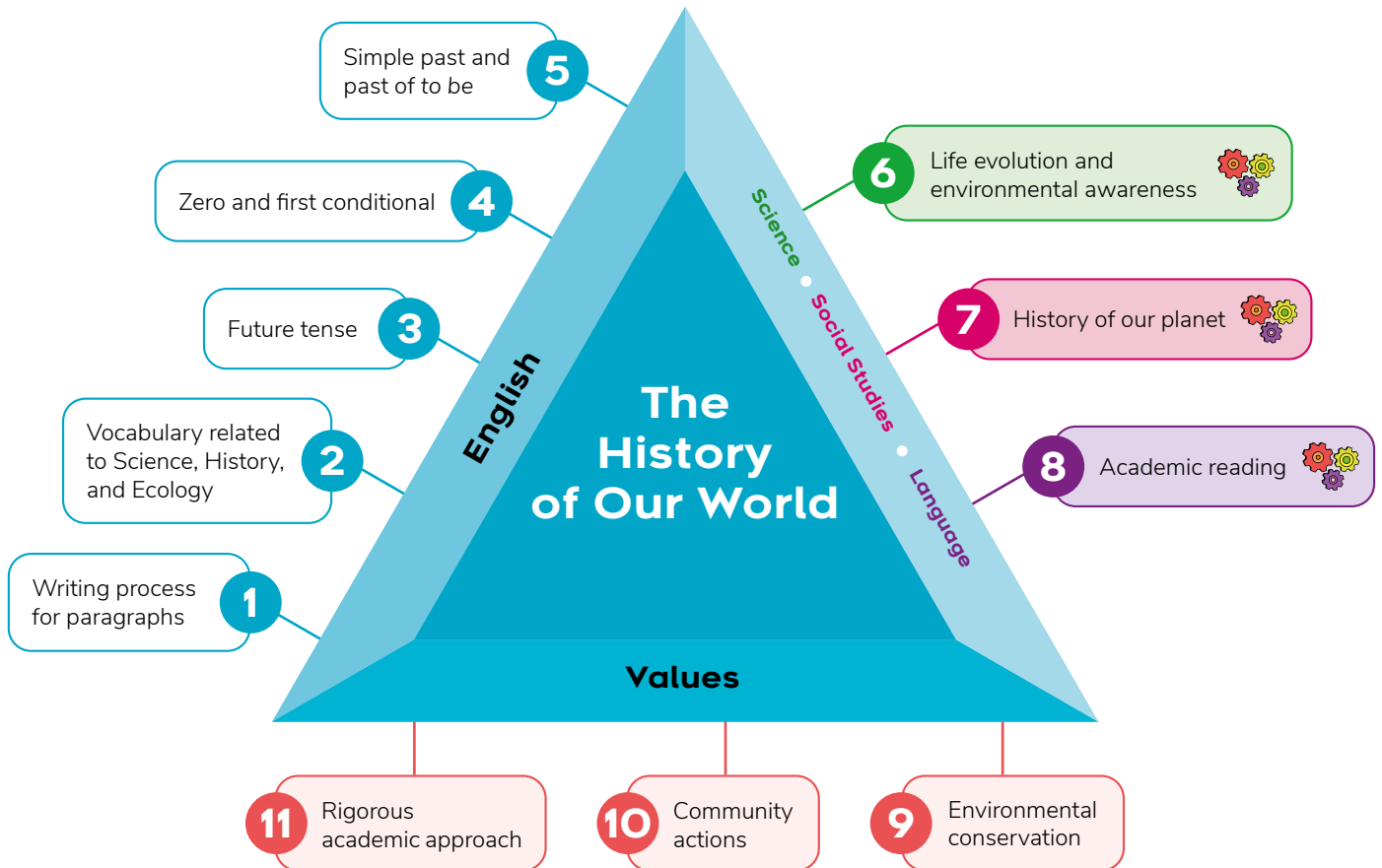


First Course BGU



The Universe Is Extensive and Mysterious

Humans look at the sky and wonder how it was created and what is out there. Somewhere in the universe there is a small blue planet; we live there. It is a wonderful place, full of life and beauty.

Humans are always trying to discover what happened before their existence. Scientists try to find clues about the Earth's past and some wonderful past inhabitants, and some answers that can tell us about the future too. Humans know that they have lived on the planet just

a couple of thousands of years. We have shared land and water with animals and plants that were here long before the first humans appeared.

However, our intelligence has helped us create and develop wonderful tools and technology that have taken us to where we are now. Sometimes it seems people forget that some of our resources are limited, and that we should take care of our beautiful home which gives us food, water, and shelter.



What do we know about our planet's past? How can we protect it for future generations?

Communication and Cultural Awareness

What do you know about the origin of the universe and our planet?

Origin of the Universe and the Planet

Culture

Some cultures believe in creation from chaos and a cosmic egg, like the Babylonian, Greek, and Hindu cultures. Others believe in creation out of body parts of gods, like the Egyptians and Nordic cultures. There is also the idea of creation through alternate universes, as some North American people believed. And other cultures believe in mythical animals that came from water and created everything, believed by the Japanese and Cherokee.



What is the universe? It consists of everything we call matter, stars, galaxies and others, but surprisingly only 10% of it is matter and 90% is dark space.

The most accepted theory that explains the origin of the universe states that it all **started** 14 billion years ago. Back then, there was a **tiny** particle, like an atom, which was very hot and dense. This particle **exploded** causing the universe to form; **matter** started to expand and **created** millions of galaxies. The galaxy we live in is called the Milky Way.

Our planet is approximately 4.5 billion (4,567,000,000) years old. Its origin is still a mystery today, but some theories exist. The “Core Accron Theory” states that at the beginning, our solar system **was** rotating **dust** and gases. Then, the primitive sun’s gravity **attracted** these materials and they all started **spinning** around it. Some clouds **formed** and **became** solids. Our planet was formed by a solid metal core, a liquid **mantle** and a thin but hard crust.

Source: <https://bit.ly/2Z12wec> | <https://bit.ly/2wziNJo> | <https://bit.ly/2WgauS0>



Culture

Many cultures have different views about the creation of the universe and the Earth. For instance, China has a legend about a bored giant who shook the universe causing a huge explosion that created lots of stars and planets. Ancient Egyptians believed the god Ra created the universe with his body fluids.

Vocabulary

tiny. very small

matter. the thing that forms physical objects and occupies space

dust. fine powder made from a particular substance

spin. to turn around repeatedly

mantle. the middle layer of the Earth that is between the top crust and the inner core



Talk to your classmates about the different views about the origin of the universe.

