

NATURAL DISASTERS

READING COMPREHENSION ACTIVITY PAGES POSTERS TASK CARDS

HURRICANE



Hurricanes are powerful storms that form in the tropics. They are made of clouds and rain that swirl together. They can cause a lot of damage and loss of life.

TORNADO



A tornado is a violent, rotating column of air that is in contact with both the ground and the surface of the clouds below. It is one of the most destructive natural disasters.

EARTHQUAKE



Earthquakes are sudden shocks of Earth's surface and are a natural way to release stress between Earth's plates.

VOLCANO



A volcano is formed when magma from inside the Earth's mantle works its way to the surface.

1. Which natural disaster happens around the Equator?

A. earthquake
B. wild fire
C. hurricane
D. tsunami

2. Most earthquakes occur _____ and we don't feel them.

A. on the ocean floor
B. in the sky
C. in the ground
D. in the air

3. Volcanoes are formed when _____ from inside the Earth's mantle works its way to the surface.

A. lava
B. magma
C. ash
D. smoke

4. Which of the following is NOT something that can cause an avalanche?

A. humans
B. mudslides
C. landslides
D. thunderstorms

HURRICANES

People who live along seacoasts know that hurricanes can cause a lot of damage. A hurricane is an enormous rotating storm that develops over warm ocean waters in the summer or fall.

Hurricanes start with an area of low pressure with winds that move in a circular motion around it. The low pressure causes winds to swirl inward and upward. When the winds touch land, they lose their energy and die. The winds can blow between 75 to 200 miles per hour and tear roofs off houses. These winds are so big that they can be hundreds of miles wide. The hurricane can be as big as 1,000 miles across. The winds can be many feet high and cause flooding along the coast. The waves can be as high as 30 feet.

A hurricane usually lasts for about a week and moves of about 10 to 20 miles per hour. They rotate in a counter-clockwise direction around an "eye". The "eye" of the storm is the calmest part. There are only light winds and hot temperatures in the eye. The Saffir-Simpson scale measures the intensity of hurricanes.

Category	Wind Speed (mph)	Storm Surge (ft)	Damage
1	74-95	4-6	Minor
2	96-110	6-8	Medium
3	111-130	8-12	Major
4	131-155	13-18	Catastrophic
5	>155	>18	Catastrophic

- Hurricanes form over _____.
- The _____ of a hurricane is calm.
- A Category 4 storm has winds between _____ and _____ mph.
- The storm surge for a Category 2 hurricane can be _____ feet.

LET'S LEARN ABOUT LAND & MUDSLIDES


Use words from the word bank to complete the sentences.

erode weight mudslide moved dirt landslide mail


- When dirt, pebbles, rocks and sand slides down a slope, we call it a _____.
- When it rains, the water adds extra _____ to the slope and can cause it to begin to slide.
- _____ can also cause a landslide.
- If it _____ by water or wind, it could weaken the land around it and cause it to fall.
- _____ could occur when there is a large amount of rainfall or other heavy very quickly.
- When _____ rains with _____ it runs into _____ and starts to slide down the hill.

Look at the pictures. Discuss how they influence land- and mudslides.

PICTURE A
Deforestation on a hill



PICTURE B
Forest cover the slope of a hill



FLOODS

Floods can happen when the rainwater has nowhere to go. Sometimes floods are a slow process. They can be very dangerous. If there is heavy rain and the ground is too dry to go, it is possible for a major storm to form. It is possible for a flood to occur in an area that has never flooded before. Floods can become extremely powerful and take anything in its path.

Where do floods come from? They can happen anywhere there is a large amount of rainfall. Some of the most common causes of floods are hurricanes, broken levees, or snow that melts very fast, or thunderstorms that move in a very slow path.

Flooding can be extremely dangerous and can easily hurt people very quickly. This is the most common cause of death and injury in storm-related flooding. Even though it doesn't look like it, it is possible for a person to be knocked over in just a few inches of flooding water. A powerful flood of just two feet can sweep a car away.

People should be extremely careful around flooding waters. It is not a good idea to walk through floods because the water could be contaminated with bacteria. One way to help prevent flooding in your neighborhood is to make sure the drains on the roads are clear of leaves and branches.

- Floods can happen when the rainwater has nowhere to _____.
- What are two common causes of floods?
- How can you help to prevent flooding in your neighborhood?

LET'S LEARN ABOUT FLOODS

English (each word can be used more than once with THUNDERSTORMS)

DEVELOPING STAGE
DISSSIPATING STAGE
CUMULONIMBUS
MATURE STAGE
UNSETTLED AIR
MOISTURE

DID YOU KNOW?

Lightning kills between 75 and 100 people every year. Being outside during a thunderstorm is a very dangerous place to be. Here are some tips if you find yourself stuck outside during a thunderstorm:

- Don't touch anything that is grounded.
- Don't touch anything that is grounded.
- Don't touch anything that is grounded.
- Don't touch anything that is grounded.

NATURAL DISASTERS REASSESSMENT

Name: _____

A. MULTIPLE CHOICE Circle the correct answer.

- What do we use to measure an earthquake?
 - Richter scale
 - Seismometer
 - Seismograph
 - Seismology
- Which factor does NOT cause an earthquake?
 - Along faults
 - Red covered Japan
 - Along transform
 - Along subduction
- Which is NOT a factor that aids the spread of mudslides?
 - dry brush
 - water
 - lightning
 - weight
- Which are NOT volcanoes?
 - Mount Fuji
 - Mount St. Helens
 - Mount Pinatubo
 - Mount Fuji
- Which one is a fault movement?
 - Normal
 - Strike-slip
 - Transform
 - Reverse
- Which volcano is NOT active, and has not erupted in over 10,000 years?
 - Mount Fuji
 - Mount Pinatubo
 - Mount St. Helens
 - Mount Fuji

B. DEFINITION Write a definition for the words.

- Contamination
- King of the hill
- Reverse
- Storm surge
- Slide

HOW IT WORKS THUNDERSTORMS

Let's explore THUNDERSTORMS

Purpose: To determine how warm and cold air creates unsettled air resulting in a thunderstorm.

Materials:

- Leakproof water
- Red food coloring
- Ice blocks made with blue food coloring and water
- Clear shoe box

Method:

- Prepare some blue ice cubes prior to the experiment.
- Fill the plastic shoe box half full with lukewarm water. (It must be lukewarm to avoid purple water.)
- Drop a few drops of red food coloring on the one side of the shoe box.
- Add few blue ice cubes to the opposite side of the shoe box.

Prediction What do you think will happen?

HOW IT WORKS VOLCANOES

Let's explore VOLCANOES

Purpose: To determine how eruptions occur.

Materials:

- Volcanic structure:
 - Plaster cloth
 - Tap
 - Construction Paper
 - Plastic bottle

Bottle experiment:

- boiling water
- Vinegar
- Red food coloring (optional)

Method Make volcano structure.

- Wrap your construction paper around your bottle to make a cone shape. Tape it in place. Be sure to keep the opening of the bottle open.
- Cover the construction paper with plaster by cutting in strips, dipping in water and smoothing onto the surface of the cone shape. The more layers, the steeper the volcano.
- Seal the gap between the construction paper and the bottle opening with plaster. Allow to dry overnight.
- Once dry, paint the volcano if desired.

LET'S LEARN ABOUT VOLCANOES

What is a volcano?

How are volcanoes formed?

First: _____ Then: _____ Finally: _____

Types of volcanoes

- 1
- 2
- 3

Thank You for Respecting My Work!



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POSTERS

TORNADO



A tornado is a type of storm in which powerful rotating winds form a column, which reaches from a cloud down toward the ground.

HURRICANE



A hurricane is a cyclone that formed in the tropics with winds of 74 miles (119 kilometers) per hour or greater.

TSUNAMI



A tsunami is a a great sea wave produced especially by an earthquake or volcanic eruption under the sea.

EARTHQUAKE



Earthquakes are sudden shocks of Earth's surface and are a natural way to release stress between Earth's plates.

VOLCANO



A volcano is formed when magma from inside the Earth's mantle works its way to the surface.

LANDSLIDE



A landslide is the slipping down of a mass of rocks or earth on a steep slope.

AVALANCHE



An avalanche is a large mass of snow and ice sliding down a mountainside.

FLOOD



A flood is a great flow of water that rises and spreads over the land.

MUDSLIDE



A mudslide is the movement of fine particles that are partly liquefied down or along a slope.

THUNDERSTORM



A thunderstorm can bring high winds, heavy rains, dangerous lightning, and hail.

WILDFIRE

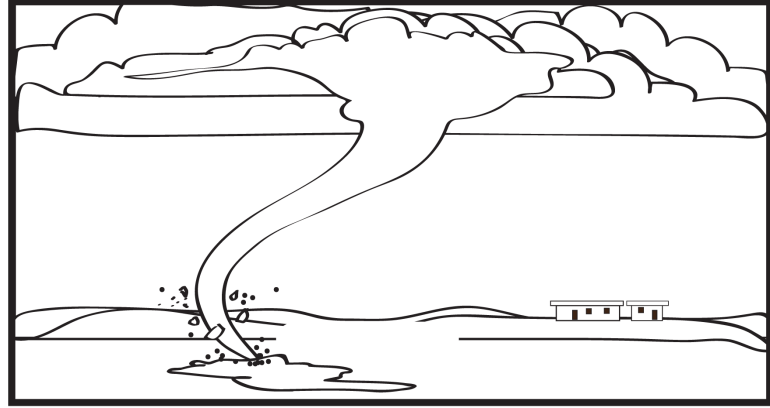


A wildfire is an uncontrollable fire that destroys a wide area.

READING COMPREHENSION AND ACTIVITIES

TORNADOES

Tornadoes are spinning columns of wind and are extremely dangerous. Some powerful tornadoes can cause a lot of damage, such as picking up heavy objects like houses, cars, and trees!



Tornadoes can occur anywhere and at any time, but they are most common during the spring and summer months around evening time. Northern Texas, Oklahoma, Kansas, and Nebraska are all part of “tornado alley” which is where tornadoes occur most often.

Each year, there are about 700 tornadoes in the United States. A tornado is a funnel cloud that forms when warm air is pushed up very quickly by cold air. Then, more warm air rushes in and starts to spin and creates a funnel. Not all funnels touch the ground, but when they do, tornadoes form.

The Fujita Scale is used to measure the intensity of a tornado. Tornadoes are rated on a scale of F0-F5. Weak tornadoes would be between F0-F1, strong tornadoes would be an F2-F3, and violent tornadoes would be rated F4-F5. Major tornadoes can have winds that blow faster than 300 miles per hour!

