Unit 1. Tornadoes: Severe Thunderstorms



Date:	•	
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Tornadoes: Severe Thunderstorms
A tornado is a type of violent in which a rapidly rotating
column of air spins very fast.
They are not very wide, and they do not last a long time.
But they are very and even deadly.
Tornadoes typically develop within a large scale low-pressure system.
When unstable hot air near the ground rises and meets cooler air, a
thunderstorm
Sometimes a thunderstorm develops a rotational wind that
touches the ground at high speed.
This is a tornado.
In the center of a tornado, winds can reach speeds of 500km per hour or more.
At such high speeds, winds can destroy anything in their
There is an average of over 1,000 tornadoes every year in the United States.
And Tornado Alley is an area in mid-America that gets a very high number of
very destructive tornadoes.

Tornadoes usually occur	within a short	_ time.
For example, in April 1974, almost 150	tornadoes were reported east	of the
Mississippi River within two days.		
And, in April 1991, an	of 54 tornadoes also occurred	within
two days.		
The Tri-State Tornado of March 18, 1925,	, was the deadliest tornado in Am	nerican
history.		
According to the report, 689 people wer	e killed by this tornado.	
It was a series of tornadoes, not a single	giant tornado.	



Unit 2. Different Types of Pollution



Date:		

Different Types of Pollution
As we try to make our lives more, pollution has become a
more serious issue.
There are three kinds of pollution.
One kind of pollution is air pollution.
Smog, mostly from cars and factories, is one cause of air pollution.
Air pollution can make it hard for people to breathe.
Air pollution can also change the weather.
For example, air pollution from cars and factories heat from
sunlight.
This makes the Earth warmer. Scientists call this global warming.
Water pollution is caused by used in
agriculture.
Rain carries this excess fertilizer to streams and lakes.
The algae in these streams and lakes grow excessively because of the fertilizer.
When they die, they sink to the bottom and decay.

The decaying process uses that other animals and plants need
to survive.
Another kind of pollution is land pollution.
It is caused by the garbage people produce are filling quickly
every day.
As more garbage piles up in landfills the waste material into
the ground.
Eventually, the soil becomes polluted and causes diseases in both humans and
animals.
No one wants to live in a polluted
Never throw waste into an ocean or lake. Use recycled paper napkins and
reusable plastic containers.
In addition, for short trips, ride a bicycle rather than a car.



Unit 3. Life in the Polar Regions



Date:		

Life in the Polar Regions
The North Pole is the northernmost on the Earth, and the
South Pole is the southernmost point.
The climate in each place is cold throughout the year.
The oceans are solid, and they are covered with snow.
The region around the North Pole is called the Arctic.
It includes the northern parts of the of North America, Europe,
and Asia.
These masses of land the Arctic Ocean.
At the North Pole, there is no land itself but only frozen
In winter, the frozen ocean allows land animals to move from one continent to
another.
The region around the South Pole is called the Antarctic.
The Antarctic is comprised of the continent of Antarctica and the surrounding
Antarctic Ocean.

Even in the coldest winters, the continent of Antarctica is always
by liquid water, so land animals cannot easily travel away from
the area.
Life around the poles is very different from life on the Earth.
Most of the animals on land are warm-blooded mammals and birds.
They have adapted to the extreme conditions.
They have thick fur or feathers, which an insulating layer that
traps air.
Thus, they prevent heat loss and keep the skin warm and dry.
The Arctic fox, polar bear, and penguin are a few of the animals that live at the
poles.
There are also no reptiles or amphibians, and there are very few insect species.



Unit 4. What Roots Do



Date:			
Date.	•	•	

What Roots Do
All plants have roots.
They play very important for trees to grow.
Roots act like to hold plants firmly in the soil.
Without roots, plants would be blown away by the wind or washed away by the
rain.
Roots also the water and nutrients that plants need to live
and grow.
The tiniest roots, called root hairs, branch out through the soil and take in water
and
Then, the water and minerals are sent through the tubes to every leaf of the
plant.
Roots are different in shape. Some roots grow down into the
soil.
They tend to grow deep into the ground and reach water deep down.

They are called taproots.
Other roots spread out in all directions.
They are usually just beneath the ground.
They are roots.
Plants have different kinds of roots depending on where they live and how much
water they need.
For example, palm trees grow in wet, tropical places.
They usually have tall and thin
Thus, palm trees have strong of fibrous roots that help them
stand tall.
On the other hand, cacti grow in the desert.
Their roots must absorb as much water as they can find.
Thus, they have long taproots and thick mats of fibrous roots.
These roots find every drop of water in the ground and far beyond the plants.