- What does your community say about the origin of the universe?

- How did our planet form?

Oral Communication



Social Studies

How do we know about the past of our planet?



A paleontologist looking for a fossil

What life forms existed on the planet before humans?

Tip

The geologic time scale is divided into eons, eras, periods, epochs, and ages. The four major eras are Precambrian, Paleozoic, Mesozoic, and Cenozoic, and they are subdivided into shorter periods.



Listen to a group of students talking about what they learned in today's class. Circle the characteristics about the living things they mention.

Bacteria

- a. large
- b. tiny
- c. released oxygen
- d. **inhabited** planet millions of years

Plants

- a. were the first **land** beings
- b. had flowers
- c. were like mosses
- d. appeared 470 million years ago

Amphibians

- a. first on land
- b. they stayed on land
- c. were fish descendants
- d. all of them **evolved** into reptiles

Reptiles

- a. all of them were very similar
- b. all of them were giant
- c. dinosaurs were not reptiles
- d. many species still survive



Vocabulary

inhabit. to live in a place

ground / land. the solid part of the Earth's surface; a geological space

remains. the dead body of a person or animal

evolve. to change or develop slowly often into a more advanced state; to develop by a process of evolution



How did life appear?

Origin and Evolution of Life

Interesting Facts

Oxygen was not always present on our planet as it is now. In the beginning, toxic gases were all around and some primitive bacteria lived and developed in that environment. Ancient cyanobacteria appeared and **released** oxygen into the environment for so long and formed the atmosphere. This caused other primitive bacteria to die. It was the beginning of photosynthesis.

Source: <https://bit.ly/2XmoMN9>
<https://bit.ly/2wtHqaj>



What do you know about the beginning of our planet?
Discuss your ideas in small groups or as a class.

Everything began. Pre-Cambrian: It started about 4.6 billion years ago. The Earth was formed in the beginning of this era. The air was very toxic. The first one-celled living beings appeared, and then multi-celled and more complex beings. They lived in water.

Paleozoic: It was a time of great changes in the planet and it is subdivided in six periods:

- **Cambrian:** First shellfish, primitive fish, corals, algae and mollusks were dominant in the oceans.
- **Ordovician:** First land plants and initial fish appeared.
- **Silurian:** First insects emerged and more plants were on land.
- **Devonian:** The first sharks appeared, as well as **bony** fish. Amphibians and spiders and the first terrestrial forests started colonizing land.
- **Carboniferous:** The first reptiles and insects with wings appeared on land.
- **Permian:** Diverse animal and plant life appeared, reptiles diversified. Then there was a mass extinction.



Vocabulary

release. to allow (a substance) to enter the air, water, soil, etc.

bony. Resembling bone. Hard substance. Full of bones



What did you learn about the origins of life on our planet?



Answer **True (T)** or **False (F)** according to the information in the reading. If the sentence is false, correct it to make it true.

- The environment in the Pre-Cambrian Era had oxygen at the beginning.
- The first living things that appeared were cyanobacteria.
- Amphibians appeared before fish.
- Plants first emerged in water.
- The first fish appeared during the Devonian period.

Writing

How did water appear on Earth?

The Origin of Water

1. Complete the following passage using the verbs from the boxes in the past tense. There will be one extra verb.

arrive

help

learn

think

hit

appear

Water is an essential part of our planet. Without water, no life would be possible. We all _____ about the water formula and its cycle in nature. We have also seen how much water there is in the oceans on maps, but... do we know how water _____ on our planet?

One of the most known theories says that water _____ in our planet because asteroids and comets have water in them in the form of ice. In the Pre-Cambrian era, thousands of meteorites _____ the surface of Earth, causing great destruction. The water stayed on our surface and _____ create life.

Another theory claims that water existed on Earth from the beginning. Scientists have discovered some asteroids as old as our planet and found evidence of water in them. According to some experts, water could have appeared before we even _____.

Source: <https://bit.ly/2BvDfNl> | <https://bit.ly/2QjxjgX>

2. After reading the text, answer the following questions in complete sentences.

- Which theory do you think is true about the origin of water on our planet?

- Discuss this topic with your teacher and classmates. Do you think water existed on other planets too? Write your conclusion. Use the past tense.

- Find three or four words from the passage that you did not understand. Write them here and find their meaning in a dictionary.



Water in Young Earth

Grammar Note

The simple past is used when an action was completed in past.

It means that an action started and finished at a specific point in the past.

Past time expressions:
last, ago, yesterday.

Simple past

Animals **appeared** millions of years ago.

Animals **didn't appear** some years ago.

Did animals **appear** some years ago?

Past of TO BE

Was (I, he, she, it) / **were** (you, we, they)

The Earth **was** a hot planet at the beginning.

The Earth **wasn't** cold at the beginning.

Was the Earth hot at the beginning?

Language Through the Arts

What are some ways I can tell a story?

Tip

Drawings do not have to be perfect. Remember we all can be artists. All you need is to be creative. Try to use colors.



Trilobites

Grammar Note

Remember that most verbs in the simple past end in -ed, but that many verbs are irregular and have different forms, like *eat-ate*, *sleep-slept*, and many more. To learn these, it is best to see them in context and not simply memorize them in a list.

Comic and Role-Play

Use your creativity

Create a comic about the first two eras. Draw a 6-panel comic and tell your classmates about any topic from the unit. Use the simple past and complete sentences. Be prepared to act it out with your classmates. Be creative!

1 Once upon a time	2
3 Some time later	4
5 Finally	6



What did you learn about the origins of life on our planet?

Oral Communication

How do we know what creatures existed on earth?

Fossils



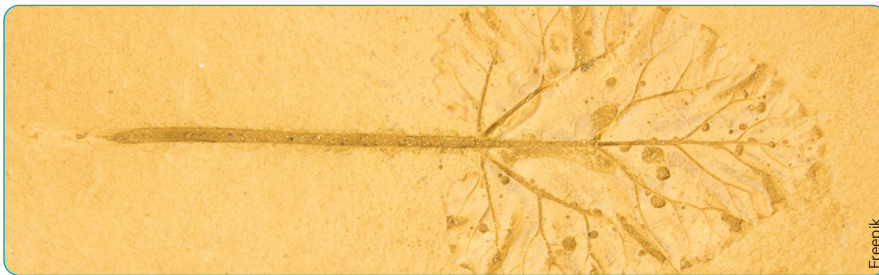
What helped scientists discover what creatures existed before humans?
Share your ideas with your classmates.



