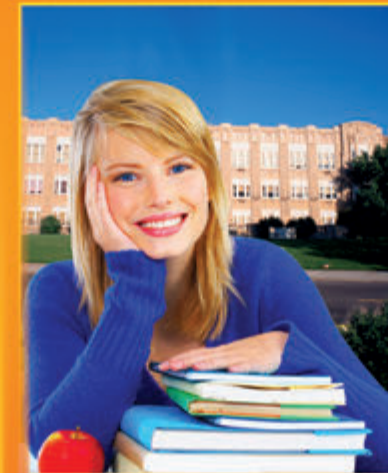
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Based on Competences
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Before you start ...

- What was your summer vacation like? Tell the class.
- What are your plans for this academic/school year?

What's in the module?



Vocabulary

- natural disasters
- celestial bodies
- anatomy of the human body
- elements in the periodic table

Skills & Strategies

- scan a text
- set a purpose for reading
- identify the author's purpose
- identify main ideas in paragraphs
- predict content using prior knowledge

Reading Skills

- complete gapped texts
- multiple matching
- identify pronoun references
- reading comprehension
- read for specific information (T/F)
- multiple choice

Writing Skills

- summarize a text
- describe your feelings
- analyze rubrics
- use topic sentences
- develop paragraphs
- use linkers
- write a for-and-against essay


Speaking

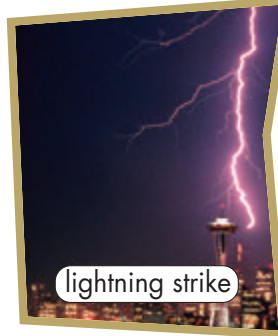
- summarize a text
- give a presentation on a topic
- present main points
- agree/disagree on a topic
- describe impressive moments

Find the page numbers for ...

- a sketch of the human body
- chemical symbols

Vocabulary**Natural disasters**

- 1  Listen and say. Have you heard of any of these disasters recently? Where did they occur? What happened? Tell the class.



lightning strike




tsunami



volcanic eruption

Reading**Scanning**

- 2 Scan the text. What is it about?
 a) a specific earthquake?
 b) why earthquakes happen?
 c) how to protect ourselves in an earthquake?
-  Listen and check.



wildfire



hailstorm



tornado

EARTHQUAKES: A FORCE OF NATURE

On March 11, 2011, a 33-foot-high tsunami hit northern Japan causing the country's worst destruction and loss of life since World War II. The tsunami was triggered by an earthquake in the Pacific Ocean. Measuring 9.0 on the Richter Scale, the earthquake was the sixth largest ever recorded by seismologists. **0** **C** Not only that, it shifted the Earth's axis by 10 inches. This deviation led to a shortening of the length of a day by 1.8 microseconds!

Earthquakes hit the headlines only rarely, but events like Japan's megaquake serve to remind us of their truly awe-inspiring power. Every year, some 3 million earthquakes take place on the planet – equivalent to about 8,000 a day or one every 11 seconds. **1**

Earthquakes happen because the Earth's crust is not contiguous. Rather, like a boiled egg with a broken shell, it is separated into about 20 pieces. These pieces are called tectonic plates.

The theory that explains the movement of these plates on the earth's surface is known as plate tectonics. According to plate tectonics, the Earth's plates are not stationary but are instead moving very slowly around the planet. **2** The result is that sometimes the plates crash into each other, sometimes they move away from each other, and sometimes they slide past each other. **3**

Take, for example, plates that are sliding horizontally past each other. Because the edges of the plates are rough, they get stuck. However, even though the edges get stuck, the rest of the plate keeps moving. **4** At some point (i.e.,



earthquake

when the plate has moved far enough), the edges suddenly become unstuck. The sudden unsticking and jerking apart of the plates releases the built-up pressure in an instant. The result is an earthquake.

There is a special region of the globe known as the Pacific Ring of Fire. **5** In the Pacific Ring of Fire, plates are crashing into each other constantly.

When two plates crash together, one of two things can happen. Either one plate is forced to slide beneath the other one, or the two plates push against each other to form mountains and volcanoes. In either case, earthquakes can result.

Earthquakes in the Pacific Ring of Fire result from plates colliding and slipping under each other. **6** It was the Pacific Plate sliding under the Eurasian Plate that caused the earthquake and tsunami in Japan on that fateful day in March 2011.

Check these words

hit, destruction, trigger, shift, axis, deviation, awe-inspiring, Earth's crust, contiguous, stationary, slide past, rough, get stuck, jerk apart, release, built-up pressure, in an instant, the globe, collide, slip, fateful day



drought



blizzard



flood

STUDY SKILLS

Gapped texts

Read the text quickly to see what it is about. Read it again sentence by sentence. Pay attention to the words before and after each blank as they will help you decide on your answer. Read the completed text again to see if it makes sense.

Completing a gapped text

3 a) The article in Ex. 2 is about earthquakes. Seven sentences have been removed from it. Choose from the sentences (A-H) the one which fits each blank (1-6). There is one extra sentence you don't need to use. There is an example at the beginning (0).