1. Tornadoes are spinning columns of _____.

2. List the states where a tornado is most likely to occur:

3. The _____ measures the intensity of a tornado.

4. Tornadoes form when _____ air is pushed up very quickly by _____ air.

TORNADOES

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1. Tornadoes are spinning columns of **wind**
2. List the states where a tornado is most likely to occur:
Texas, Oklahoma, Kansas, and Nebraska
3. The **Fujita Scale** measures the intensity of a tornado.
4. Tornadoes form when **warm** air is pushed up very quickly by **cold** air.



LET'S LEARN ABOUT TORNADOES

What is a tornado?

How do tornadoes form?

TORNADOES

Disadvantages:

Interesting Facts:



LET'S LEARN ABOUT TORNADOES

What is a tornado?

It is a spinning column of air

How do tornadoes form?

They form when warm air is pushed up very quickly by cold air

TORNADOES

Disadvantages:

They cause a lot of damage, such as picking up heavy objects like houses, cars, and trees.

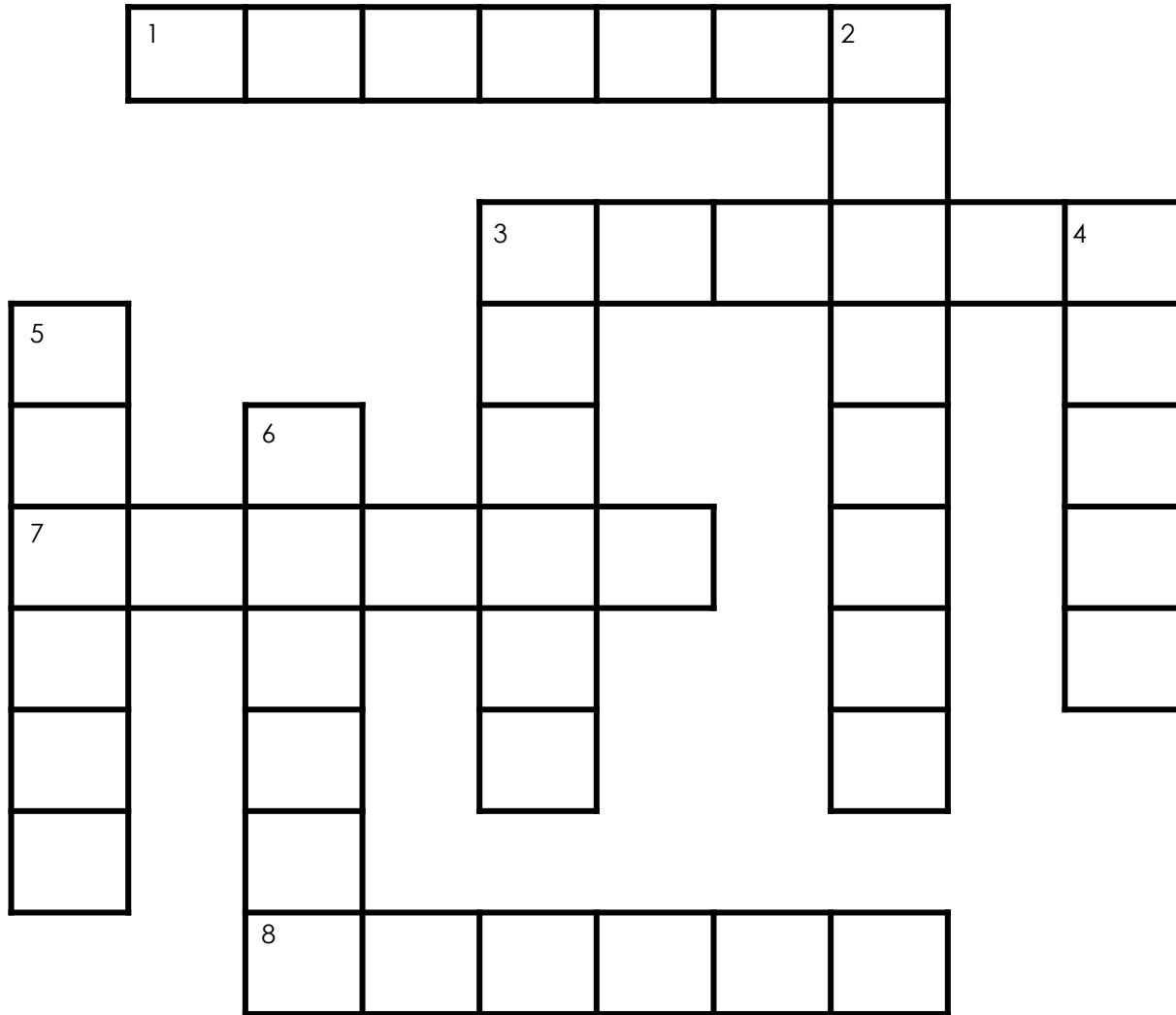
Interesting Facts:

They are most common during spring and summer

Winds can blow faster than 300 mph.

LET'S LEARN ABOUT TORNADOES

Complete the crossword puzzle using the clues below:



Across

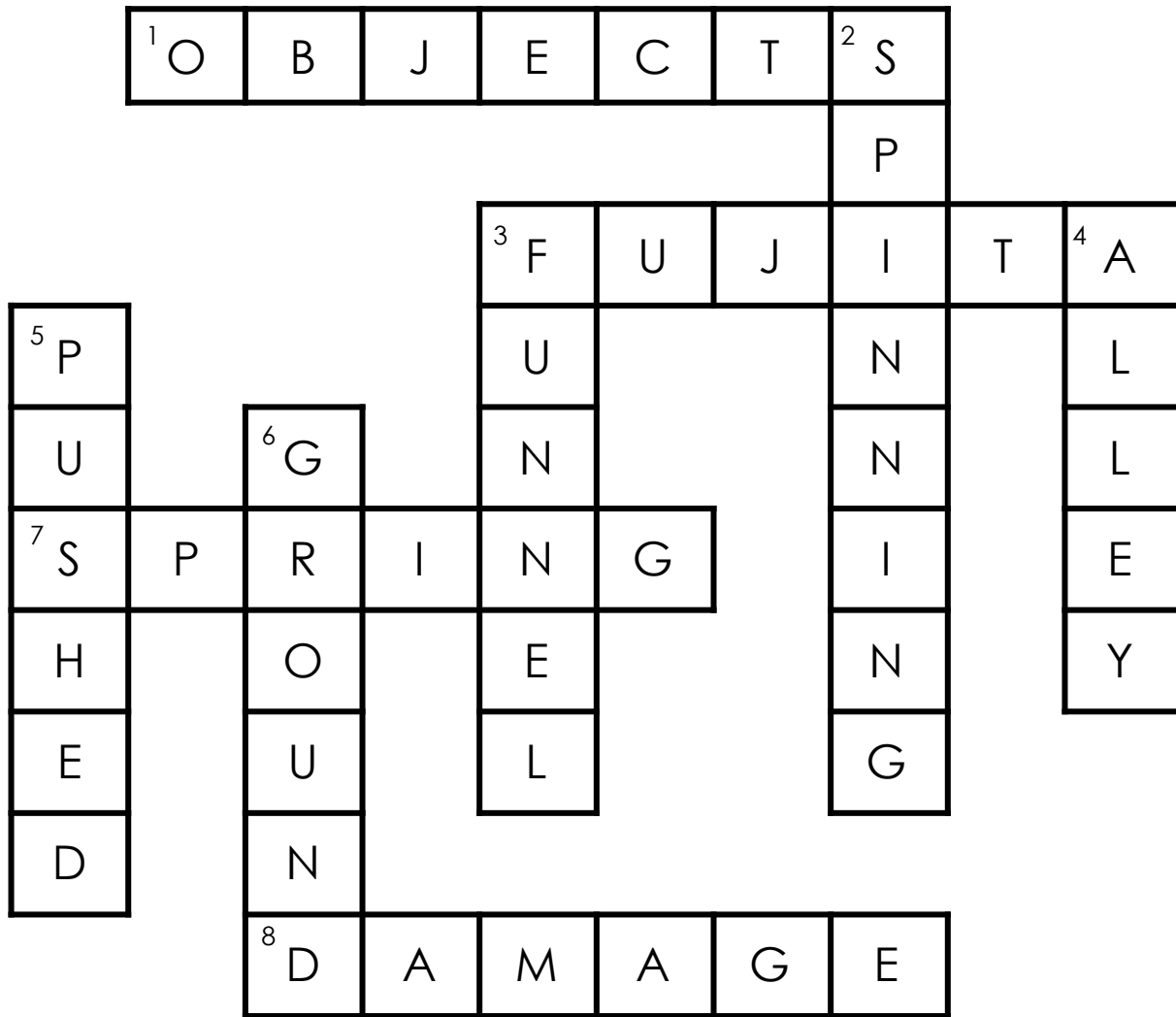
1. Tornadoes are very powerful. They can pick up _____ like cars and trees.
3. The intensity of tornadoes are measured on the _____ scale.
7. Tornadoes are most common in the _____ and summer months.
8. Some tornadoes are very powerful and can cause a lot of _____.

Down

2. Tornadoes are _____ columns of wind.
3. The wind forms a _____. When it touches the ground, it forms a tornado.
4. In the U.S, the "tornado _____" is where tornadoes occur most often.
5. A tornado forms when warm air is _____ up very quickly by cold air.
6. Funnels that touch the _____ are tornadoes.

LET'S LEARN ABOUT TORNADOES

Complete the crossword puzzle using the clues below:



Across

1. Tornadoes are very powerful. They can pick up **OBJECTS** like cars and trees.
3. The intensity of tornadoes are measured on the **FUJITA** scale.
7. Tornadoes are most common in the **SPRING** and summer months.
8. Some tornadoes are very powerful and can cause a lot of **DAMAGE**.

Down

2. Tornadoes are **SPINNING** columns of wind.
3. The wind forms a **FUNNEL** When it touches the ground, it forms a tornado.
4. In the U.S, the "tornado **ALLEY** " is where tornadoes occur most often.
5. A tornado forms when warm air is **PUSHED** up very quickly by cold air.
6. Funnel that touch the **GROUND** are tornadoes.

LET'S LEARN ABOUT TORNADOES

Answer the questions in full sentences.