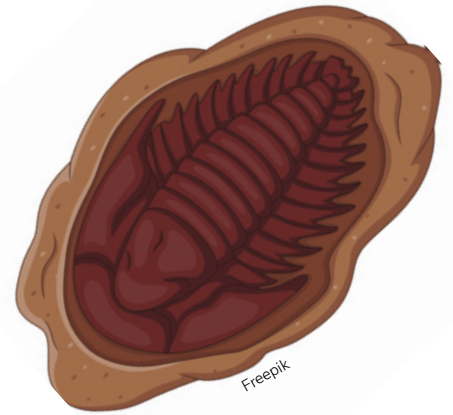
Insect fossil



Dinosaur fossil



Plant fossil



Freepik



Vocabulary

shell. the hard outer covering of an animal, insect, etc., that protects it

tissue. the material that forms parts of a plant or animal

decay. to be slowly broken down by the natural processes that destroy a dead plant or body

amber. a hard orange-yellow substance that can be polished and used for jewelry and other decorations

footprints. a mark left by a foot or shoe



Listen to someone talk about fossils. Answer the questions according to what you hear.

- What is a fossil?

- How is a stone fossil formed?

- Where are fossils usually formed?



Freepik

Communication and Cultural Awareness

What do you know about dinosaurs?

Interesting Facts About Dinosaurs



Meat-eater dinosaur



Make a list of facts you know about dinosaurs as a class. Try to answer questions like: When did they live? Where? What did they eat? How big were they?

Interesting Facts

The geological eras were proposed based on studies done by scientists that have researched the topic for decades. On the other hand, various religions around the world propose different approaches about the origin of the universe and life.

What we learn is what science says. What you think about it depends on your beliefs and world view.



Vocabulary

hatch. to cause (a young bird, insect, fish, etc.) to come out of an egg — usually used as (be) hatched

roam. to go to different places without having a particular purpose or plan

- Dinosaurs inhabited the earth for over 165 million years.
- “Dinosaur” means “*terrifying lizard*”.
- Eoraptor is the oldest known dinosaur, a carnivore that lived 228 million years ago.
- Dinosaurs **hatched** from eggs.
- Dinosaurs were a class of reptiles, but they were different from those we see today.
- Most paleontologists believe that birds are the only surviving dinosaurs.
- The most enormous dinosaurs were as long as a blue whale and much taller than a giraffe. The smallest dinosaurs were as small as a chicken.
- Some dinosaurs were carnivores, meat-eaters, and walked on two legs; while some were herbivores, plant-eaters, and walked on all four legs.

Source: <https://bit.ly/2JPZjcQ>



Answer the questions based on what you read.

- Are there any surviving dinosaurs?

- How long did dinosaurs **roam** the Earth?

- Write 2 facts that you find very interesting about dinosaurs.

Oral Communication

Did all dinosaurs live at the same time?

Mesozoic Era



Talk about the movies or programs you have seen about dinosaurs. Did they say when dinosaurs lived?



Diplodocus

Listen to someone talk about the Triassic, Jurassic, and Cretaceous periods. Take notes on what you hear. How much of this information did you know before?



Vocabulary

seeds. a small object produced by a plant from which a new plant can grow

spread. to open, arrange, or place (something) over a large area

mammals. a type of animal that feeds milk to its young and that usually has hair or fur covering most of its body

rodents. small animals (such as a mouse, rat, squirrel, or beaver) that have sharp front teeth

huge. very large, very great in size, amount, or degree

landscape. a picture that shows a natural scene of land or the countryside



Dinosaur species



What happened to animals that lived long ago?

Mass Extinction

Interesting Fact

Periodically, every 50 to 100 million years or so, the Earth has experienced mass extinctions. There have been at least ten extinction events in the past. Generally, scientists think that the extinctions resulted from drastic environmental changes that followed events such as meteorites, comet impacts, or massive volcanic eruptions.

Mass extinction is the disappearance of a large number of the Earth’s species. The most devastating extinction was at the end of the Permian period; an estimated 95% of marine species and 60% of insects disappeared about 245 million years ago. Huge volcanic eruptions continued for thousands of years and caused destruction and dust that blocked the sun. It caused global cooling that froze the water’s surface.

The most famous mass extinction was in the end of the Cretaceous period, when the dinosaurs and many other plants and animals disappeared and up to 75% of all marine life died. It occurred 65 million years ago. A theory says that a big asteroid with a diameter of 10km hit the planet and created a giant cloud of rocks, dust, and sulfur in the air that blocked the sunlight. Catastrophic climate change did not let dinosaurs survive.

Source: <https://bit.ly/2Z3oyLy>



Circle the correct answer.

1. What was the most devastating mass extinction that our planet faced?
a. Permian extinction
b. Jurassic extinction
c. Cretaceous extinction
2. What caused the dinosaurs’ extinction?
a. volcanic eruptions
b. cold weather
c. a meteorite
3. When did dinosaurs go extinct? Answer in a complete sentence.



Meteorite falling to Earth



Find three words you do not know, look for their definition and write it down. Choose one and use it to write a sentence.

1. _____
2. _____
3. _____

Sentence:

Language Through the Arts

What else can we learn about the past?

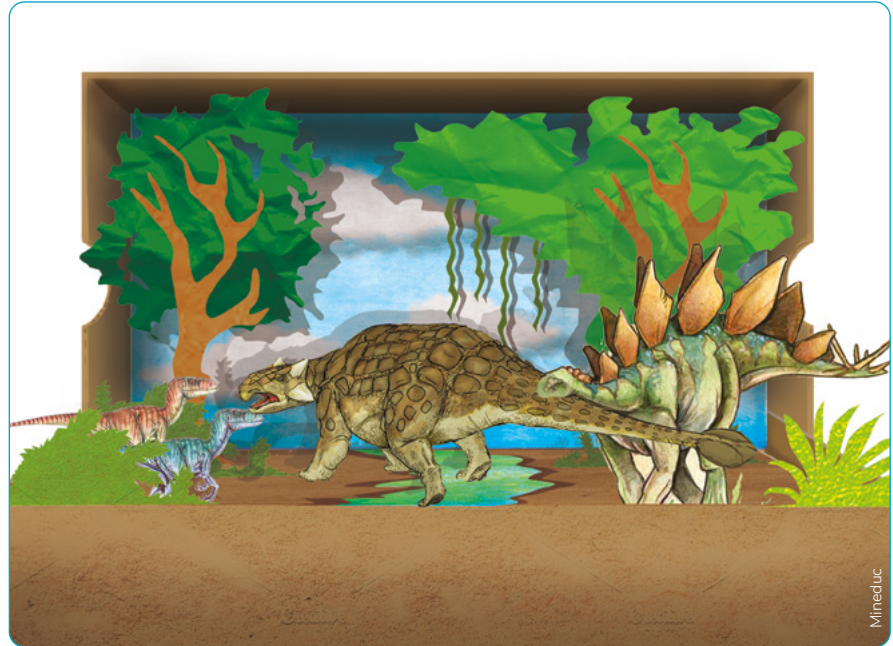
Ancient Animals Diorama and Oral Presentation

A diorama is a scene that captures a moment in time. Sometimes dioramas are life-size, like in many museums.