- A The result is an enormous build-up of pressure.
- B It is the movement of plates at their edges that causes earthquakes.
- C So great was its power that it caused the entire island of Japan to move 16 feet eastwards.
- D It is an explanation for mountains and volcanoes, not just earthquakes.
- E The sudden drop of one plate below another, when it occurs under the sea, can generate a tsunami.
- F Most are so small they go unnoticed, but a few (about 20 a year) are big enough to cause damage.
- G It is here that an incredible 90% of all earthquakes (and 80% of the world's largest earthquakes) occur.
- H Because the plates are interconnected, no single plate can move without affecting the others.

b) Which words helped you decide on each blank? Compare with your partner.

4 Fill in: *trigger, recorded, shift, jerk apart, collide*.

- 1 It was the most destructive earthquake _____ in the last 100 years.
- 2 An earthquake can _____ fires and damage a lot of buildings.
- 3 When tectonic plates _____ they cause earthquakes.
- 4 When the plates _____, pressure is released and this causes an earthquake.
- 5 A 9.0 earthquake can _____ the Earth's axis.

Checking understanding

5 Complete the sentences. Compare with your partner.

- 1 The tsunami that hit Japan on March 11, 2011, was the result of _____.
- 2 The earthquake measured _____.
- 3 Because of the earthquake, the Earth's axis _____.
- 4 Not all earthquakes cause _____.
- 5 Earthquakes happen because the Earth's plates _____.
- 6 When the edges of tectonic plates become unstuck, the _____.
- 7 The Pacific Ring of Fire is the place where _____.
- 8 A tsunami is caused when _____.

Speaking & Writing

6 Summarize the text using the words in the *Check these words* box (50-60 words). Tell your partner.

7  IT Collect information about a force of nature from Ex. 1. Present it to the class.

QUOTATION

"Nature cannot be tricked or cheated. She will give up to you the object of your struggles only after you have paid her price." *Napoleon Hill, American author*

HOW DID IT ALL BEGIN?

Throughout history, mankind has wondered about the origin of the universe. Has it existed eternally with no beginning or end, or was it created at some point in time? Physicists still can't say for certain how the universe came to exist, or why it exists, but they have several theories ...

Vocabulary

Celestial bodies

- 1 a)  Listen and say. Then, read the dictionary entries.

planet /plænɪt/ (n) a large round object in space that moves around a star. e.g., the Earth

asteroid /æstəroɪd/ (n) a small celestial body that moves around the sun (mainly between the orbits of Mars and Jupiter)

comet /kɒmɪt/ (n) a bright object with a long tail that travels around the sun


galaxy /gæləksɪ/ (n) a large group of stars and planets that extends over many billions of light years

star /stɑː/ (n) a large ball of burning gas in space

meteor /miːtɪə/ (n) a small mass traveling through space

moon /muːn/ (n) any planet's natural satellite

constellation /kɒnstɛləʃən/ (n) a group of stars that form a pattern and are named after it

- b) Can you name the planets in our solar system?
 Listen and check.

A The Big Bang Theory

Before the 20th century, people believed that the universe had existed forever, and had looked the same way forever. But in 1929, astronomers made a startling discovery. Looking through their telescopes they noticed that the galaxies in our universe are actually moving away from each other at enormous speed – our universe is expanding!

If our universe is expanding, then logically at some point in the past the entire universe was contained in a single point in space. The Big Bang

Theory states that about 14 billion years ago, our universe exploded out of nowhere from a single point and it has been expanding ever since to form the universe we know today. Our universe, in other words, has not existed forever. It had a definite beginning. Before our universe came into existence there was nothing...no time, space, matter, energy ... nothing! The Big Bang created time, space and matter.

The Big Bang Theory is currently the most widely accepted hypothesis for the origin of the universe. However, it still leaves many questions unanswered. For instance, it doesn't explain *why* the big bang happened in the first place.

B The Cyclical Universe Theory

The Cyclical Universe Theory addresses the question, "What caused the big bang?" The answer it gives is the collapse and expansion of a prior universe. According to the Cyclical Universe Theory, our universe began when another universe collapsed violently into a single point then exploded out again. Trillions of years from now, our own universe will stop expanding and begin to contract. Eventually, it will also collapse into a single point and explode out again giving rise to a new universe. Our universe is therefore just the latest in an endless series. Countless universes have preceded this universe and countless others will follow it. Space and time had no beginning. Cycles of expansion, contraction, collapse, and explosion have been going on forever.

STUDY SKILLS

Setting a purpose

Before you read a text, think what you already know about the topic. This will help you think what else you would like to learn about it.

Check these words

eternally, exist, startling discovery, expand, logically, explode, widely accepted, hypothesis, collapse, prior, trillion, endless, countless, expansion, contraction, infinite, motivation

C The Multiple Universe Theory


According to the Multiple Universe Theory, what we have been calling the universe is actually nothing like we thought! It is just a single bubble in an infinite number of universes. We are actually living in a multiverse consisting of trillions of universes. The multiverse has existed forever, and each universe in it is different.