Unit 5. Ants Are Social Insects



Date:		
Date.		•

Ants Are Social Insects	
Ants are found on every continent except Antarctica.	
Scientists estimate that there may be 20,000 different species in the world.	
Although there is great variety in ant species, there is one	
all share: All ants are social insects.	
They live in	
Most of the colonies are composed of four types of ants.	
They are the queen, males, soldiers, and workers.	
Each colony has at least one queen.	
She is more an egg producer than a	
She begins her life with wings, which she uses while	
After mating with a male ant or many males, she flies to her nesting area.	
Then, she loses her wings and spends her life laying eggs.	
Males are small ants that have wings.	
They have short life	
Their job is to fly out and mate with the winged queens from other colonies	S.

The males die soon after completing their jobs.		
The soldiers are large workers that the colony.		
They often other colonies and capture slaves.		
Amazingly, they are females that cannot lay eggs.		
The last members of the colony are the workers.		
They are small and wingless females that are the daughters of the queen.		
They also cannot lay eggs.		
These workers collect food, feed members of the colony, and		
the nest.		
Most of the ants in a colony are workers.		



Dictation Unit 6. Black Holes Test



Date			
Date	•	•	•

Black Holes
A black hole is an area of the universe that is very dense.
It is so dense that it can trap space forever.
Scientists think that there are two ways a black hole can form.
One way is by the death of a large star.
A star needs fuel to stay or shine.
The fuel pushes out, and gravity pushes the star
The two forces allow the star to keep shining.
But, when the fuel runs out, there will only be gravity pushing the star inward
until it collapses.
That is how the dense region is created.
There is force pushing in but no force pushing out.
Another way a black hole is created is from the collection of matter at the center
of a
When a lot of matter gets together in the middle of the galaxy, it can collapse
on itself and create a giant black hole.

We have a black hole in the center of our galaxy
A black hole does not give off light like a star, so it is difficult
to
However, can locate a black hole by a star
that is near it.
When a star is pulled into a black hole, it gives off X-rays.
Astronomers can locate a black hole by looking for these X-rays.
But no one knows what happens inside a black hole.



Unit 7. The Causes of Earthquakes



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The Causes of Earthquakes		
There are many theories on what causes earthquakes.		
The most scientifically documented is plate tectonics.		
It states that the reason for earthquakes has to do with the Earth's plates and		
their motions.		
The Earth's is constantly moving because of the plates, which		
are pieces as large as continents.		
Under the crust is the mantle.		
The rock material here is melted because of the heat from the core of the Earth.		
It always flows like a		
As heat begins to rise, the mantle rises and pushes against the bottom of the		
crust.		
When the mantle moves toward Earth's surface with force, cracks in the crust		
called faults are put in motion.		
These travel through the crust.		
Many earthquakes are actually so small that people can feel		
them.		

However, when earthquakes occur at the boundaries of plates,
impacts hit the crust, and their vibrations spread out in all
directions.
These vibrations cause the ground to shake and move terribly.
Destructive earthquakes occur frequently in countries near the boundaries of
plates.
We cannot prevent the mantle from moving or earthquakes from occurring.
Therefore, we need to study how to build stronger buildings, dams, and bridges
to earthquakes.
Then, and loss of life can be reduced.



Unit 8. Everything Is Matter



Everything Is Matter
Everything you have ever is matter.
Pencils, books, computers, and even the air you breathe are all matter.
So what is matter?
Matter is made up of, and elements are made up of atoms.
Atoms are so tiny that you need a special to see them.
Matter can be strong or weak.
The strength of matter depends on how the atoms are
Matter has different
You use your knowledge of the properties of matter every day.
To build a house, you would use metal and wood instead of paper.
You know that paper is weak and that metal and wood are strong.
The properties of matter can change.
There are two different ways that the changes can happen.
Matter can change physically or chemically.
A change can be seen by the senses.

When you color a drawing on a piece of paper, you are making a physical		
change to the paper.		
The matter is still paper. Only its appearance has changed.		
A change happens when the atoms in the matter change.		
A new material is formed when there is a chemical change.		
New materials form when wood is burning in a fireplace.		
As the wood burns, you can see it turning into black		
You can also smell something in the air.		
The wood made a chemical change as it turned into ash and carbon dioxide		
gas.		