Materials

- Shoe box or any little box
- Paints or crayons of different colors
- Cardboard or paper
- Glue and scissors
- Any material you can find around you



diorama example



Choose any studied period and find its characteristics. Look for more information about it.

- Draw and paint the back of the box to set the background.
- Draw some animals and plants on paper or cardboard.
- Paste them in the box.
- Present it to the class or to a partner. Use the simple past tense to explain what happened during the period you chose.

- What period did I choose?

- Why?

Oral Communication

Have you seen a fossil?

Natural History Museums



What do you think we can discover through fossils?
Do you think that studying fossils is interesting? Why or why not?

1. Listen to the interview about museums and complete the activities.
Write **True (T)** or **False (F)**. If it is false, correct it to make it true.

- Sandy T. Brown is a geologist.

- They are talking about art museums.

2. What statements are said in the interview?
Underline all the correct answers.

- a. We can only find dinosaurs in this kind of museums.
- b. We learn about the strangest animals in the world.
- c. These museums are very popular.
- d. They are not important.
- e. These museums have a lot of information about biodiversity and genetics.

3. Complete the missing words:

When someone _____ they _____ a new species, we can
_____ it with _____ species and determine if it is new or not.



Fossil of dinosaur



Fossil of dinosaur in a museum



Fossil of dinosaur in a museum



Is there a museum in your city or town? If so, have you visited it?
If not, as a class discuss the things you would put in a museum
in your town or city. Write down some of your ideas.

Achievement Level - Reading

Individual activity

1— Natural History Museum L.A.: Schedule

Open every day from 9h30 am to 5 pm.

School field trips available every morning from 9am to 2pm.

Dinosaur Encounters Hall: Open only for school field trips on Mondays from 9am to 10am.

Fossil Detectives Hall: Open only for school field trips on Mondays from 9am to 12pm.

Circle the correct statements.

1. Everybody can visit all museum's halls on Mondays from 9am to 5pm.
2. Schools can visit the museum every day at any hour.
3. Dinosaur Encounters Hall opens only for schools on Monday mornings.

Achievement Level - Reading

Individual activity

2— Different Kinds of Museums

Match the person with the kind of museum they are looking for.

A. Art Institute

B. Museum of Ancient and Modern Times

C. Museum of famous figures

1. Martha is looking for a museum where she can learn about the history of the country.

2. Louis is looking for a museum where he can learn about the origins of life and animals that inhabited the planet in the past.

3. Santiago is looking for a museum where he can learn about art, history, and famous people of the country.

Achievement Level - Writing

Individual activity

3 — Write a story telling about a visit to a museum or historic site. Use the past tense when necessary. Say when you went and who went with you. Write 100 - 120 words.

I visited _____

Achievement Level - Vocabulary / Grammar

Individual activity

4 — Complete the following sentences with a few words that express the same as the given.

My friends were in London a week ago.

My friends _____ last week.

Students talk about their visit to many museums in New York.

Students _____ in New York.

When I studied History I found it boring, but now I love it.

I got _____ but now I love it.

I'm completing this self-evaluation based on what I learned in the module.

Self-evaluation	I check ✓ the box that most applies to me				
	Topics	I do it very well	I do it somewhat well	I can improve	I can't do it without help
Use the past tense to talk about things that happened					
Talk about prehistoric times					
Listen to formal conversations and answer questions about them					



Project 1

Let's Make Our Own Fossil

Materials

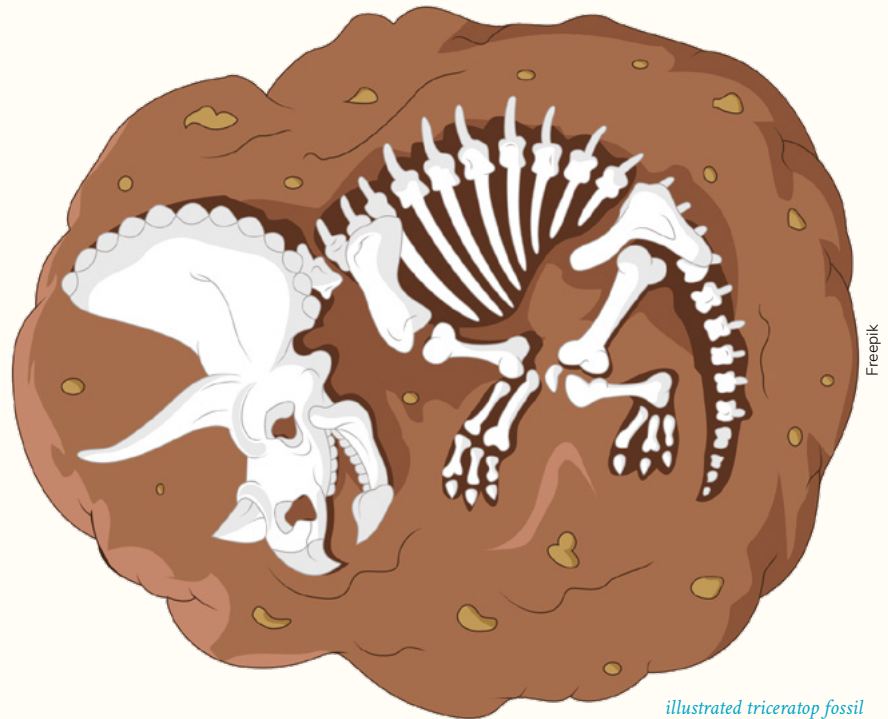
- Clay or flour with
- Water
- Toothpicks or sticks from plants
- Leaves if necessary
- Glue

Instructions

- Choose a type of fossil and research it.
- What animal or plant is it?
- When did it live? What period and era?
- Draw what it looked like on a piece of paper.
- Make a model of your fossil and cover it with glue. Let it dry.
- Write a short paragraph (40 - 50 words) about it and present it to the class.