The main motivation behind the Multiple Universe Theory is to provide an explanation as to why our universe seems to be so perfectly suited towards supporting life. For many people, this fact demands an explanation. They feel it is too much of a coincidence that the conditions in our universe just happen to be right to make life possible.

The Multiple Universe Theory states that there is nothing mysterious about this. There are trillions upon trillions of universes in the multiverse and therefore at least a few of them will have conditions that make life possible. We simply happen to be living in one of these universes.

Reading**Setting a purpose**

- 2 What do you know about the origin of the universe? What would you like to know about it? Write down two questions.

 Listen and read the text. Can you answer your questions?

Multiple Matching

- 3 Read the article again, then for questions 1-8, choose from theories A-C. The theories may be used more than once. Which theory/theories:
- say(s) space, time, and matter have existed forever with no beginning or end? — —
 - do most physicists support? —
 - suggests a reason why our universe has the ideal conditions for supporting life? —
 - says our universe came from an earlier universe? —
 - say only one universe exists at any one time? — —
 - is supported by evidence we can see? —
 - says our universe will eventually disappear? —
 - says our universe we are living in is unique? —


- 4 Fill in: *expanding, exploded, collapse, prior, infinite.*

- Astronomers have discovered that our universe has been _____ since it was formed.
- Many universes may have existed _____ to the one we are living in.
- Our universe might actually be just one of a(n) _____ number of other universes.
- One day our universe may _____ and give rise to a new universe.
- According to the Big Bang Theory, our universe _____ into existence from a single point.

STUDY SKILLS**Avoid repetition**

Writers use pronouns to avoid repeating the same nouns again and again. Identifying the nouns they refer to will help you understand the text better.

Identifying pronoun references

- 5  Look at the underlined pronouns in the text. Decide which noun each one refers to.

Speaking & Writing**Checking understanding**

- 6 a) Write one question for each theory in the text. Write the answers on a separate piece of paper.

How did the universe start according to the Big Bang Theory?

- b)  Swap papers and answer your partner's questions. Check with your partner.

- 7 **THINK** Read the quotation. Imagine you were with Neil Armstrong. In three minutes write a few sentences describing your feelings at that specific moment. Tell your partner. Discuss.

QUOTATION

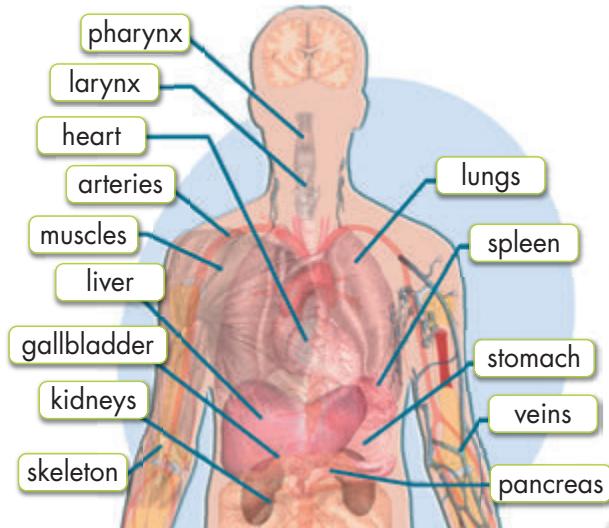
"It suddenly struck me that that tiny pea, pretty and blue, was the Earth. I put up my thumb and shut one eye, and my thumb blotted out the planet Earth. I didn't feel like a giant. I felt very, very small."

Neil Armstrong, U.S. astronaut

Vocabulary

Human anatomy

- 1 Listen and repeat.

**Reading**

Identifying the author's purpose

STUDY SKILLS**Identifying the author's purpose**

Authors write in order to inform, entertain, and persuade. Identifying the author's purpose helps us understand the text better.

- 2 Read the title then skim the text. What is the text about? What does the author want us to know about the topic?

Identifying main ideas

- 3 Find the main idea in each paragraph. Compare with your partner.

STUDY SKILLS**Identifying main ideas**

Paragraphs are usually laid out so that each one contains a main idea. Identifying the main idea helps us to understand what the paragraph is about. The main idea is usually found in the first or the last sentence of the paragraph. These sentences are called topic sentences.

CAN WE PUT AN END TO AGING?

1 The results of a recent experiment to slow the effects of the aging process in mice amazed scientists in Boston, USA. The scientists increased the amount of an enzyme called telomerase in the cells of the mice. Telomerase is an important enzyme because it repairs DNA. With increased telomerase in their cells, the mice's fertility improved, their fur began to look healthier, even their brains worked better. The scientists were hoping simply to slow the aging process in mice but, much to their surprise, they actually reversed it!

2 Could we use the same process to stop humans from aging? It's possible, but it wouldn't be without risks. Scientists believe increasing the level of telomerase in human cells would put people at greater risk of cancer. What's more, it's unlikely that simply increasing telomerase would be enough to keep us young because hundreds of enzymes are involved in the aging process.