Unit 9. The Grand Canyon



The Grand Canyon
The Grand Canyon is located in northwest Arizona in the United States.
The scale of this rocky landscape is
It is nearly 450 kilometers long and almost 2 kilometers deep.
The walls of this canyon are made up of approximately forty different
rock
Each layer of the canyon shows a different period in the Earth's history.
The lowest layers existed long before the dinosaurs lived on the Earth.
The canyon spans many different, so it has many habitats.
Hundreds of species of animals live in these habitats.
Near the river, coyotes, skunks, tree frogs, and rattlesnakes are common.
In the inner canyon, thousands of bats and California condors
the desert skies.
In the forests, more than 50 species of, including porcupines,
black bears, foxes, and elk, can be found.

also has several different climates and various trees and other plants from top				
to bottom.				
Near the top, where it is the coolest, there are blue spruce and aspen trees.				
Lower down, there are yellow pines.				
On the floor of the canyon, where it is desertlike, the most common plants are				
cacti.				
The Grand Canyon is also an important cultural area.				
Native American groups once lived there and created unique cultures.				
Although only 600 Havasupai remain now, they still live in the				
inner canyon.				
The American government this area as a special place to				
them and their culture.				



Unit 10. The Eiffel Tower



However, the tower was impossible to due to its immense size
and iron composition.
The tower began to be used for radio broadcasting, and, finally, city officials
to save the tower.
Over the years, the Eiffel Tower has been the site of numerous national
ceremonies and events.
What was considered an eyesore has become one of the most recognized
symbols in the world.



Unit 11. Inventing the Telephone



Inventing the Telephone
It was March 10, 1876.
The place was a small in Boston.
A young man heard the speak, "Mr. Watson, come here. I
want you."
The young man rushed into the other room, where his
Alexander Graham Bell was sitting in front of his invention.
Those were the first words spoken over the telephone.
Before the telephone was invented, people used the telegraph to send messages
long distances.
The telegraph is a system of sending messages through wires by using clicks
that letters.
Bell thought that if electric wires could carry telegraph clicks, they could also
carry human speech, too.
Bell started his experiment with his helper Watson.
One day, Watson plucked a thin steel reed in Bell's telegraph with his finger.

In another room, Bell heard the sound in his instrument as it				
It came through wires.				
Bell was sure that electricity could send voices through wires.				
Then, Bell and Watson started to make a machine that used electricity to send				
voices.				
It was the telephone.				
By the end of 1877, the Bell Telephone Company had formed, and many phones				
were in use.				
Bell himself did not the telephone business.				
Instead, he continued to conduct many experiments.				
Bell died on August 2, 1922.				
He was so greatly that during his the				
telephones in North America were silent in his honor.				



Unit 12. Henry Ford: An Icon of the Modern Automobile



Date:		

Henry Ford: An Icon of the Modern Automobile				
When people hear the name Ford, they think of the American				
This is not because Henry Ford was a pioneer in the modern				
automobile				
Ford was born to a farming family.				
But he was more farm machinery than in farming.				
After marriage, Henry started working to make better automobiles.				
At that time, several automobiles in their early stages had already been made				
and were being used in Europe and the United States.				
Ford had a that the automobile would replace the horse,				
buggy, and railroad as a cheaper means of				
Since he produced his first reliable car, the Model A in 1903, he continually				
worked to improve the car's functions.				
Then, in 1908, Ford designed the Model T.				
It was specifically designed to to the masses.				

It was light, fast, and much stronger than any other automobile at that time.

The Model T affected the existing manufacturing system.

It sold much faster than Ford could manufacture it.

Naturally, Ford looked for ways to speed up the manufacturing process.

Ford developed an efficient assembly line in which each worker did one simple job as the car moved along on a moving belt.

Henry Ford did not invent the automobile.

However, he developed automobiles that many middle class Americans could afford.

At the same time, he was the ______ who set up the basis of an efficient mass-production system.



Unit 13. Pompeii Comes Alive



Pompeii Comes Alive			
On August 24 in 79 A.D., a bustling _	city was totally destroyed		
all at once.			
In twenty-four hours of terror, Pompe	eii on the southwestern coast of Italy was		
completely buried under the ground.			
The volcano Vesuvius, located about	8 kilometers north of Pompeii, suddenly		
erupted.			
Dark clouds, hot, ash	, and poisonous gas poured from its cone.		
The terrifying buried Pompeii beneath 3 to 6 meters of cinders			
and volcanic ash.			
At least 2,000 of the city's 20,000 inha	abitants were killed.		
The layers of ash u	p the people's homes with their furniture		
and other inside.			
They stayed buried for nearly 2,000 years.			
In 1709, a farmer	a well in the countryside near Vesuvius		
discovered some pieces of marble.			