Useful vocabulary

Petrified, footprint, remains, printed, amber, frozen, period, food, large, little, hunter, animal, plant.



Presentation

Use a piece of cardboard or the top of a shoe box to present your fossil.

My fossil is a

It lived during the

I chose it because

Let's Review

Communication and Cultural Awareness

There are different world views about the history of our planet. We must respect every person's beliefs and ideas.

Different cultures around the planet have different theories about origins of the universe and world, and also about when and how humans first appeared.

People from around the world take care of the planet in different ways.

Question: What do you remember about how different cultures care for our planet?

Language Through the Arts

We have developed our creativity by:

- drawing a comic about the history of our planet.
- designing a diorama to show a specific time of our history.

Question: Question: How do you think art has helped you with language?

Reading and Vocabulary

We have developed skills to understand texts with scientific information and search for specific topics.

We have learned several vocabulary words about science, history, and ecology.

We have read about many interesting facts of our planet.

Question: What was your favorite topic from the first half of the module? Why?

Oral Communication and Grammar

We talked about many topics and shared our opinions.

We listened to dialogues, interviews, and passages.

We learned and used past tense patterns to talk about the history of our planet.

Question: What have you learned in your debates with your classmates?

Communication and Cultural Awareness

What is the origin of humans?

Origin of Humans Through Different Worldviews

Different cultures in the world have various theories about the origin of humans. Most of them are related to their religious beliefs.

Culture

Incas

There are many theories about human origin in Inca culture; the most known says the god Viracocha made Earth dark without sun, moon, or stars. He also created some giant beings and some humans. His rules were broken, so he sent 60 days and 60 nights of rain. He kept two humans with him and brought eternal light, sun, moon, and the stars from Lake Titicaca. He then created other living things and human beings.

Vocabulary

soul. the spiritual part of a person that is believed to give life to the body and in many religions is believed to live forever

feathered. covered by feathers

“keep the days”. to be aware of time

clay. a heavy, sticky material from the earth that is made into different shapes and that becomes hard when it is baked or dried

a. Hindu:

Lord Brahma created the universe, human beings, and all forms of life. Different species came from Brahma’s body and he first created humans from his **soul** as the strongest of all.



Lord Brahma

b. Mayas:

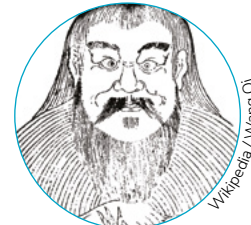
The Creators, Heart of Sky, and a **Feathered Serpent** created humans “who could talk and **keep the days**”, out of white and yellow corn.



Hun Ixim, Mayan god

c. Chinese:

Pangu kept earth and heaven separated. When he died, his body became parts of our planet, his eyes became the sun and moon, and a lot of insects turned into human beings to inhabit earth.



Pangu, The Creator

d. Sumerians:

The gods came to make earth a beautiful place and created men to help them with the labor. The first man was created out of a death god’s blood and **clay** in a place called Eden.



Marduk, The King of Gods



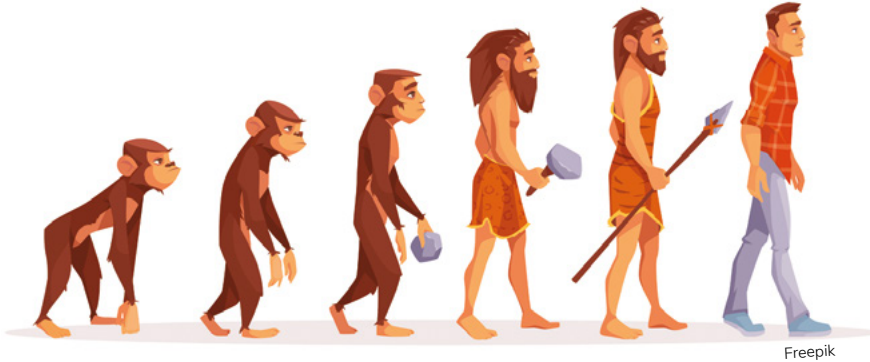
Discuss what your community says about human origin. Is it similar to any of the stories you just read? How?

Oral Communication

How did humans appear on Earth?

Human Development

A Visit to the Natural History Museum



1. Listen to a recording about the history of humans and complete the missing information.
 - a. Scientists say humans originated _____.
 - b. Our early ancestors were _____ such as _____, _____, and chimpanzees.
 - c. Two groups of primates similar to _____ lived in Africa.
 - d. Some _____ near **resources** and the other did in _____ **fields**.
 - e. One group became _____ and the other remained apes.
 - f. The first humans developed a _____ that **allowed** them to build _____, _____, _____ and walking helped them _____.

2. Listen again and write **True (T)** or **False (F)** in the circle.

- a. There is one single theory about the origin of humans.
- b. Humans, monkeys, gorillas, and chimpanzees are primates.
- c. Evolution helps species survive.
- d. Humans come from ancient apes that lived near all resources.
- e. Living in open fields made early humans walk on four feet.
- f. Walking **upright** helped humans become faster.
- g. Early humans had body protection.

What made human beings become what we are today?

Vocabulary

resource. a supply of something that someone has and can use when it is needed

field. an open area of land without trees or buildings

allow. to permit (someone) to have or do something

upright. positioned to be straight up. vertical

figure out. to understand or find (something, such as a reason or a solution), by thinking

evolution. it is the process in which animals change over time in order to adapt and survive

genetics. the study of our genes and how we develop as a species

Communication and Cultural Awareness

How do we humans affect our planet, positively and negatively?

Both Sides of Human Intervention

Read the following passage and consider our positive and negative effect on our planet.

Humans have inhabited the planet for about 2 million years, and during this time many events have occurred. Human intelligence has created several things; many of them have helped humanity face **diseases** and **threats**.

Discoveries and inventions such as **vaccines** and antibiotics have saved thousands of lives. The printing press has allowed us to share more knowledge and transportation has helped us move around the world and **trade** with other countries. Technology has shortened distance in communication and informs us in seconds of events all around the world.

However, not all inventions are positive. Other discoveries, like technology used for war and mass destruction, as well as nuclear, chemical, or biological bombs are extremely dangerous and might lead humans to extinction.

Industry causes high levels of pollution and releases carbon dioxide into the atmosphere, and lots of toxic chemicals are **dumped** into rivers and seas. Global warming is a reality. Everyday activities such as producing our food, **commuting**, using plastic, large-scale fishing, monoculture plantations, among others; are destroying our planet little by little. We hear about hundreds of plant and animal species that are **endangered** or even extinct. We need to take responsibility for our actions that affect our planet.