3 Although scientists don't yet know exactly how and why we age, they have several theories. One theory is that as time passes, our bodies become less efficient at removing toxins from our cells. One way to try to stop the aging process is to keep cells as clean as possible. Scientists in New York successfully used this technique to restore the livers of old

Check these words

aging process, enzyme, cell, repair, fertility, process, reverse, efficient, toxin, technique, restore, breed, ability, protein, youthful, combat, artificially, development, prevent, serving, compare, wrinkles, fantasy

mice. The researchers bred special mice that did not lose their ability to remove damaged proteins from their livers. When these special mice were two years old, their livers were as healthy as the livers of ordinary one-month old mice. Although these special mice with youthful livers didn't live any longer than ordinary mice, scientists believe this study could eventually lead to ways of protecting humans from the diseases we get in old age.

4 Of course, if scientists ever do succeed in developing drugs that combat the aging process we will need to ask ourselves whether it is right to use them. For instance, should we keep people young and healthy artificially when, already, there are far too many people on the planet?

5 What if you can't wait for these future developments though? Well, scientists may not yet be able to stop you from aging, but they do know a way you can keep yourself looking younger – tomatoes! Tomatoes contain a substance called lycopene which helps prevent one of the main causes of skin aging: sun damage. Researchers in the UK asked a group of people to eat a serving of cooked tomatoes every day for 12 weeks. They then compared their skin to the skin of people who hadn't eaten any tomatoes. The skin of the people who ate the tomatoes was much less likely to burn in the sun. Eating tomatoes also increases the levels of procollagen in your skin. Procollagen helps keep skin firm, so the more you have in your skin, the less likely you are to get wrinkles. So while living forever is still just a fantasy, nature has at least provided a way for us to keep looking as young as possible, for as long as possible!

Comprehension questions

4 Read the text and answer the questions.

- 1 What physical change did the Boston scientists see in the mice in their experiment?
- 2 What problem is there with performing the Boston procedure on people?
- 3 What builds up in our cells as we age?
- 4 What did the New York scientists achieve?
- 5 What global problem does the writer mention that could be affected by anti-aging treatments?
- 6 How does eating tomatoes help us achieve younger-looking skin?
- 7 Why might reversing the aging process one day become a reality?

5 Fill in: *reversed, serving, combat, efficient, enzymes.*

- 1 Scientists are trying to find ways to _____ the aging process and keep people looking young.
- 2 Our bodies are more _____ at removing toxins from our cells when we are young, than when we are old.
- 3 Eating a daily _____ of cooked tomatoes can help protect your skin against sun damage.
- 4 Scientists haven't just slowed down the aging process in mice; they have _____ it.
- 5 Telomerase is just one of hundreds of _____ involved in the aging process.

Checking understanding

6 Read the text again and mark the sentences *T (true)* or *F (false)*. Correct the false statements.

- 1 Telomerase is an enzyme that fixes damaged DNA. _____
- 2 There is no telomerase in human cells. _____
- 3 Scientists have bred mice that don't have proteins in their livers. _____
- 4 The diseases of old age may be the result of toxins building up in cells. _____
- 5 Lycopene increases your skin's sensitivity to the sun. _____

Speaking & Writing

7 **THINK** In three minutes, write four things that you learned from the text. Tell the class.

8 **THINK** How do you think your life today would be different if scientists had found a way to stop people from aging? In three minutes, write a few sentences. Tell the class. Discuss.


QUOTATION

"I think your whole life shows in your face and you should be proud of that." *Lauren Bacall, American actress*

Vocabulary

Chemistry elements

- 1 Match the chemical symbols (1-8) to the correct element (a-h).

 Listen and check, then say.

1	<input type="checkbox"/>	O	a	nitrogen
2	<input type="checkbox"/>	C	b	gold
3	<input type="checkbox"/>	Fe	c	oxygen
4	<input type="checkbox"/>	N	d	carbon
5	<input type="checkbox"/>	Na	e	hydrogen
6	<input type="checkbox"/>	Ag	f	sodium
7	<input type="checkbox"/>	Au	g	silver
8	<input type="checkbox"/>	H	h	iron

Reading

Using prior knowledge

STUDY SKILLS

Using prior knowledge

Before you read a text, think what you know about the topic. This will help you read the text more easily.

- 2 What do you know about oxygen? Which of the sentences below are true?

 Listen, read, and check.

- Oxygen powers our bodies.
- Oxygen is toxic in large amounts.
- The first life forms needed oxygen to survive.
- Oxygen is the main product of photosynthesis.
- Animals were smaller in the past because of oxygen.
- The amount of oxygen in the atmosphere has been constant through time.

Take a deep breath...

Surprising Facts about OXYGEN

They say too much of anything is bad for you. Believe it or not, that's true of the oxygen that powers our bodies. If we breathed air that was more than 75% oxygen, we could die within days. Our lungs couldn't cope. Our bodies are used to air that's 21% oxygen - and even that's harmful over a lifetime.