It was the beginning of the	of Pompeii.		
Fortune hunters came and dug frantically on the site for over a hundred years.			
In 1864, Italian archaeologists began to	the excavations to		
preserve the ruins.			
The outcome of the excavations is incredible.			
Well-preserved public buildings, wine shops, and restaurants were found.			
The walls and floors decorated with paintings and mosaics also came alive.			
Eighty-one loaves of bread that were baked on the morning of the eruption			
were found in a bakery.			
Amazingly, they had been preserved after being buried in the ashes.			
Still, archaeologists continue their work in Pompeii.			
No one can predict what will come alive tomo	orrow.		



Unit 14. A Great Earthquake Hits San Francisco



Date	:		

A Great Earthquake Hits San Francisco			
On Wednesday, April 18, 1906, a terrible struck San Francisco.			
The first devastation came at five o'clock in the morning.			
The earthquake and shook the ground for nearly fifty seconds.			
However, a real massive devastation came three hours later.			
When a second big quake hit the city, the entire city was rocked.			
Chimneys fell, walls caved in, and asphalt that covered the streets buckled and			
piled up.			
Then, the earthquake finally			
But the worst was still to come.			
Because most people lived in houses those days, once the gas			
lines broke, an unstoppable fire started.			
A fire that lasted for three days and nights burned the entire city.			
, most of the water mains had also broken during the			
earthquake.			

Even worse, the fire chief of the city was the first victim of
falling
Without water and without leadership, the amazing city was able to get the fires
under control in just four days.
The San Francisco earthquake was the first large natural disaster whose damage
was recorded by
However, its importance comes from the wealth of scientific knowledge derived
from it than from its sheer size.
This catastrophic earthquake kick-started the scientific study of earthquakes.
Finally, the of the 1906 earthquake led to the creation of the
elastic-rebound theory, which helps explain why earthquakes occur and remains
the principal model of the earthquake cycle today.



Unit 15. Endangered Animals



Date :		

Endangered Animals			
There are animals that are extinct and animals that are			
Extinct animals do not exist anymore, but endangered animals are still alive.			
However, endangered animals can become extinct because there are not many			
of them left.			
The California condor is a large bird that looks like an eagle.			
The California condor is endangered.			
As humans started to build houses and cut down many trees, the condors did			
not have enough trees for nests.			
Gunpowder also became a to condors.			
The condors ate animals that some hunters killed.			
But the gunpowder left in the animals made the condors sick.			
Sea otters are endangered animals as well.			
A long time ago, people hunted sea otters for their			
But the sea otters were being killed faster than they were being born.			
In 1911, some countries signed a not to hunt sea otters			
anymore.			

Another endangered animal is the tiger.			
People hunt tigers for sport and for their parts.			
Organizations have worked to make hunting tigers, but the			
hunting continues.			
Scientists have taken to try to save endangered animals.			
Sometimes scientists trap the animals to take them to safe places.			
The animals are protected and given food.			
When the animals are strong enough, they are sent back into			
the			
It takes a lot of work and from people around the world to			
protect these animals.			



Unit 16. Stars on Flags



Date:		
Date.	•	•

Stars on Flags			
Do you know the stars on the flags tell many stories?			
They tell about the, hopes, and dreams of the people of each			
country.			
Sometimes the stars on flags represent specific			
Many countries in the Southern have stars on their flags			
featuring a constellation known as the Southern Cross.			
Australia, New Zealand, and Papua New Guinea are three countries whose flags			
have stars on them.			
Some stars symbolize each nation's territory.			
The American flag has fifty stars that represent the number of states in it today.			
Brazilian flag also has twenty-seven stars, which represent its twenty-six states			
and the federal district.			
The five stars on the Honduran flag represent the five nations of the			
Federal Republic of Central America.			

Stars on flags can represent ideas as well.			
China's flag has five stars. One large star represents its central communist			
government, and the four small stars represent the people in the country.			
Vietnamese flag also has a star that is yellow.			
It represents the of all the people who built the country.			
The star is also a symbol that shows the important role plays			
in many cultures.			
A star and crescent moon can be found on the flags of many nations, including			
Malaysia and Turkey, where Islam is an important religion.			
Are there stars on your nation's flag or your country's flag?			
If there are, please learn about the stories the flags.			



Unit 17. The Hunter and the Crocodiles



Date:		

The Hunter and the Crocodiles
There were crocodiles that had not eaten anything all day long.
Feeling, they just sat under a tree.
Suddenly, they saw a hunter coming.
They begged him to carry them to the river.
"You crocodiles are very well known for biting people in the river. I will not take
the chance," said the hunter.
The crocodiles and swore that they would not harm the
hunter.
Then, the hunter agreed to carry them to the river.
He tied them together with his rope and them onto his head.
Then, he headed to the river.
At the, the hunter let the crocodiles go in the river.
However, one of them took the hunter's hand between its jaws and smiled.