Make a list of all positive and negative effects of humans found in the text.

1 Positive

2 Negative

Vocabulary

disease. an illness that affects a person, animal, or plant: a condition that prevents the body or mind from working normally

threat. something that can put you in danger

vaccine. a substance that is usually injected into a person or animal to protect against a particular disease

trade. the activity or process of buying, selling, or exchanging goods or services

dump. to put (something) somewhere in a quick and careless way

commute. to travel regularly to and from a place and especially between where you live and where you work

endangered. used to describe a type of animal or plant that has become very rare and that could die out completely

Interesting Fact

Many countries are really worried about the future of our planet and try to implement policies and regulations to stop the accelerated destruction of nature. In order to do this, states around the world have signed agreements that help stop destruction.

Writing

Do you think humans have a positive or negative impact on the planet?

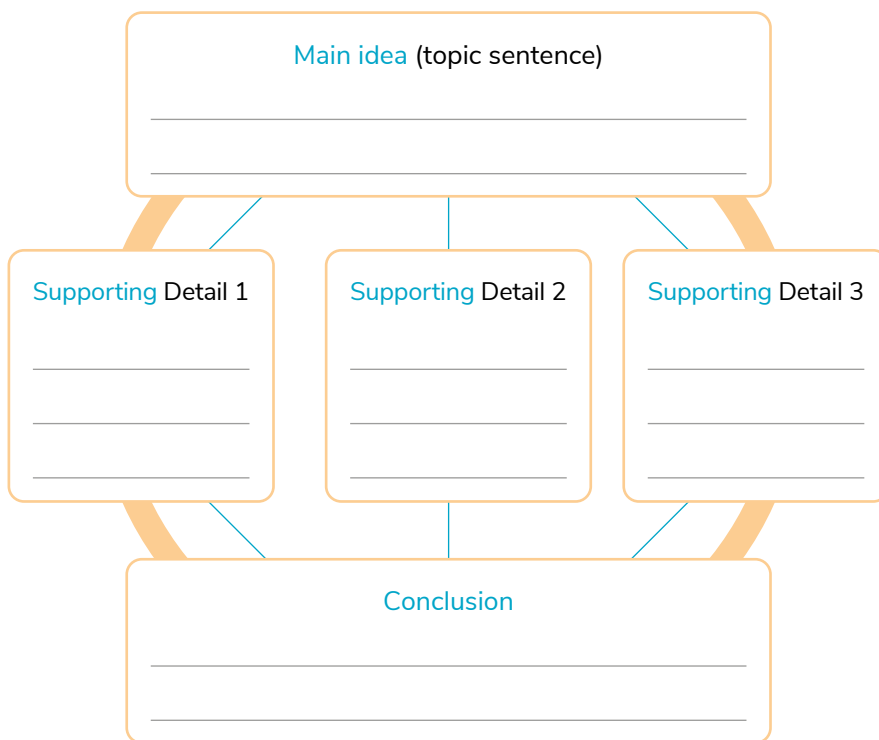
Persuasive Writing

What is persuasive writing? What is its purpose?

The purpose of a persuasive essay is to **persuade** readers to adopt the writer's point of view on an issue and/or **agree** with a suggested course of action. To **accomplish** this, you need to develop logical and reasonable **arguments** that **support** your opinions.

You are going to write a persuasive paragraph of 60-70 words about what you think the impact of humans has been on the planet. First, decide if you think humans have had a more positive or negative impact. Then, think of ideas to support your opinion, and finally a concluding sentence. Write your ideas in the graphic organizer below.

Title _____



Paragraph

Tip

Topic Sentence: States the idea you want to support.

Supporting details: Include some facts and details that will make readers believe in your ideas.

Conclusion: End your paragraph with a strong idea related to the topic sentence. Never include new ideas in the concluding sentence.



Vocabulary

persuade. to cause (someone) to believe something; convince

agree. to have the same opinion

accomplish. to succeed in doing (something)

argument. statement or series of statements for or against something

supporting. one that supports: to defend as valid or right

Language Through the Arts

Can we create art from pollution?

Tip

A group of students in Barcelona, Spain created a complete piece of art representing the ocean with only plastic bags.



Animals made out of plastic and metal. Artur Bordalo

Organizing an Art Project

You are an artist!! Let's make a piece of art out of trash!

We all are aware of the problem of pollution and garbage we are facing **nowadays**. Some artists from around the world have created **amazing** pieces of art using trash. The artists' objective is to promote social change either by creating works of art or by performing.



"Bristol Whales" by Sue Lipscombe

Your work of art may take some time so it will be presented as a final project. It is better to work in groups.

Step 1. Identify what material is most commonly **thrown away** in your community.

Step 2. Investigate how long the material takes to decompose in nature.

Step 3. Decide what art project you can make with the material.

Step 4. Collect the material and create your work of art!

- Present your pre-project to the class.
- Tell the class what you chose and why. Explain your plans for the project.

Vocabulary

trash. things that are no longer useful or wanted and that have been thrown away

nowadays. at the present time

amazing. causing great surprise or wonder

throw away. to get rid of something by treating it as garbage

Oral Communication

What is the world doing to avoid environmental destruction?

Protecting Nature

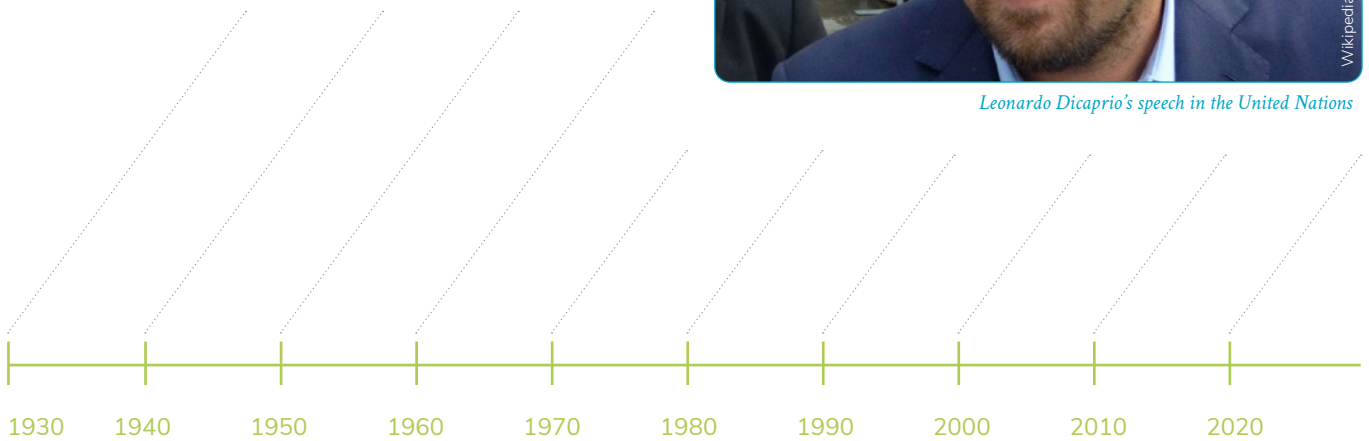
Value: Environmental conservation



Listen to a person talk about international **agreements** to protect the environment. Fill in the timeline to show the important events.