The body makes use of around 98% of the oxygen it takes in and the rest transforms into free radicals - molecules that attack and damage our cells over time. Oxygen, then, is actually toxic in large doses. But after 3-4 billion years of evolution of life on Earth, shouldn't our bodies be better at processing oxygen? To try to answer that question, it's important to understand that oxygen wasn't always present in the atmosphere. Because of this, scientists believe that the first life forms on the planet were anaerobic; they were able to survive without oxygen. It was only after plants established themselves that oxygen appeared in the atmosphere. This appearance of oxygen in the Earth's atmosphere some 2.2 billion years ago is known as the Great Oxidation Event.

Plants, unlike animals, don't need oxygen, but produce it through photosynthesis - the process by which they convert sunlight, water, and carbon dioxide into energy. Because oxygen is a by-product of photosynthesis, it took more than a billion years for enough of it to build up in the atmosphere and give rise to animal life.

Fossil evidence suggests animals first appeared about 700 million years ago, in the oceans. The first animal life forms had extremely thin bodies in relation to their size. Scientists believe this allowed them to make maximum use of the low amounts of oxygen present in the ocean. Around 500 million years ago, atmospheric oxygen levels were high enough to enable animals to venture out of the ocean and onto land.

The amount of oxygen in our atmosphere has not increased steadily. In fact, 300 million years ago, oxygen was actually more abundant in the air than it is now, making up 50% of it. As a result, animals were much bigger than they are today. There were insects, for example, which measured more than 2.5 feet from the tip of one wing to another. Scientists recently bred dragonflies this size in 50%-oxygen environments. They say the dragonflies were able to grow so big because in oxygen-rich atmospheres, insects don't need the large breathing systems which normally limit the size of their bodies.

By 240 million years ago, though, oxygen levels had fallen to just 12% of the air.

If it's surprising that the amount of oxygen in the atmosphere has varied during animal evolution, it's perhaps even more surprising to learn that the planet is more dependent on oxygen produced in the oceans than on land. Scientists estimate that sea algae replace around 90% of the oxygen in the biosphere. So, today's most complex life forms not only originated in an environment in which they now cannot breathe - the ocean - they rely on it for their survival!

Check these words

power, cope, free radical, molecule, toxic, dose, evolution, establish oneself, photosynthesis, process, convert, by-product, give rise to, fossil evidence, venture, steadily, abundant, wing, breed, dependent, sea algae, biosphere, rely on

STUDY SKILLS**Multiple choice**

Read through the text once to get a general idea what the text is about. Read the questions and possible answers and underline the key words. Read the text again. Find the parts of the text that contain the answer to each question. Look for paraphrases.

Multiple Choice

3 Read the article on oxygen in the atmosphere. For questions 1-5, choose the correct answers (A, B, C, or D). Justify your answers.

- 1 Air that is mainly oxygen is
 - A low in free radicals.
 - B useful to the body.
 - C dangerous to humans.
 - D bad for evolution.
- 2 Oxygen is
 - A 50% of the atmosphere.
 - B necessary in order for life to exist.
 - C the result of atmospheric chemistry.
 - D unnecessary for plants.
- 3 According to the article, animals
 - A couldn't have evolved without plants.
 - B took a long time to get big in size.
 - C were anaerobic at first.
 - D needed large breathing systems in the past.
- 4 The dragonfly experiment suggests
 - A large creatures need less oxygen.
 - B insects develop more quickly in high – oxygen environments.
 - C low levels of oxygen will result in large creatures.
 - D insects fly more easily in high-oxygen environments.
- 5 Without sea algae
 - A there would be no oxygen in the atmosphere.
 - B animals would stop evolving.
 - C all life in the oceans would die.
 - D all life on Earth would be in danger.

4 Fill in: *carbon, large, support, breathe, sea, grow, make, animal.*

- | | |
|-----------------|-------------------|
| 1 _____ air | 5 _____ life |
| 2 _____ use of | 6 _____ big |
| 3 _____ doses | 7 _____ algae |
| 4 _____ dioxide | 8 _____ evolution |

5 Use words from the *Check these words* box in their correct form to complete the sentences.

- 1 Our lungs can't _____ with too much oxygen.
- 2 In the past, insects had bigger _____ than they do today.
- 3 Oxygen is _____ in large doses because it produces free radicals.
- 4 Scientists think that animals first _____ onto land about 500 million years ago.

Checking understanding

6 Correct the statements. Compare with your partner.

- 1 Life on Earth arose in an oxygen-rich environment.
- 2 Our bodies process oxygen with 100% effectiveness.
- 3 The appearance of photosynthesis in plants is known as the Great Oxidation Event.
- 4 Evidence suggests animal life appeared on land and in the oceans at about the same time.
- 5 Land animals depend on land plants for most of their oxygen.

Speaking & Writing

7 🤔🤔 Tell your partner five things you have learned from the text.

8 **THINK** What was the author's purpose in writing this article? Write a few sentences. Justify your answer. Tell the class. Discuss.

QUOTATION

"Life is not measured by the number of breaths we take, but by the moments that take our breath away!"