1. How are tornadoes formed?

2. What is the "tornado alley"?

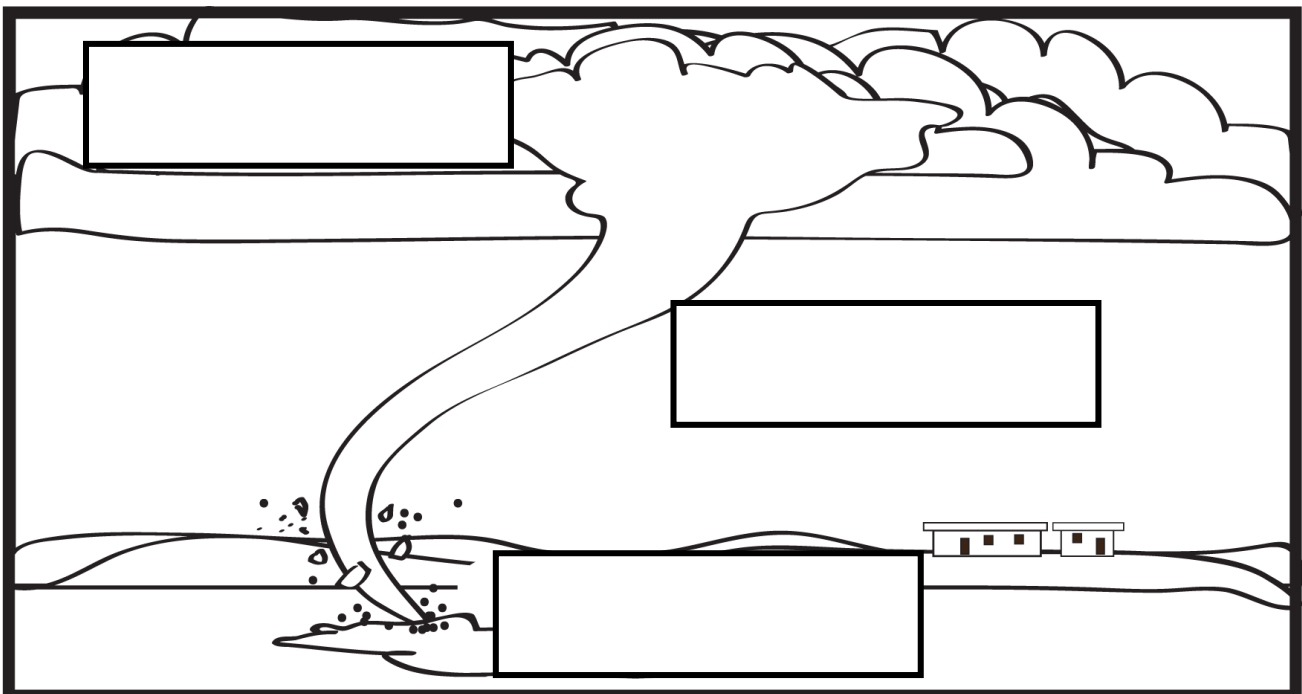
3. Why are tornadoes dangerous?

Use the labels in the box to label the tornado.

FUNNEL CLOUD

WALL CLOUD

DEBRIS CLOUD



LET'S LEARN ABOUT TORNADOES

Answer the questions in full sentences.

1. How are tornadoes formed?

They form when warm air is pushed up very quickly by cold air.

2. What is the "tornado alley"?

It is an area of the United States where tornadoes are more likely to form.

3. Why are tornadoes dangerous?

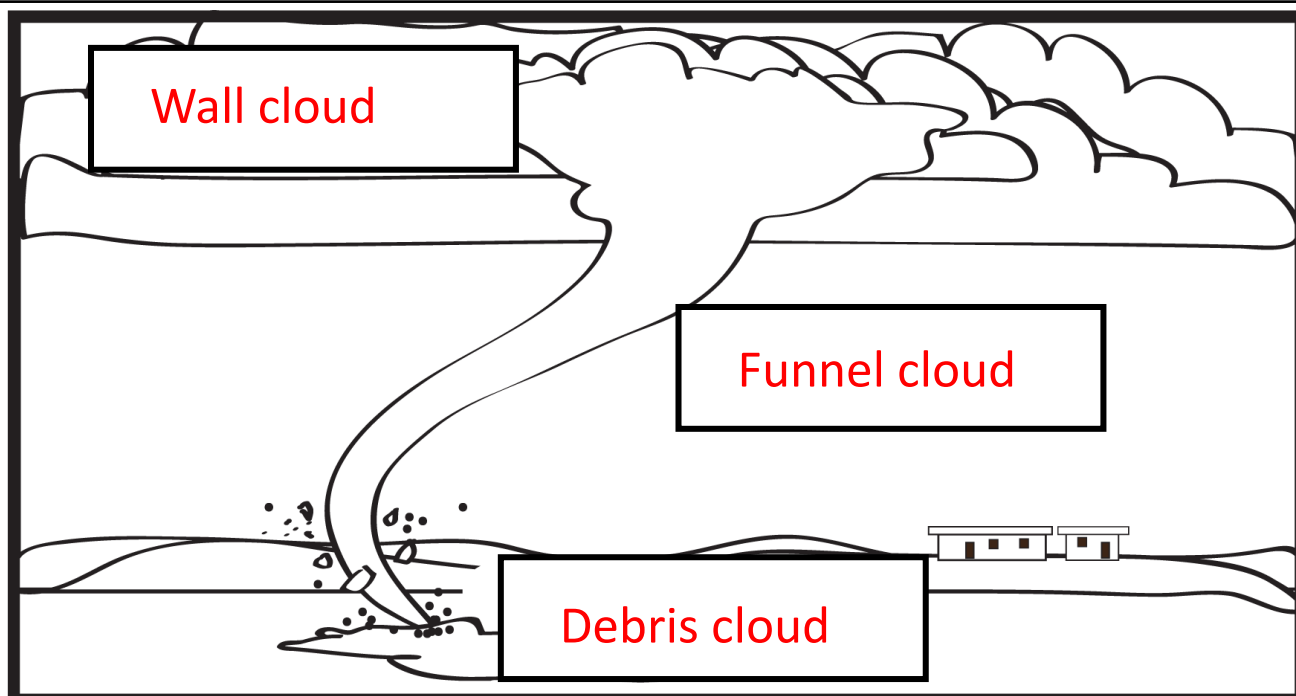
They have very strong winds.

Use the labels in the box to label the tornado.

FUNNEL CLOUD

WALL CLOUD

DEBRIS CLOUD



HURRICANES

People who live along seacoasts know that hurricanes can cause a lot of damage. A hurricane is an enormous rotating storm that develops over warm ocean waters in the summer or fall.



Hurricanes start with an area of low air pressure with winds that move in a circular motion around it. The low pressure area brings up warm, moist air from the water below and grows into a tropical storm. When a hurricane touches land, it drenches the land with heavy rains. Winds can blow between 75 to 200 miles per hour and tear roofs off houses. These storms are so big that they can be hundreds of miles wide, much bigger than a tornado. Storm surge is also very damaging. The winds of the hurricane push the water from the ocean onto the coast. These waves can be many feet high and cause flooding along the coast.

A hurricane usually lasts for over a week and moves at about 10 to 20 miles per hour. They rotate in a counter-clockwise direction around an 'eye'. The "eye" of the storm is the calmest part. There are only light winds and has fair weather.

The Saffir-Simpson scale measures the intensity of hurricanes.

1. Hurricanes form over _____ water.

2. The _____ of a hurricane is calm.

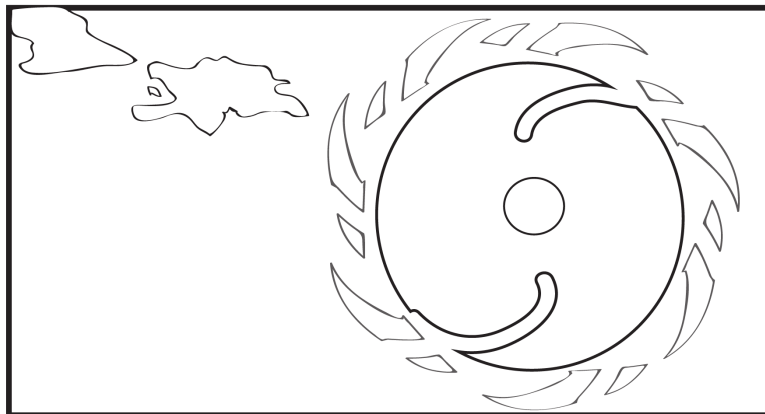
3. A Category 4 storm has winds between _____ and _____ mph.

4. The storm surge for a Category 2 hurricane can be _____ feet high.

Category	Winds (MPH)	Storm Surge (ft)	Damage
1	74-95	4-5	Minimal
2	96-110	6-8	Moderate
3	111-130	9-12	Extensive
4	131-155	13-18	Extreme
5	>155	>18	Catastrophic

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The Saffir-Simpson scale measures the intensity of hurricanes.

1. Hurricanes form over warm ocean water.

2. The eye of a hurricane is calm.

3. A Category 4 storm has winds between 131 and 155 mph.

4. The storm surge for a Category 2 hurricane can be 6-8 feet high.

Category	Winds (MPH)	Storm Surge (ft)	Damage
1	74-95	4-5	Minimal
2	96-110	6-8	Moderate
3	111-130	9-12	Extensive
4	131-155	13-18	Extreme
5	>155	>18	Catastrophic

LET'S LEARN ABOUT HURRICANES

How are hurricanes formed?

First:

Then:

Finally:

Characteristics:

Disadvantages:

LET'S LEARN ABOUT HURRICANES

How are hurricanes formed?

First:

Hurricanes start with an area of low air pressure with winds that move in a circular motion around it.

Then:

The low pressure area brings up warm, moist air from the water below.

Finally:

When it touches land, it drenches the land with heavy rain.

Characteristics:

They can be hundreds of miles wide and have strong winds.

Disadvantages:

They are very big. Storm surge and winds can cause a lot of damage.

LET'S LEARN ABOUT HURRICANES

Find as many words related to hurricanes as you can.

R	O	T	A	T	I	N	G	T	H
T	O	R	T	Y	R	C	Y	D	U
S	G	O	W	B	R	T	A	O	R
T	V	P	A	N	P	A	S	I	R
O	R	I	V	B	L	G	I	J	I
R	O	C	E	V	F	F	C	N	C
M	E	A	S	C	K	L	V	N	A
R	F	L	O	D	J	X	O	B	N
E	E	G	S	W	I	N	D	O	E
E	L	O	O	D	H	Z	H	V	D

Record your findings here:

Choose 3 words from the wordsearch and write a sentence with each word showing its meaning.

1.

2.

3.

LET'S LEARN ABOUT HURRICANES

Find as many words related to hurricanes as you can.