"Wouldn't I be to let you go?" the crocodile said.	
The hunter reminded them of his and then argued about right	
and wrong.	
The hunter asked the rabbit around them if the crocodiles should eat him or	
not.	
"I don't care if the crocodiles eat you," the rabbit said, "but	
how did you move such big, heavy crocodile? I don't believe it's possible."	
So the hunter and the crocodiles agreed to show them how they had come to	
the river.	
They returned to the place where they had met by taking the same path they	
had used to go to the river.	
When they arrived at that place, the rabbit said, "Now, you can go back home."	
And the crocodiles had to wait for another hunter to	

Unit 18. How Springtime Comes



Date :		

How Springtime Comes	
In the far off days, there were only two seasons: winter and summer.	
One winter day, Blue Corn Maiden went out to gather to cook	
blue corn.	
She loved to make soup for people.	
Winter Man saw her and fell in love with her at once.	
Winter Man was the who brought winter to the Earth.	
He invited Blue Corn Maiden to his castle.	
When she came to his castle, he the windows and made her	
stay with him.	
She was sad because she wanted to go back to make soup.	
Then, one day, Winter Man went out to do his duty of blowing cold wind upon	
the Earth.	
Blue Corn Maiden went out of the house.	
Seeing all the plants under ice and snow, she started a fire in Winter Man's	
castle.	

The fire at Winter Man's castle was a sign of summer.
Soon, Summer Man came by and saw Blue Corn Maiden.
He could not falling in love with her.
He said it was summer now and invited her to go to his castle.
Then, Winter Man blew a blast of cold air while that it was still
winter.
Summer Man blew a warm while answering that it was not.
Soon, everyone with fear because the plants were repeatedly
being frozen and then melted as the two men
Finally, they agreed that Blue Corn Maiden would live with Summer Man for half
of the year in summer, and the other half of the year she would live with Winter
Man.
Each year, on her way to Summer Man, she became springtime.



Unit 19. Why We Need Fractions



Date:		

Why We Need Fractions
Are you struggling with the, in your math homework?
Are fractions really that important in your life?
Sad to say, fractions are a very important part of math.
In fact, we use fractions every day, whether you are aware of it or not.
If you slept six hours, you spent a quarter-day sleeping.
If you cut a birthday cake into twelve pieces, each piece is a fraction of the
whole cake.
If you play a musical instrument, you know that music has fractions in the forms
of half, quarter notes, and eighth notes.
The word 'fraction' actually comes from the Latin fractio, which means 'to
break.'
From as early as 1800 B.C., the Egyptians started to write fractions
the idea of 10, which is similar to the decimal system.
Since then, ancient cultures, people wrote fractions to describe
parts of a whole.

And it was the Arabs who added the line which we now use to separate two
numbers such as 3/4 and 2/5.
Nowadays, fractions are essential for giving clear,instructions.
Suppose you are a
You need fractions to be able to make precise calculations for operations.
If you are a cook, you also need fractions to measure your to
create the best flavors.
So keep in mind that the more you struggle to learn fractions, the more concise
you will be able to make.



Unit 20. Even and Odd: Strange Cousins



Date:		

Even and Odd: Strange Cousins
Even lived in a two-story house.
He had two cats, four fluffy dogs, and six staring
Even loved everything to be even.
Most of all, Even loved his garden with eight rows of flowers.
"There's nothing odd about him," his neighbors would say to each other.
One day, Even received an to the Perfect Garden Contest.
Even dreamed about winning the big prize.
But his dream was by his cousin Odd.
"Anyone home?" shouted Odd as he knocked three times, five times, seven time
···.
When Even opened the door, Odd stood with his tricycle.
"I'm here to show you my new tricycle," said Odd.
And without Even realizing it, Odd started to ride on his tricycle with three
wheels.
He rolled straight into Even's garden!

Even's face turned red as he saw that his garden had turned into a mess.
"Look at what you have done!" cried Even.
Odd felt sorry.
Then, he left Even's house and somewhere.
The next morning, Even's face turned red again because his cousin Odd was
planting cacti with three long, sharp needles.
"Odd, you are too odd!" Even cried out with
Just then, the contest judge came over to the garden.
"Hmm, odd cacti! It's an odd idea!" said the judge, "but I like it! We have a
winner."
Then, he handed Even two tickets to Twin Lakes and left Even's garden.
"Who shall I take on this trip for two?" Even
"Don't worry!" Odd said as he his bags.
How many bags did they pack? Two or three?