Anonymous

1.5 Writing Skills

Essay Writing

For-&Against Essays

For-and-against essays are formal pieces of writing in which we discuss the advantages and disadvantages of a specific topic. They normally consist of:

- an **introduction** in which we present the topic.
- a **main body** in which we present the points for and the points against, in separate paragraphs, supporting the arguments with justifications/examples.
- a **conclusion** in which we present a balanced summary of the topic or our opinion.

We link our ideas with appropriate **linking words/phrases**.

to list points: *In the first place, To start with, Secondly, Thirdly, In addition to this, Furthermore, Moreover, Besides,* etc.

to introduce/list/(dis)advantages:
The first/main (dis)advantage of ..., One/Another (dis)advantage of ..., One point of view in favor of/against ...

to introduce justifications/results: *for example/instance, for this reason, because, as, since, as a result,* etc.

to show contrast: *On the other hand, However, still, but, Although, Even though, Despite/In spite of (the fact that),* etc.

to conclude: *In conclusion, All in all, All things considered, Taking everything into account,* etc.

- 1 Read the rubric then read the model essay. Complete the table with points for/against and their justifications.

You have had a class discussion about “designer babies”. Your teacher has now asked you to write an **essay** presenting the arguments **for** and **against** parents being able to choose desirable traits for their children (200-250 words).

In the future, genetic engineering may allow us to choose desirable characteristics for our children. If such technology becomes available, should parents be allowed to custom design their children?

There are some arguments in favor of allowing technology to “design” babies. First of all, by using genetic engineering we can prevent genetic diseases. This would mean healthy children, saving parents from the emotional strain of looking after an ill child. Secondly, being able to enhance the looks and intelligence of a baby would result in smarter, more beautiful people.

However, there are also some arguments against “designing babies.” To start with, it is likely that the technology needed to produce “designer babies” will be very expensive. As a result, only the rich will be able to afford to give their children desirable characteristics. This could lead to even greater imbalances between the rich and the poor. Furthermore, many people believe that no one has the right to change an unborn human as every unborn child should have the right to remain genetically unmodified. After all, there is no guarantee that the parents will like the final outcome.

In conclusion, it appears that being able to create smarter, healthier, better-looking human beings may have its advantages. However, I believe if this technology is not available to everyone, it will introduce a whole new set of social problems.

For	Justifications
Against	Justifications

STUDY SKILLS

Topic/Supporting sentences

Main body paragraphs should begin with topic sentences. A topic sentence introduces or summarizes the main idea of the paragraph.

The topic sentence is followed by supporting sentences which provide justifications/examples, and details and/or reasons, to support the topic sentence.

2 Underline the topic sentences in the main body paragraphs in the model essay. Replace them with the topic sentences below.

- On the other hand, there are disadvantages to developing the technology to “design” babies.
- There are a number of advantages to “designing” babies.

3 a) Choose the appropriate topic sentences for the two paragraphs below.

- There are many advantages to solar energy.
- On the other hand, there are a number of arguments against cosmetic surgery.

One of the main arguments is its lack of toxic emissions. Burning fossil fuels for energy emits carbon dioxide into the air, which is a major cause of global warming.

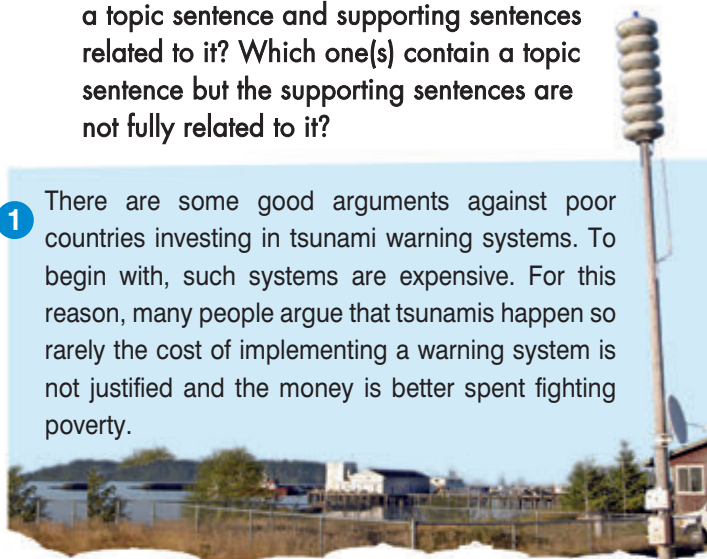
For instance, a patient risks developing complications that can sometimes be fatal. The risk of surgery of any kind is greater than most people realize, such as severe allergic reaction to medication.

b) 😬😬 Write a topic sentence for this paragraph. Compare with another student.

Firstly, over 20 billion disposable diapers end up in landfills every year. They do not degrade well in landfills, as they need to be exposed to oxygen and sunlight to decompose. It takes hundreds of years for decomposition to be completed.

4 Read the paragraphs. Which one(s) contain a topic sentence and supporting sentences related to it? Which one(s) contain a topic sentence but the supporting sentences are not fully related to it?