R	O	T	A	T	I	N	G		H
		R							U
S		O	W		R				R
T		P	A			A			R
O		I	V				I		I
R		C	E		F			N	C
M		A	S			L			A
		L					O		N
				W	I	N	D	O	E
									D

Record your findings here:

ROTATING

STORM

TROPICAL

RAIN

WIND

WAVES

FLOOD

HURRICANE

Choose 3 words from the wordsearch and write a sentence with each word showing its meaning.

1.

2.

3.

LET'S LEARN ABOUT HURRICANES

True or False? If False, correct the sentence.

e.g.	Hurricanes occur mostly away from the coast.	false
	Hurricanes always occur on the coast.	
1	Hurricanes occur in areas with a high air pressure.	
2	Dry, cool air grows into a tropical storm.	
3	A hurricane is an enormous rotating storm. They can be hundreds of miles wide.	
4	When a hurricane touches land, there are slight breezes and a drizzle of rain.	
5	Hurricanes winds can be 75 to 200 miles per hour.	
6	Extreme damage is caused by a level 5 hurricane on the Saffir-Simpson scale.	
7	The "eye" of the storm is the most dangerous part of the storm.	

LET'S LEARN ABOUT HURRICANES

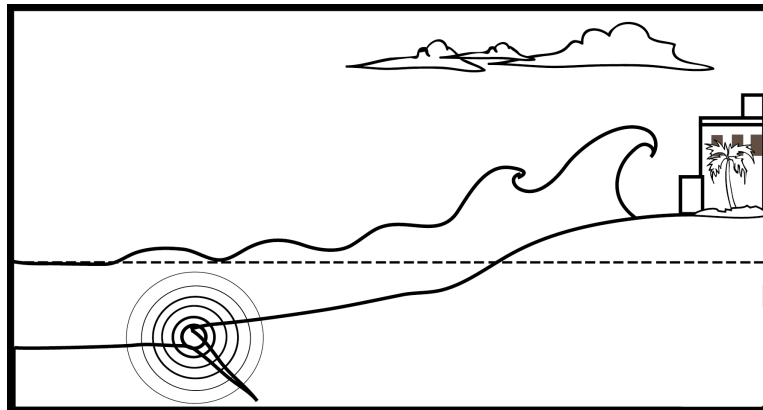
True or False? If False, correct the sentence.

e.g.	Hurricanes occur mostly away from the coast.	false
	Hurricanes always occur on the coast.	
1	Hurricanes occur in areas with a high air pressure.	false
	Hurricanes occur in areas with low air pressure.	
2	Dry, cool air grows into a tropical storm.	false
	Warm, moist air grows into a tropical storm.	
3	A hurricane is an enormous rotating storm. They can be hundreds of miles wide.	true
4	When a hurricane touches land, there are slight breezes and a drizzle of rain.	false
	A hurricane can have heavy wind and drenching rain.	
5	Hurricanes winds can be 75 to 200 miles per hour.	true
6	Extreme damage is caused by a level 5 hurricane on the Saffir-Simpson scale.	true
7	The "eye" of the storm is the most dangerous part of the storm.	false
	The eye of the storm is very calm.	

TSUNAMIS

A tsunami, or a tidal wave, is a huge wave that develops in the ocean. Tsunami means “harbor wave” in Japanese. It is a result of a large earthquake that happens under the water. Tsunamis can reach a height of 100 feet and travel faster than a jet.

When this powerful wave reaches the coast, it can cause a lot of damage!



The earthquake under water is caused by the Earth's plates slipping under one another. The energy from this earthquake causes the water to rise. Gravity makes this water spread into a wave and travel at a fast speed (up to 500 miles per hour) with a lot of power.

Many tsunamis, about 80 percent of them, happen within the “Ring of Fire”. This is an area around the Pacific Ocean that has a lot of volcanic activity as well as many earthquakes.

Scientists can use machines to test the sea level after an underwater earthquake. If they think a tsunami will occur, they will send out warnings to any areas that are at risk. If a warning is issued, move to the top of a very high building, or even better, move inland.

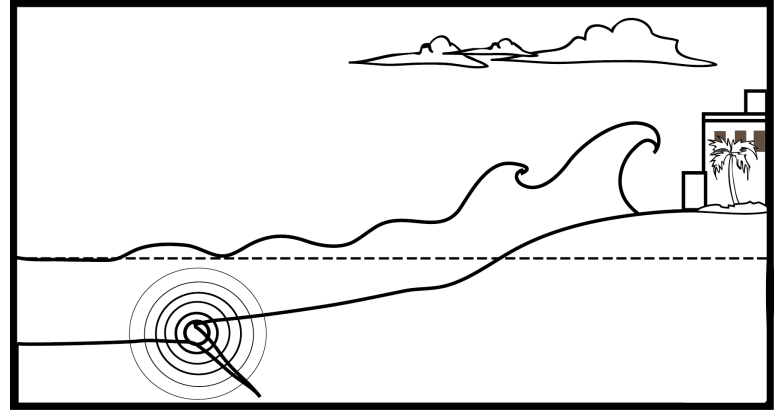
1. Tsunamis can reach a height of _____ feet.
2. A tsunami is caused by an _____ under water.
3. What is the “Ring of Fire”? _____

4. Tsunamis can travel up to _____ miles per hour and can reach a height of _____ feet.

TSUNAMIS

A tsunami, or a tidal wave, is a huge wave that develops in the ocean. Tsunami means “harbor wave” in Japanese. It is a result of a large earthquake that happens under the water. Tsunamis can reach a height of 100 feet and travel faster than a jet.

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Scientists can use machines to test the sea level after an underwater earthquake. If they think a tsunami will occur, they will send out warnings to any areas that are at risk. If a warning is issued, move to the top of a very high building, or even better, move inland.

1. Tsunamis can reach a height of **100** feet.
2. A tsunami is caused by an **earthquake** under water.
3. What is the “Ring of Fire”?
It is an area around the Pacific Ocean that has a lot of volcanic activities and earthquakes.
4. Tsunamis can travel up to **500** miles per hour and can reach a height of **100** feet.

LET'S LEARN ABOUT

TSUNAMI



How do tsunamis form?

What is a tsunami?

TSUNAMIS

Disadvantages:

Interesting Facts:

LET'S LEARN ABOUT TSUNAMI



What is a tsunami?

It is a huge wave that forms in the ocean.

How do tsunamis form?

They form from a large earthquake that happens under water.

TSUNAMIS

Disadvantages:

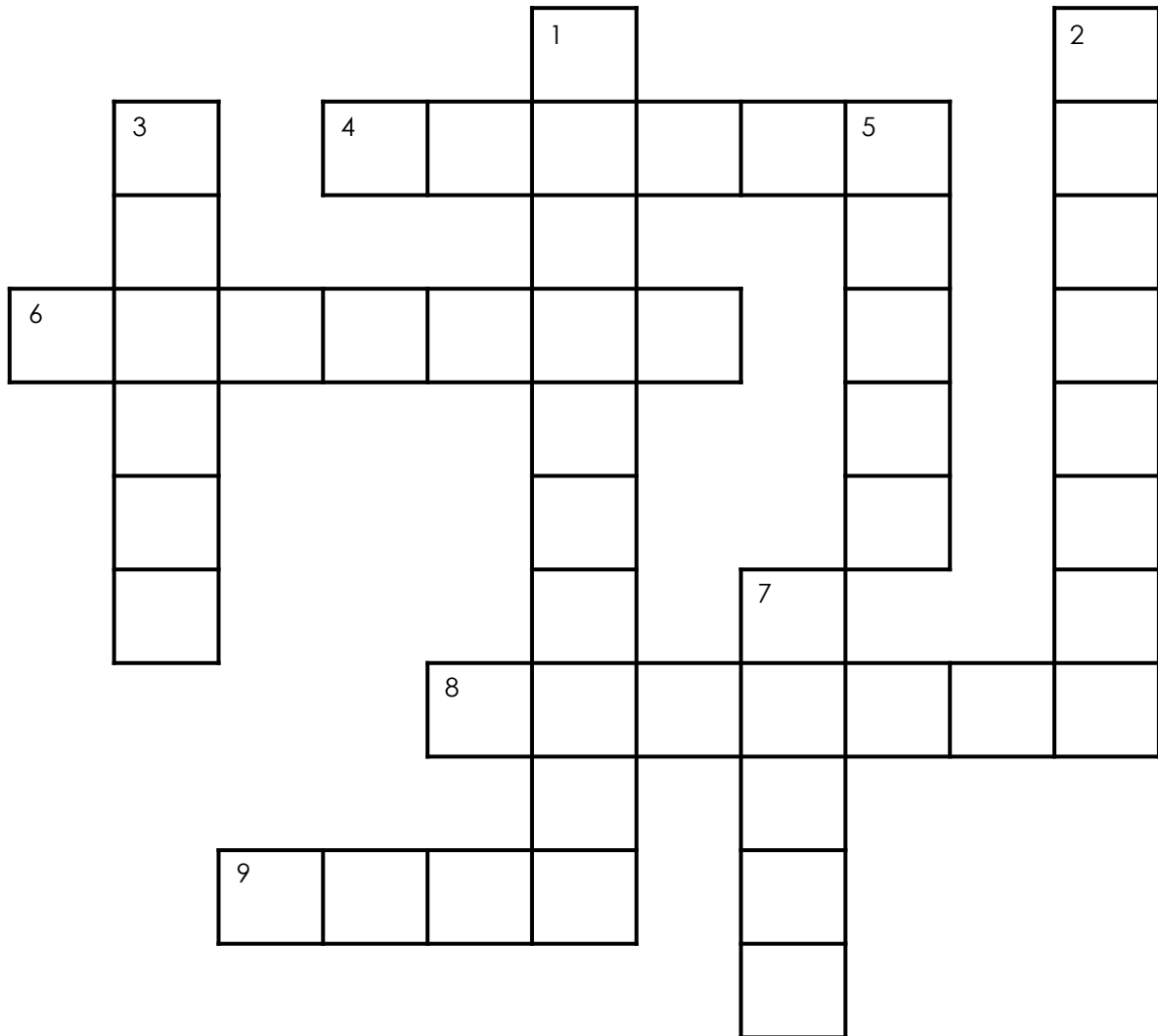
Waves can be very tall and travel very fast. They are very powerful and cause a lot of damage.

Interesting Facts:

It can travel faster than a jet.
They happen around the Ring of Fire.
It means "harbor wave" in Japanese.