Leonardo DiCaprio's speech in the United Nations



“Now must be our moment for action”

In 2014, the famous actor Leonardo DiCaprio gave a **speech** in front of the largest group of government, business, and civil society leaders in history at the United Nations Climate Summit.

His speech had 1.6 million views on the United Nations channel and appeared in over 45,000 news articles across the globe. He asked nations to consider the possibility of using alternative energy sources and reducing CO₂ (carbon dioxide) emissions.

The UN Secretary-General named Leonardo as a United Nations Messenger of Peace for Climate.



Vocabulary

agreement. a situation in which people share the same opinion

treaty. an official agreement that is made between two or more countries or groups

concern. a feeling of worry usually shared by many people

subscribe. to belong to or support something (such as an organization)

spill. to cause or allow (something) to fall, flow, or run over the edge of a container usually in an accidental way

whaling. the job or business of hunting whales

reinforce. to encourage or give support to (an idea, behavior, feeling, etc.)

speech. a spoken expression of ideas, opinions, etc., that is made by someone who is speaking in front of a group of people



Do you know what is happening with CO₂ emissions?

- Discuss the effects of CO₂ emissions as a class. Write down two of them.

- What can you do to decrease the effects of gas emissions?

Communication and Cultural Awareness

What are other people doing to help the environment?

Invisible but Powerful Actions

Sea Shepherd

There are many non-government organizations that fight every day to protect nature. Sea Shepherd is a movement that takes action directly to defend, conserve, and protect the oceans of the world from illegal **profiteering** and environmental destruction. Some famous TV nature show stars such as Steve Irwin **supported** this organization for a long time. His help was so appreciated that the biggest **ship vessel** of the movement had his name and operated defending sea life for many years.

<https://bit.ly/3aBonNa>

From Dump to Nest

The beach of Versova in Mombay, India recovered its beauty after two years of people cleaning up trash. Afroz Shah went back to his town and saw his favorite beach covered with garbage. At the beginning he was all alone cleaning, and then a group of volunteers joined him. He collected 13,000 kg of **debris** during the time of the campaign. Now, marine turtles nest and hatch there.

<https://bit.ly/38FiOw1>

Culture

Indigenous people are only 5% of the world's population. Their territories cover 22% of the planet and make up 80% of the biodiversity of the world. They are the guardians of nature and protect it by keeping old traditions like growing food. They only grow plants that are part of the environment. They hunt only what they need to eat or make clothes. Indigenous peoples adapt to their environment and respect it.

Vocabulary

profiteering. the act of making money by selling things at very high prices at a time when they are hard to get

support. to give help or assistance to someone or something

ship/vessel. a large boat used for traveling long distances by sea

dump. a place where waste is taken and left

nest. a place where an animal or insect lives and usually lays eggs or takes care of its young

debris. things (such as broken pieces and old objects) that are lying where they fell or that have been left somewhere because they are not wanted



Sea Shepherd ship



Baby sea turtles hatching from eggs



- Do you and your classmates at school do something in order to help the environment?

- What can you do at home to start helping nature?

Oral Communication

Can we prevent climate change? How?

Let's Do Our Part!

Value: Community actions



Alternative energy sources

Listen to someone talk about plans to help the Earth recover and avoid great destruction in the coming years. Underline the correct statement according to what you hear.

1. What will happen to water in the future?
There will be a lot.
There will be a little.
2. What will help reduce energy consumption?
Growing your own food.
Using solar panels.
3. What will happen to the ocean in the future?
Plastic items will be more numerous than fish.
Large-scale fisheries will be all over the world.
4. What are some positive effects of growing your own food?
It may reduce monocultures.
It will save marine life.
5. What are some people going to do?
Take shorter showers.
Use solar panels.

Interesting Facts

Many countries in the world have banned single use plastic bags, bottles, containers, and forks, knives, and spoons in order to reduce plastic pollution. France was the first country to ban plastic.

Vocabulary

shortage. a state in which there is not enough of something that is needed

ban. prohibit something

village. a small town in the countryside

due to. because of (something)

take-out. to-go, take home

reusable. something that can be used again

greenhouse. a building that has glass walls and a glass roof, used for growing plants

Reading

What if we do not change habits with the environment?

Grammar Note

The zero and first conditionals are used in English to describe situations that do happen or will happen in the future.

Zero Conditional:

Facts, scientific laws, habits, instructions, and rules.

If the sun's heat **stays**, it **produces** a greenhouse effect and global warming.

First Conditional:

Probable result in the future for actions in present.

If the temperature in the world **increases**, ice from the poles **will melt** and disappear.



Vocabulary

growth. an increase in the number, amount, or size of something

go back. to return

crop. a plant or plant product that is grown by farmers

increase. to become larger or greater in size, amount, number, etc.

melt. to change or to cause (something) to change from a solid to a liquid usually because of heat

avoid. to prevent the occurrence of something

What If...?

Read the following. Observe the use of zero and first conditionals.

Scientists all around the world have warned about the terrible consequences for our survival if we do not start changing the way we use natural resources.

- a. If population **growth** continues this fast, there will not be enough food for everybody in the future.
- b. If we have high CO₂ concentration levels, the sun's heat does not **go back** into space and stays on the planet.
- c. If the sun's heat stays, it produces a greenhouse effect and global warming.
- d. If humans destroy ecosystems, many species lose their homes forever. Now, two in five amphibian species are at risk of extinction.
- e. If farmers do not stop using toxic chemicals on **crops**, many pollinator insects will disappear. In some regions, one in ten insect species are in danger of extinction.
- f. If we do not reduce plastic use, our oceans will have more plastic items in them than animals.
- g. If the temperature of the planet **increases**, ice from the poles will **melt** and disappear.
- h. If the ice at the poles disappears, many cities on the coasts will be flooded.
- i. If we start doing something now, we will **avoid** a sad future.