1 There are some good arguments against poor countries investing in tsunami warning systems. To begin with, such systems are expensive. For this reason, many people argue that tsunamis happen so rarely the cost of implementing a warning system is not justified and the money is better spent fighting poverty.



2 Nevertheless, there are certain drawbacks to getting a PhD. For instance, research is absolutely essential to technological advancement. For this reason, it is important that governments keep subsidizing universities.



3 Experimenting on animals to gain scientific insight into human diseases has many disadvantages. Firstly, animals do not have the same physiology as humans. This means the test results are almost always meaningless for humans.



5 Use the prompts below to complete the paragraph. Use appropriate linkers.

Topic sentence: *However, there are also some arguments in favor of following a vegetarian diet.*

- meat consumption/linked to several cancers/avoid these health risks
- reduce factory farming/cruel to animals/poor quality of life and short lifespan

1.5 Writing Skills

6 Choose the correct linker. Compare with your partner.

- 1 **Besides,/Despite** knowledge of mathematics is important in practically every area of our lives.
- 2 **Even though/Nevertheless** many mothers wish to breastfeed their babies, they are often unable to do so for various reasons beyond their control.
- 3 **In conclusion,/Since**, it is factories which create the most environmental pollution, not individuals.
- 4 **Taking everything into account,/For instance**, many people argue that transporting produce halfway around the world simply so people can eat strawberries in winter is a luxury the world can not afford.
- 5 **Secondly,/Especially** rich nations create more pollution per person than poor nations. **What is more/However**, the rapid industrialization of poor nations around the world means they will soon catch up.
- 6 **Such as/To sum up**, it is a relatively simple matter to recycle newspapers, magazines, and other paper waste.
- 7 **It is argued/One reason** that maintaining the existence of zoos is important is that zoos contribute to the conservation of endangered species.
- 8 **In the first place,/While** access to the Internet gives people access to information and information is power.

Your Turn

7 a) Read the rubric and answer the questions.

You have had a class discussion about space exploration. Your teacher has now asked you to write an **essay** presenting the arguments **for** and **against** exploring space (200-250 words).

- 1 What are you going to write?
- 2 Who is going to read it?
- 3 What should your piece of writing be about?

b) Which of the following points are *pros* and which are *cons*?

- 1 may result in the discovery of a planet that can support life
- 2 very expensive and requires public funding
- 3 has already resulted in many indirect scientific achievements and there may be more
- 4 the distances in space are enormous

c) Match the justifications below (a-d) to the *pros/cons* in Ex. 7b (1-4).

- a this money could be better spent on reducing poverty or fighting hunger and disease
- b we can only ever explore a tiny part of the universe
- c give humans somewhere to go if a disaster threatens to destroy life on Earth
- d space exploration research led to the development of computers and lasers

8 Use the ideas from Ex. 7, and your own ideas, to write your essay. Follow the plan. Use the phrases from the *Useful language* box.

PLAN

- Para 1 *state topic*
- Para 2 *points for & justifications*
- Para 3 *points against & justifications*
- Para 4 *summarize points (& express opinion)*

Useful language

- It seems that ...
- There are arguments in favor of ...
- There are a number of points in favor of ...
- One advantage is that ...
- Firstly, ...
- Secondly, ...
- On the other hand, there are arguments against ...
- There are arguments against the ..., however.
- All in all, it seems that ...
- I think/I believe/To me ...



Vocabulary

1 Choose the correct word.

- The poison cyanide is highly ____ to animals and humans.
A radical B toxic C toxin
- There are ____ stars in the sky.
A endless B abundant C countless
- Physicists do not know whether the universe is ____ or not.
A countless B infinite C contiguous
- Carbon dioxide is a ____ of cellular respiration.
A deviation B by-product C biosphere
- Many people these days spend a fortune attempting to ____ the signs of aging.
A collapse B expand C combat
- Geologists believe the Earth's ____ is broken up into pieces.
A axis B crust C globe
- Life expectancy around the world has increased ____ for nearly 200 years.
A steadily B eternally C artificially
- Scientists believe an asteroid ____ with the Earth 65 million years ago.
A collided B existed C triggered
- Mice ____ very quickly – a female can have 5-10 litters per year.
A breed B exist C restore
- Their results have not been widely ____ .
A abundant B accepted C reversed

10x2=20 points

2 Fill in the correct word: *biosphere, fertility, venture, rely (on), motivation, prior, technique, hypothesis, free radicals, stationary*

- The Earth's plates are not _____, they move slowly around the planet.
- The large Hadron Collider was invented to test the _____ of the Big Bang Theory.
- Telomerase is an enzyme that can increase the _____ of mice.
- Some scientists believe in the existence of another universe _____ to this one.
- Some scientists believe _____ damage our cells and cause aging.
- Researchers are developing a _____ for the early detection of Alzheimer's disease.
- The first creatures to _____ onto land from the sea did so about 500 million years ago.
- Many people like the idea of exercise, but lack the _____ to actually do any.
- All life on Earth exists in the _____.
- Math skills _____ logic as well as language to represent large numbers.