LET'S LEARN ABOUT TSUNAMIS

Complete the crossword puzzle using the clues below:



Across

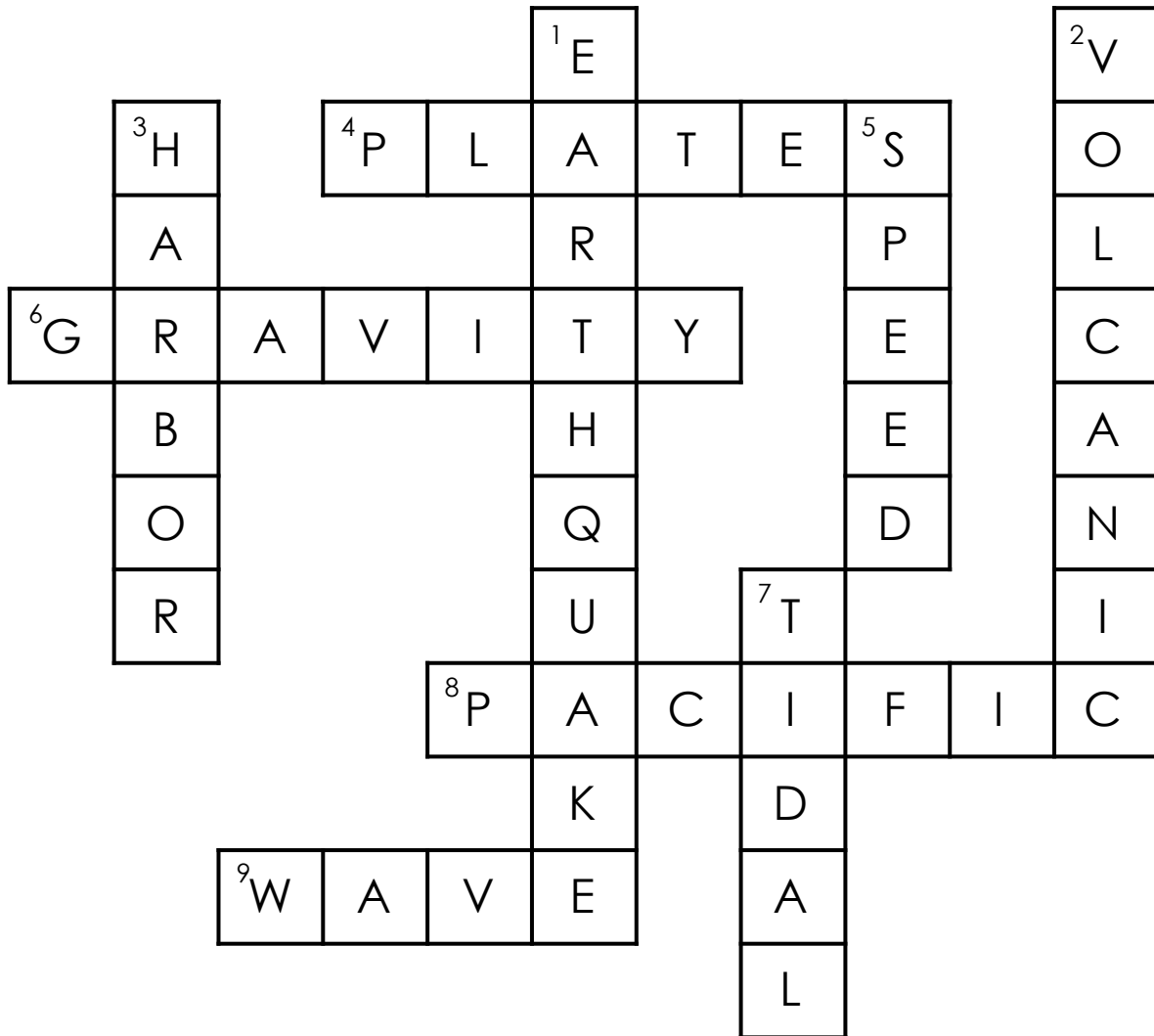
4. Earthquakes are caused by the Earth's _____ slipping under one another.
6. _____ causes the water to spread into a wave after the earthquake.
8. The "Ring of Fire" can be found in the area around the _____ ocean.
9. A Tsunami is a very large _____.

Down

1. Tsunamis are a result of an underwater _____.
2. Tsunamis occur mostly in areas with a lot of _____ activity.
3. Tsunami means " _____ wave" in Japanese.
5. The tsunami can travel at a fast _____.
7. Another name for a tsunamis is a _____ wave.

LET'S LEARN ABOUT TSUNAMIS

Complete the crossword puzzle using the clues below:



Across

4. Earthquakes are caused by the Earth's **PLATES** slipping under one another.
6. **GRAVITY** causes the water to spread into a wave after the earthquake.
8. The "Ring of Fire" can be found in the area around the **PACIFIC** ocean.
9. A Tsunami is a very large **WAVE**.

Down

1. Tsunamis are a result of an underwater **EARTHQUAKE**.
2. Tsunamis occur mostly in areas with a lot of **VOLCANIC** activity.
3. Tsunami means "**HARBOR** wave" in Japanese.
5. The tsunami can travel at a fast **SPEED**.
7. Another name for a tsunamis is a **TIDAL** wave.

LET'S LEARN ABOUT TSUNAMIS

Cut out the sentences and paste them in order to show how
TSUNAMIS are formed.

1

2

3

4

5

6

7

LET'S LEARN ABOUT TSUNAMIS

Cut out the sentences and paste them in order to show how
TSUNAMIS are formed.

Gravity pulls the water down but makes it spread into a
huge wave.

When this powerful wave reaches the coast, it can
cause a lot of damage.

An earthquake under water is caused by the Earth's
plates moving.

This huge wave travels at speeds up to 500 miles an
hour and is very powerful.

The Earth's plates can slip under one another,

The energy from the earthquake causes the water to
rise.

Scientists test the sea level to try to predict when a
tsunami will occur. People will then move inland or to
the top of a high building .

LET'S LEARN ABOUT TSUNAMIS

Cut out the sentences and paste them in order to show how
TSUNAMIS are formed.

1

An earthquake under water is caused by the Earth's plates moving.

2

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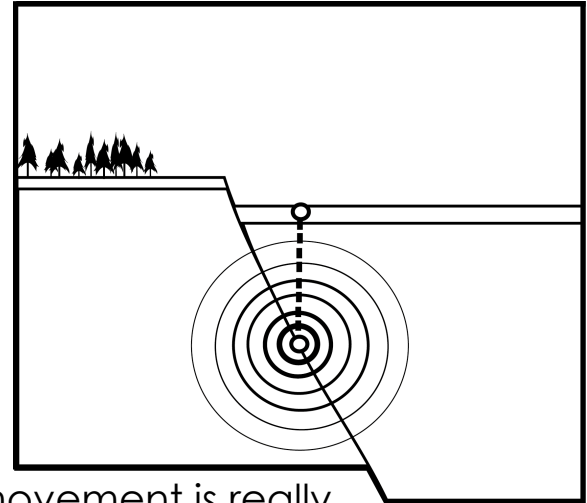
7

Scientists test the sea level to try to predict when a tsunami will occur. People will then move inland or to the top of a high building .

EARTHQUAKES

Earthquakes are sudden shocks of Earth's surface and are a natural way to release stress between Earth's plates. More than a million earthquakes occur every year, with most of them being very small.

There are about 20 plates on Earth's surface that constantly move. Earthquakes happen when the plates move apart, bump into each other, or slide under each other. This movement will tear apart the surface of the Earth. A few times a year, this movement is really large and will cause a lot of damage that is serious enough to knock down buildings.



The Richter scale rates earthquake intensities on a scale of 1-10. If the earthquake is rated a 1, you can hardly feel it, but if it is rated a 2, it is ten times as strong as an earthquake rated 1. In a level 2 earthquake, a few people who are resting might feel it. Most people will feel a level 5 earthquake and some items in your house may fall off shelves or break. At level 6, furniture will move around, but there really won't be much damage. An earthquake measured at a level 8 or 9 will cause many buildings to fall down.

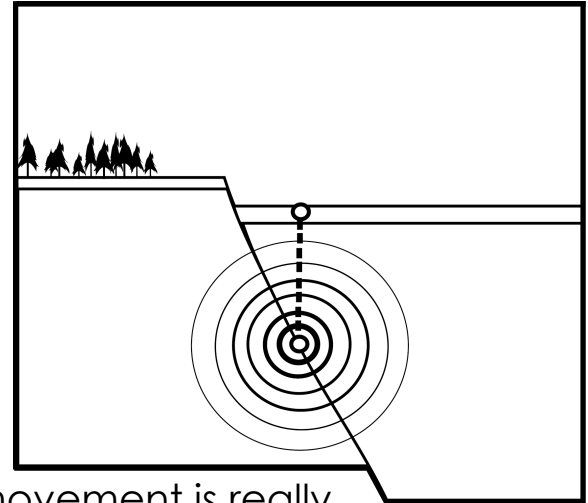
Because most of Earth is covered by oceans, most earthquakes happen on the ocean floor and we don't feel them. Sometimes, however, these earthquakes are vary large and can cause a tsunami.

1. Earthquakes are sudden _____ of Earth's surface.
2. Earthquakes happen when plates _____ apart,
_____ into each other, or _____ under each other.
3. The _____ scale rates earthquakes.
4. Most earthquakes occur _____

EARTHQUAKES

Earthquakes are sudden shocks of Earth's surface and are a natural way to release stress between Earth's plates. More than a million earthquakes occur every year, with most of them being very small.

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2. Earthquakes happen when plates **move** apart, **bump** into each other, or **slide** under each other.
3. The **Richter** scale rates earthquakes.
4. Most earthquakes occur **on the ocean floor and we don't even feel them.**

EARTHQUAKES

KNOW

What I know

WANT

What I want to know

LEARNED

What I learned

LET'S LEARN ABOUT EARTHQUAKES

Complete the sentences below by finding the words in the wordsearch.

Record your findings here:

D	S	O	C	E	A	N	P	A	I
F	H	L	O	N	R	L	A	P	T
F	O	E	I	M	E	K	R	A	S
E	C	W	P	D	D	J	G	R	U
E	K	Q	K	V	E	H	H	T	N
L	S	T	R	E	S	S	F	O	A
B	O	R	I	C	H	T	E	R	M
Y	U	A	G	D	Y	F	D	P	I
H	K	M	V	O	U	D	S	L	O
J	C	S	P	I	L	E	V	E	L

1. Earthquakes are sudden _____ of the Earth's surface.
2. It is the natural way to release _____ between the Earth's plates.
3. Earthquakes happen when the plates move _____ from each other, _____ into each other and _____ under each other.
4. The _____ scale is used to measure the intensity of the earthquake.
5. A _____ 8 earthquake, is very dangerous and buildings could fall down.
6. Most plates are found under the ocean and as a result, most earthquakes occur on the _____ floor. We often don't _____ these, however, they can cause a _____.