Reese, 2009; Watts, 2019.

From the list presented above, choose four possible consequences of actual human habits on the environment. Write a possible solution for each of them.

- a. _____

- b. _____

- c. _____

- d. _____

Writing

What will the future bring?

Cause and Effect

- Step 1.** In the graphic organizer, brainstorm ideas about an environmental problem that already exists or that might exist in the future. Think of the cause or causes of the problem, and also the effects it has. Write them in the boxes.
- Step 2.** Take your ideas from the graphic organizer and develop them into a paragraph of 60-70 words in your notebook. Be sure to use zero and first conditionals as well as connector words of cause and effect.
- Step 3.** Read what you have written and see if you need to change anything.
- Step 4.** Exchange your paragraph with a partner. Read your partner's paragraph. Discuss these questions about your paragraphs with each other:
- Can you easily see cause and effects?
 - Is the paragraph well-organized?
 - Are there any grammar, spelling, or punctuation mistakes?
 - Did the writer use the correct words?
- Step 5.** Consider the comments from your partner and make any necessary changes. Then turn in a clean copy to your teacher.

Tip

Connector words for cause and effect:

because of, in fact, in order to, due to, as a result, as a consequence, for this reason, consequently, therefore.

Grammar Note

Future tense:

To be going to/ Present Continuous + future expression: Plans and arrangements.

I am going to start taking shorter showers.

I am starting today.

Will: Decisions made at the moment, predictions, offers, and first conditional.

Scientists say by 2030 **there will be** more plastic than fish in the oceans.

Simple present:

Scheduled events: transportation, conferences, classes, etc.

I am visiting a museum next week. **It opens at 9 am.**

Cause _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	Effect _____ _____ _____ _____
Cause _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	Effect _____ _____ _____ _____
Cause _____ _____ _____ _____ _____ _____ _____ _____ _____ _____ _____	Effect _____ _____ _____ _____

Vocabulary

scheduled. a plan of things that will be done and the times when they will be done

Language Through the Arts

What does it cost to buy new clothes?

Interesting Fact

It takes 2700 liters of water to make a t-shirt. That is what one person drinks in two and a half years.

Any old piece of clothing can be recycled. We can make shopping bags.

Materials

- Old t-shirts
- Needle and different color thread
- Materials you can find in your community for decoration
- Scissors

Recycling

Making clothes has a real negative impact on nature. “Fast Fashion” is causing lots of pollution in the world. It is said that the clothing industry releases 8% of all greenhouse gases. What can we do? We can recycle. Let’s learn to make interesting things with our old clothes.

Source: <http://cort.as/-Mq0Y>

Convert an old shirt into a bag

- 1 Get an old t-shirt.
- 2 Draw a circle around the neck.
- 3 Cut the neck where the circle is.
- 4 Cut off the sleeves.
- 5 Turn it inside out and sew the bottom together

Mineduc



Bags made of recycled materials.

Answer the question. Use your creativity!!
Can you recycle other pieces of clothing? How? What can you make?

Oral Communication

What is happening with pollution in our country?

Galapagos Islands



Galapagos Islands

Pacific Ocean Garbage Patch

It is a gigantic floating island of plastic garbage in the north of the Pacific Ocean. It is located between California and Hawaii. It is approximately 1,600,000 km² large (Ecuador is 283,560 km²) and is mostly composed of big pieces of plastic. Researchers say that some of that garbage came from the 2011 tsunami in Japan.

Besides the Pacific Ocean Garbage Patch, there are thousands of little plastic islands floating in the ocean. Most of them are mainly fishing nets and debris from rivers. It is important to start reducing plastic use. We all can help!

The Ocean Cleanup, 2019

Listen to a marine biologist talk about plastic pollution. Decide if each sentence is **True (T)** or **False (F)**. If the sentence is false, correct it to make it true.

1. Plastic is normal in animals' lives now.

2. Plastic garbage comes from Europe.

3. Plastic decomposes.

4. There are many little plastic islands in the ocean.

5. A solution can be reducing single-use plastic.

6. We do not have to use reusable items to help save the planet.

Vocabulary

remote. far away, distant

tiny. very small

single-use. used to describe a product that is designed to be used only once

reusable. something that can be used again

patch. a small spot or area that is different from the rest

Achievement Level - Reading

Individual activity

1— Read the text about robots and answer the questions that follow.

Robots

Will we have robots at home? There already are many kinds of robots! Big factories use a variety of robots that help put pieces together and do things that are dangerous for people.

Some countries have robots that do things for people at home; for example, there is a robot that can cut the grass while you relax with a glass of lemonade! Also, there are robotic vacuum cleaners. They clean the floor by themselves.

Now, many cars have GPS (Global Positioning Systems) in them. A car with a GPS system can give you directions on how to go somewhere, tell you where the closest gas station is, and, some day in the future,

it will drive itself. You will take a nap or read while the car drives itself to your destination.

There are some companies in the world that are going to build robot pets, and many of them will be in homes around the world. The Sony Company built a dog called Aibo that can sit and do lots of tricks. Some people are going to buy one of those dogs so they have a good robotic friend at home. Aibo is also a great guard dog. He can patrol the yard and take pictures of anything suspicious with a built-in camera. As you can see, we will probably have lots of robots around us in the future.

<https://bit.ly/2Q1vsyS>

Write **True (T)** or **False (F)**. If it is false, correct the statement to make it true.

a. There are no robots in homes at this moment.

b. It is necessary for a person to control a robotic vacuum cleaner.

c. Big factories still have people doing everything.

d. There is a robot that can help you to have nice grass.

e. Robot pet dogs could stop people from getting into your house.

Achievement Level - Writing/Grammar

Individual activity

2— Complete the following sentences to say the same as the one given.
Use only a few words with the future tense.

- a. My friends are planning to travel to Egypt next year.
My friends _____ to Egypt next year.
- b. Some people predict the use of flying cars in the future.
Some people say _____ in the future.
- c. It is almost 3 pm! My train leaves in half an hour.
My train _____.
- d. I have trouble with my Math homework.
My friend _____ tonight.

Achievement Level - Vocabulary

Individual activity

3— Use each of the following words in an original sentence to show that you understand what they mean.

- a. Soul _____
- b. Threat _____
- c. Accomplish _____
- d. Support _____
- e. Due to _____

I'm completing this self-evaluation based on what I learned in the module.

Self-evaluation	I check ✓ the box that most applies to me			
	Topics	I do it very well	I do it somewhat well	I can improve
Talk about the environment				
Write a cause-effect paragraph				
Use zero and first conditional				