10x2=20 points

Listening

3 Listen and mark the sentences T (true) or F (false).

- In June, China was hit by some of its most severe natural disasters in recent years. _____
- Affected regions were mostly hit by floods and droughts. _____
- The Yangtze River experienced high rainfall along its entire length. _____
- Damage to farmland alone caused over 8 billion US dollars worth of economic losses. _____
- Most of the affected areas are in isolated regions of the country. _____

5x4=20 points

1 Progress Check

Reading

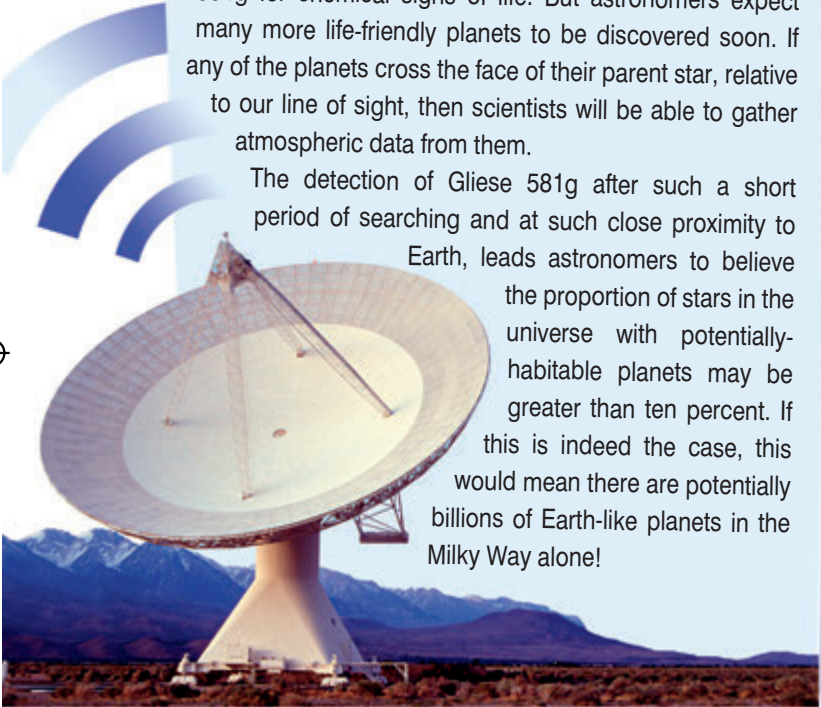
4 Read the text and mark the sentences *T* (true) or *F* (false).

In September 2010, after a decade of observation, astronomers announced the discovery of a planet with the greatest recognized potential for harboring life. The planet, named Gliese 581g, is 20 light years from Earth. It orbits a red dwarf star in the Libra Constellation.

Gliese 581g is the right size, and just the right distance from its star to harbor life. Unfortunately, current technologies don't allow scientists to study the atmosphere of Gliese 581g for chemical signs of life. But astronomers expect many more life-friendly planets to be discovered soon. If any of the planets cross the face of their parent star, relative to our line of sight, then scientists will be able to gather atmospheric data from them.

The detection of Gliese 581g after such a short period of searching and at such close proximity to Earth, leads astronomers to believe

the proportion of stars in the universe with potentially-habitable planets may be greater than ten percent. If this is indeed the case, this would mean there are potentially billions of Earth-like planets in the Milky Way alone!



- 1 Astronomers discovered Gliese 581g in 2010. _____
- 2 Gliese 581g is situated in the Libra Constellation. _____
- 3 Chemical analysis of Gliese 581g's atmosphere has been conducted. _____
- 4 Gliese 581g does not cross the face of its red dwarf star relative to our line of sight. _____
- 5 Astronomers think most stars in the universe have potentially-habitable planets orbiting them. _____

5x4=20 points

Writing

5 Read the rubric. Match the points (1-4) to their justifications (a-d). Write your essay.

You have had a class discussion on anti-aging research. Your teacher has asked you to write an essay presenting the arguments for and against the public funding of anti-aging research (200-250 words).

Pros/Cons

- 1 world is already overpopulated
- 2 it is likely that such research will help us understand the causes of many diseases
- 3 we have a moral obligation to make everyone's lives better
- 4 diverts funds away from more urgent problems

Justifications

- a may save millions of lives and lots of money in the long run
- b people living longer would just put more pressure on the environment
- c the money could be spent on providing clean water and food for the poor
- d we already do everything we can to extend people's lives when they are sick, so why not in this way

20 points

TOTAL: 100 points

CHECK YOUR PROGRESS

- talk about natural disasters
- talk about the universe and celestial bodies
- talk about organs inside the human body
- identify chemical elements
- identify the author's purpose
- avoid repetition
- identify the main idea in a paragraph
- predict content using prior knowledge
- write a for-and-against essay

GOOD ✓ **VERY GOOD** ✓✓ **EXCELLENT** ✓✓✓