LET'S LEARN ABOUT EARTHQUAKES

Complete the sentences below by finding the words in the wordsearch.

Record your findings here:

	S	O	C	E	A	N		A	
	H	L						P	T
F	O		I					A	S
E	C			D				R	U
E	K				E			T	N
L	S	T	R	E	S	S			A
B		R	I	C	H	T	E	R	M
	U								I
		M							
			P		L	E	V	E	L

SHOCKS

STRESS

APART

BUMP

SLIDE

RICHTER

LEVEL

OCEAN

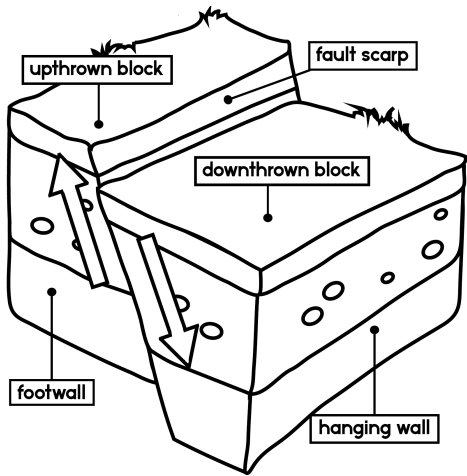
FEEL

TSUNAMI

1. Earthquakes are sudden **SHOCKS** of the Earth's surface.
2. It is the natural way to release **STRESS** between the Earth's plates.
3. Earthquakes happen when the plates move **APART** from each other, **BUMP** into each other and **SLIDE** under each other.
4. The **RICHTER** scale is used to measure the intensity of the earthquake.
5. A **LEVEL** 8 earthquake, is very dangerous and buildings could fall down.
6. Most plates are found under the ocean and as a result, most earthquakes occur on the **OCEAN** floor. We often don't **FEEL** these, however, they can cause a **TSUNAMI**

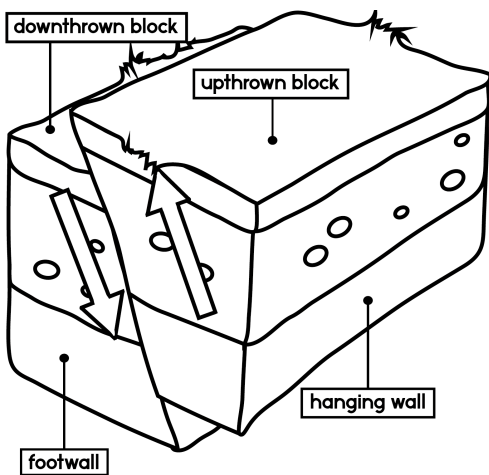
LET'S LEARN ABOUT EARTHQUAKES

Cut out the titles and descriptions and paste them next to the appropriate diagram:



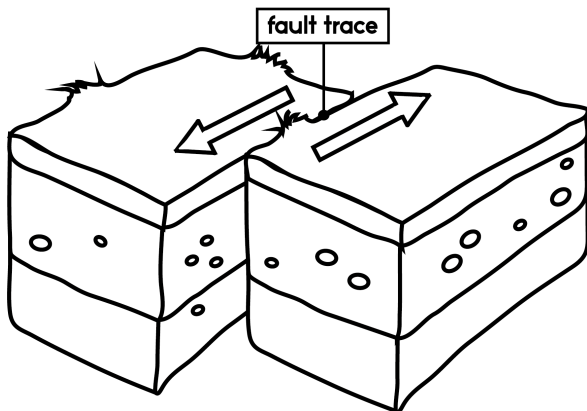
PASTE TITLE HERE

PASTE DESCRIPTION HERE



PASTE TITLE HERE

PASTE DESCRIPTION HERE



PASTE TITLE HERE

PASTE DESCRIPTION HERE

CUT OUT AND USE TO LABEL THE EARTHQUAKE FAULT DIAGRAMS

The crust is being stretched. It is caused by the Earth's crust expanding.

REVERSE FAULT

NORMAL FAULT

STRIKE-SLIP

The two sides of the faults move horizontally past each other.

The crust is being shortened. It is caused by the Earth's crust contracting.

CUT OUT AND USE TO LABEL THE EARTHQUAKE FAULT DIAGRAMS

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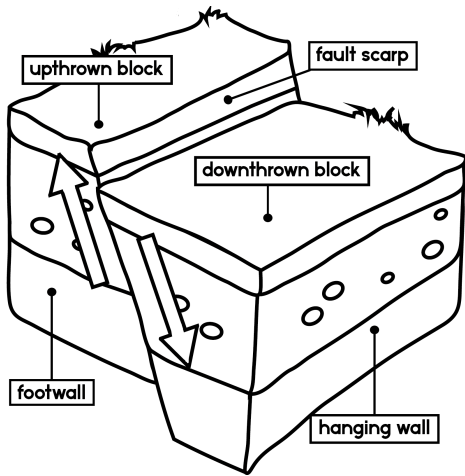
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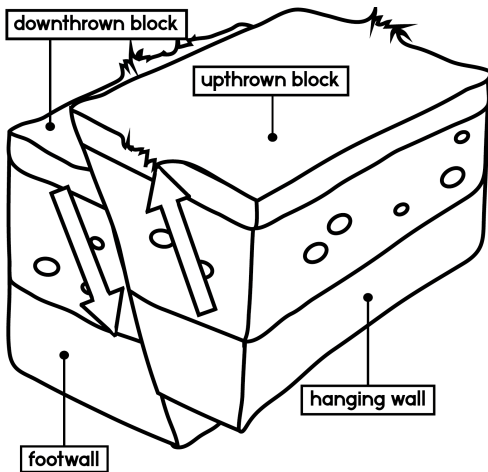
LET'S LEARN ABOUT EARTHQUAKES

Cut out the titles and descriptions and paste them next to the appropriate diagram:



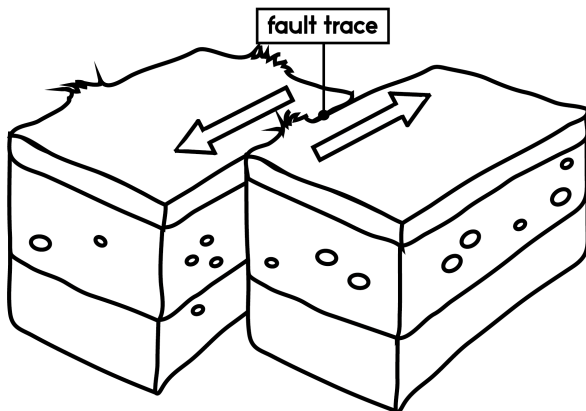
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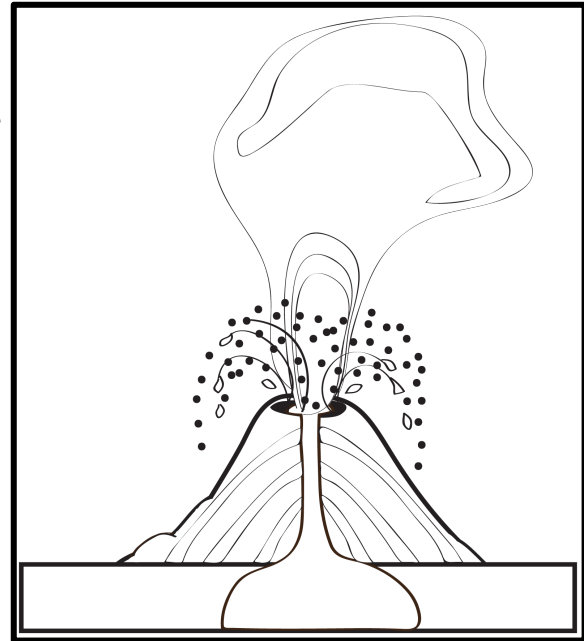
STRIKE-SLIP

The two sides of the faults move horizontally past each other.

VOLCANOES

A volcano is a mountain with an opening at the top. This opening leads down to a pool of molten rock below the surface of the earth. Earth is made up of many plates, which fit together like a puzzle. When these plates move, friction can cause earthquakes and volcanic eruptions. Gases and rock shoot up through the opening and fill the air with lava.

Volcanoes are formed when magma from inside the Earth's mantle works its way to the surface. When it cools and hardens, it will form a small mound. Over time, the volcano will continue to erupt, and new magma will collect over the rock from the previous eruption. It'll cool and harden and make the mound even larger. Each time lava collects, the volcano will get bigger and bigger.



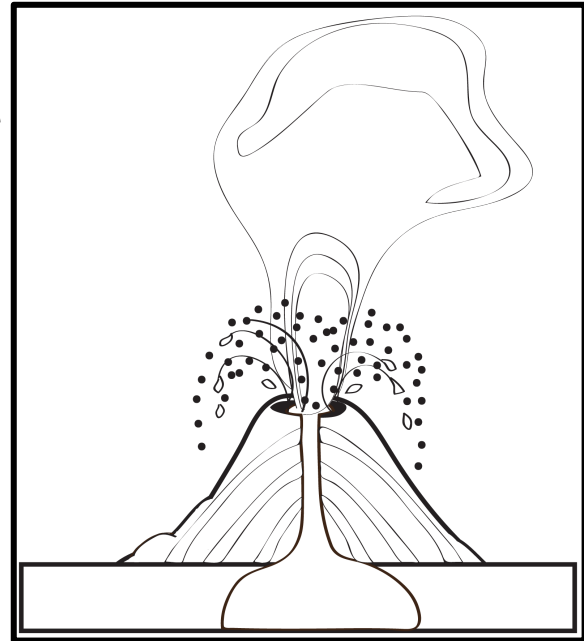
There are three main types of volcanoes. The first is cinder cone. These volcanoes have explosive eruptions and are formed by a build up of ash, cinders, and rocks. The cinder cone has a small bowl-shaped crater at the top and a gently sloping base. A shield volcano is less steep and shorter than other volcanoes. It has repeated eruptions. Lava flows slowly out of shield volcanoes. Mauna Loa in Hawaii is one of the largest shield volcanoes in the world. The last type of volcano is a composite volcano. It is a combination of a cinder and shield volcano because it is made up of both lava and debris. These volcanoes are the tallest and the steepest.

1. Volcanoes are formed when _____ from inside the Earth works its way to the surface.
2. There are _____ main types of volcanoes.
3. Each time lava collects, the volcano will get _____.

VOLCANOES

A volcano is a mountain with an opening at the top. This opening leads down to a pool of molten rock below the surface of the earth. Earth is made up of many plates, which fit together like a puzzle. When these plates move, friction can cause earthquakes and volcanic eruptions. Gases and rock shoot up through the opening and fill the air with lava.

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1. Volcanoes are formed when **magma** from inside the Earth works its way to the surface.
2. There are **three** main types of volcanoes.
3. Each time lava collects, the volcano will get **bigger**

LET'S LEARN ABOUT VOLCANOES

What is a volcano?

How are volcanoes formed?



Types of volcanoes

1

2

3

LET'S LEARN ABOUT VOLCANOES

What is a volcano?

It is a mountain with an opening at the top that leads down to a pool of molten rock below the surface of the Earth.

How are volcanoes formed?

First:

Magma from inside the mantle works its way to the surface.

Then:

When it cools and hardens, it will form a small mound.

Finally:

Over time, the volcano will continue to erupt and new magma will collect over the rock.

Types of volcanoes

1

Cinder Cone

2

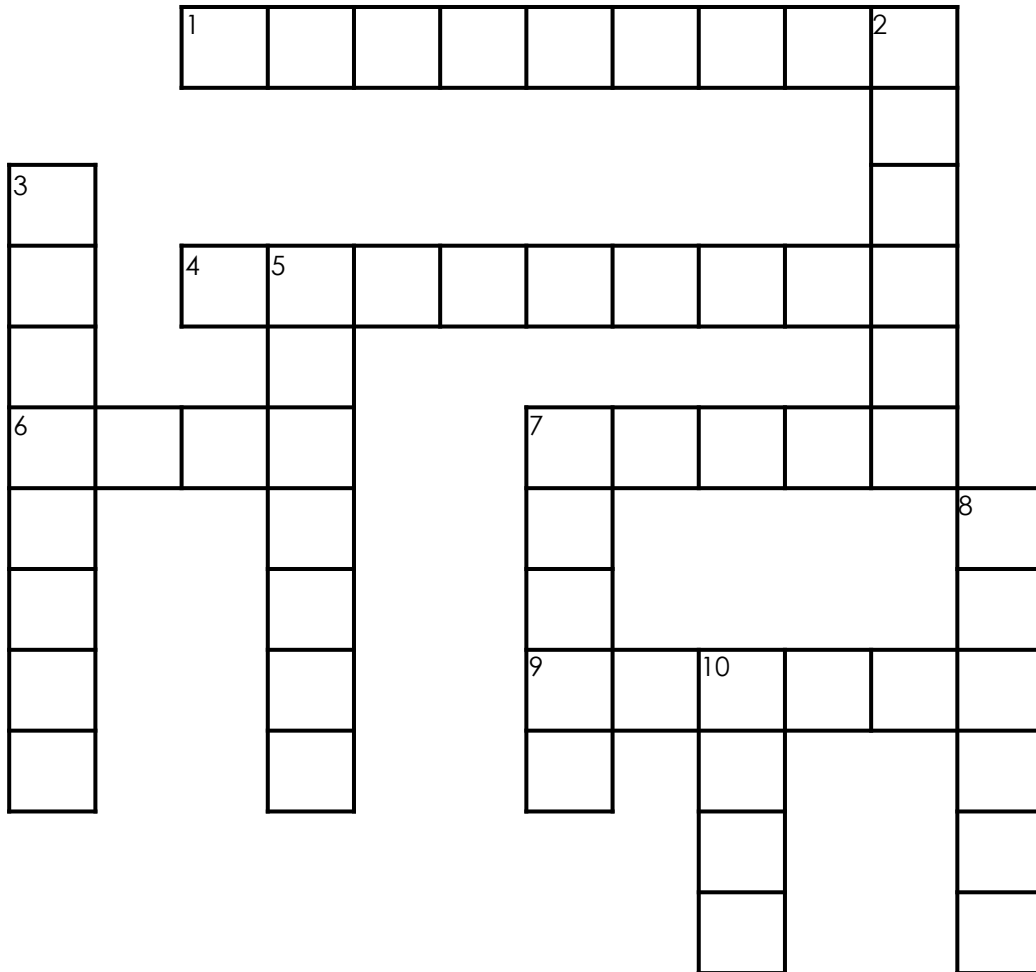
Shield

3

Composite

LET'S LEARN ABOUT VOLCANOES

Complete the crossword puzzle using the clues below:



Across

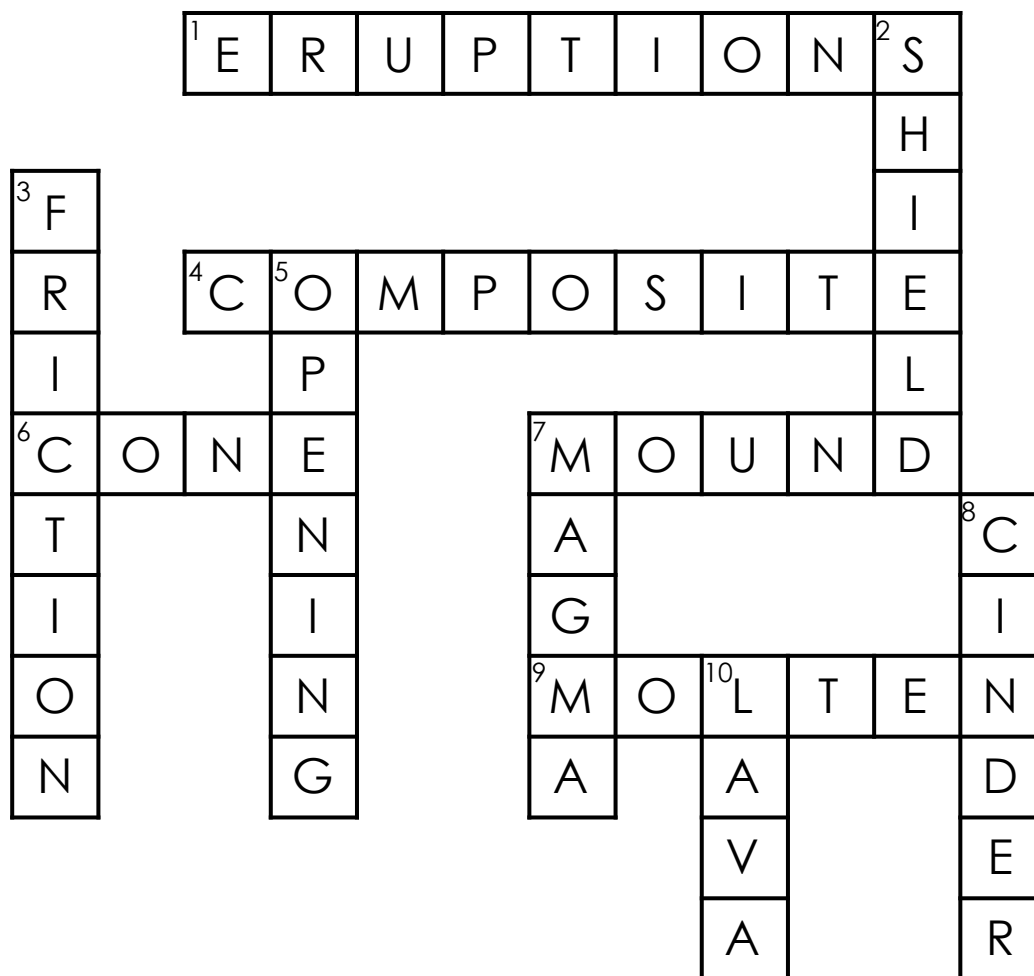
1. Movement under the Earth's surface causes volcanic _____.
4. _____ volcanoes are the tallest and steepest type of volcano.
6. The cinder _____ has a small bowl-shaped crater at the top.
7. When the lava cools, it forms a _____.
9. The opening of a volcano leads to a pool of _____ rock.

Down

2. _____ volcanoes are less steep and shorter in shape.
3. The Earth's plates move against each other and this causes _____.
5. A volcano is a mountain with an _____ at the top.
8. The _____ cone volcano has the most explosive eruptions.
10. During eruptions, gases and rock shoot through the opening and fill the air with _____.

LET'S LEARN ABOUT VOLCANOES

Complete the crossword puzzle using the clues below:



Across

1. Movement under the Earth's surface causes volcanic **ERUPTIONS**.
4. **COMPOSITE** volcanoes are the tallest and steepest type of volcano.
6. The cinder **CONE** has a small bowl-shaped crater at the top.
7. When the lava cools, it forms a **MOUND**.
9. The opening of a volcano leads to a pool of **MOLTEN** rock.

Down

2. **SHIELD** volcanoes are less steep and shorter in shape.
3. The Earth's plates move against each other and this causes **FRICTION**.
5. A volcano is a mountain with an **OPENING** at the top.
8. The **CINDER** cone volcano has the most explosive eruptions.
10. During eruptions, gases and rock shoot through the opening and fill the air with **LAVA**.

LET'S LEARN ABOUT VOLCANOES

Match the words with the definitions.

1. Earth's mantle	• A less steep and shorter volcano.
2. Plates	• Molten rock that makes it to the surface and still keeps flowing like a liquid.
3. Friction	• This volcano has a crater at the top and a gentle sloping base.
4. Magma	• Gases and rocks are forced up through the opening of a volcano.
5. Eruption	• This is molten rock that is trapped under the ground.
6. Cinder Cone	• Pieces of land that connect on the Earth's outer crust.
7. Shield Volcano	• The largest shield volcano in the world.
8. Composite Volcano	• This is the widest layer of the Earth. It lies between the crust and the outer core.
9. Mauna Loa	• Made up of lava and debris, they are the tallest and steepest volcanoes.
10. Lava	• When two things rub together.

Explain how volcanoes grow in size.

What type of volcano is this? Explain.



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10. Lava	• When two things rub together.

Explain how volcanoes grow in size.

Every time a volcano erupts, lava cools and hardens outside the volcano. This volcanic rock builds up over time, causing the volcano to get bigger and bigger with each eruption.

What type of volcano is this? Explain.



This is a shield volcano. These types of volcanoes are less steep and short.

LANDSLIDES AND MUDSLIDES

What happens with dirt, pebbles, rocks, and boulders slide down a slope? This event is called a landslide. Sometimes a landslide can be small and most people won't even notice that it happened, but other times, they can be quite the disaster and cause a lot of problems for what lays below.



Landslides are caused in a few different ways. Rain adds a lot of weight to a slope of a hill or mountain and can cause the land around it to become so wet and heavy that it'll begin to slide. It can also be caused by erosion. As a few rocks or dirt are moved by a stream of water, it will weaken the land around it and cause it to slide downwards.

Mudslides are a specific type of landslide that happen when there is a large amount of rainfall or when snow melts very quickly. They often begin at the top of a hill. When the water mixes with the dirt it turns into mud and rapidly falls down the hill just like a landslide.

When a landslide starts, the debris can travel very quickly. Some have reported to move at speeds close to 200 miles per hour! This type of landslide can damage everything in its path.

1. Landslides occur when _____, _____,
_____, and _____ slide down a slope.

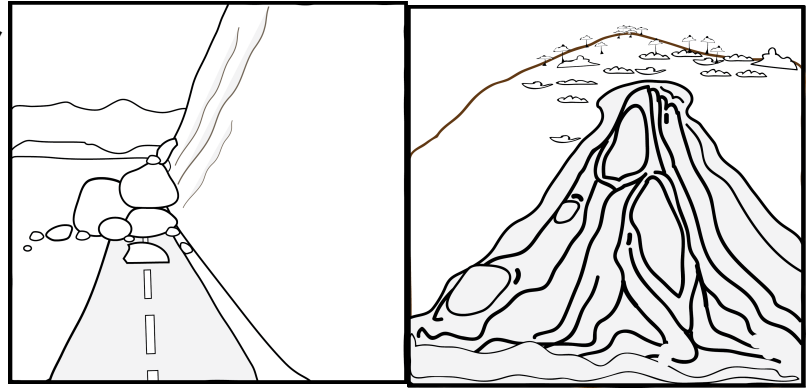
2. What are two ways landslides can be caused?

3. Some landslides have been reported to travel at up to _____ miles per hour.

4. A landslide that happens when the water mixes with dirt is called a

LANDSLIDES AND MUDSLIDES

What happens with dirt, pebbles, rocks, and boulders slide down a slope? This event is called a landslide. Sometimes a landslide can be small and most people won't even notice that it happened, but other times, they can be quite the disaster and cause a lot of problems for what lays below.



Landslides are caused in a few different ways. Rain adds a lot of weight to a slope of a hill or mountain and can cause the land around it to become so wet and heavy that it'll begin to slide. It can also be caused by erosion. As a few rocks or dirt are moved by a stream of water, it will weaken the land around it and cause it to slide downwards.

Mudslides are a specific type of landslide that happen when there is a large amount of rainfall or when snow melts very quickly. They often begin at the top of a hill. When the water mixes with the dirt it turns into mud and rapidly falls down the hill just like a landslide.

When a landslide starts, the debris can travel very quickly. Some have reported to move at speeds close to 200 miles per hour! This type of landslide can damage everything in its path.

1. Landslides occur when **dirt, pebbles, rocks, and boulders** slide down a slope.
2. What are two ways landslides can be caused?

Rain or erosion

3. Some landslides have been reported to travel at up to **200** miles per hour.
4. A landslide that happens when the water mixes with dirt is called a **mudslide**

LET'S LEARN ABOUT MUDSLIDES & LANDSLIDES

What is a landslide?

characteristics

caused by:

What is a mudslide?

characteristics

caused by:

How are they different?

LET'S LEARN ABOUT MUDSLIDES & LANDSLIDES

What is a landslide?

characteristics

When dirt, pebbles, rocks, and boulders slide down a slope

caused by:

Rain or erosion

What is a mudslide?

characteristics

When water mixes with dirt, turns into mud, and rapidly falls down a hill

caused by:

a large rainfall or snow melting very quickly

How are they different?

Landslides are dry and mudslides are wet.

LET'S LEARN ABOUT LAND- & MUDSLIDES

Find words relating to land- and mudslides.

Record your findings here:

D	I	R	T	B	P	C	S	W	P
G	R	O	I	H	E	E	T	E	O
R	E	C	K	E	B	D	R	D	W
A	D	K	L	A	B	F	E	D	E
I	S	S	K	V	L	G	A	X	A
N	A	U	N	Y	E	T	M	S	K
H	A	J	B	D	S	L	O	P	E
Y	I	E	R	O	S	I	O	N	N
H	O	L	M	T	S	F	I	B	K
B	O	U	L	D	E	R	S	H	M

Write three sentences about landslides and mudslides using the words found. You don't need to use them all.

1.

2.

3.

LET'S LEARN ABOUT LAND- & MUDSLIDES

Find words relating to land- and mudslides.

D	I	R	T		P		S		
		O		H	E		T		
R		C		E	B		R		W
A		K		A	B		E		E
I		S		V	L		A		A
N				Y	E		M		K
					S	L	O	P	E
		E	R	O	S	I	O	N	N
B	O	U	L	D	E	R	S		

Record your findings here:

DIRT

ROCKS

RAIN

EROSION

HEAVY

PEBBLES

STREAM

SLOPE

WEAK

BOULDERS

Write three sentences about landslides and mudslides using the words found. You don't need to use them all.

1.

2.

3.

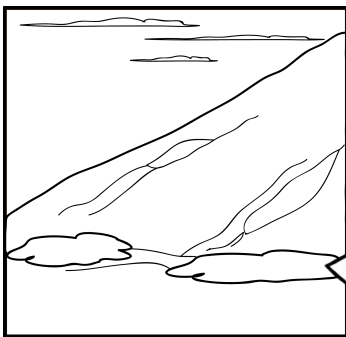
LET'S LEARN ABOUT LAND & MUDSLIDES

Use words from the word bank to complete the sentences.

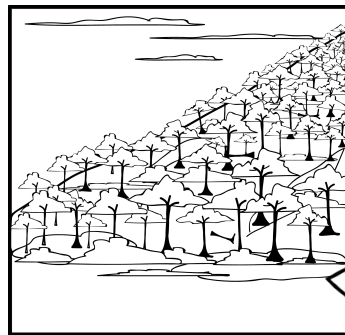
water weight moved dirt
erosion mudslides landslide mud

1. When dirt, pebbles, rocks and sand slides down a slope, we call it a _____.
2. When it rains, the water adds extra _____ to the slope and can cause it to begin to slide.
3. _____ can also cause a landslide.
4. If dirt is _____ by water or wind, it could weaken the land around it and cause it to fall.
5. _____ could occur when there is a large amount of rainfall or snow melts very quickly.
6. When _____ mixes with _____, it turns into _____ and rapidly slides down the hill.

Look at the pictures. Discuss how they influence land and mudslides.



PICTURE A:
Deforestation
on a hill



PICTURE B:
Forest covering
the slope of a
hill.

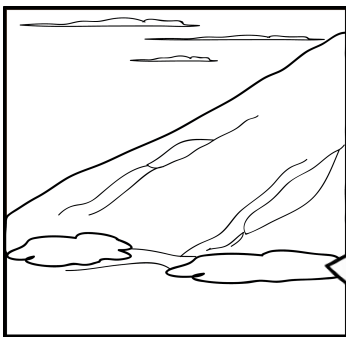
LET'S LEARN ABOUT LAND & MUDSLIDES

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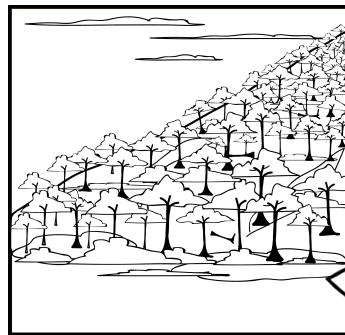
water weight moved dirt
erosion mudslides landslide mud

1. When dirt, pebbles, rocks and sand slides down a slope, we call it a **landslide**
2. When it rains, the water adds extra **weight** to the slope and can cause it to begin to slide.
3. **Erosion** can also cause a landslide.
4. If dirt is **moved** by water or wind, it could weaken the land around it and cause it to fall.
5. **Mudslides** could occur when there is a large amount of rainfall or snow melts very quickly.
6. When **dirt** mixes with **water** it turns into **mud** and rapidly slides down the hill.

Look at the pictures. Discuss how they influence land and mudslides.



PICTURE A:
Deforestation
on a hill



PICTURE B:
Forest covering
the slope of a
hill.

The removal of trees can cause debris that might slide down a hill.

Trees and their roots can slow erosion and prevent landslides.

AVALANCHES

An avalanche is when a large amount of snow moves down a hill very fast. They can be very dangerous because they can take away anything in its path. They are most likely to happen on a slope or hill that does not have any trees or rocks because trees and rocks help keep the snow in place. If there is a layer of snow that is not very strong, an avalanche is likely to happen. This might occur if the snow melts and freezes again. The melting and refreezing of snow makes the snow weak and can possibly slide into an avalanche.



Many things can cause an avalanche. If there is a lot of snowfall at once, strong winds, falling rocks, and warming temperatures are all things that can cause an avalanche. Even a person skiing down a mountain can possibly cause an avalanche!

There are a few steps people can take in order to prevent avalanches. First, people can set up special fences or barriers on the mountain to hold the snow in place or make the snow fall in a certain direction. Also, people can set off explosives on the mountain to clear out any loose snow that might cause an avalanche.

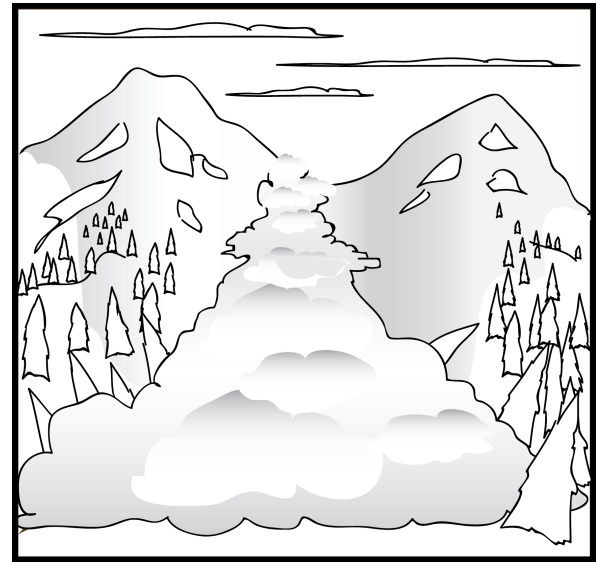
1. An avalanche is when _____ moves down a hill very fast.

2. What are three things that can cause an avalanche?

3. What are two steps we can take to prevent an avalanche?

AVALANCHES

An avalanche is when a large amount of snow moves down a hill very fast. They can be very dangerous because they can take away anything in its path. They are most likely to happen on a slope or hill that does not have any trees or rocks because trees and rocks help keep the snow in place. If there is a layer of snow that is not very strong, an avalanche is likely to happen. This might occur if the snow melts and freezes again. The melting and refreezing of snow makes the snow weak and can possibly slide into an avalanche.



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1. An avalanche is when **snow** moves down a hill very fast.

2. What are three things that can cause an avalanche?

A lot of snowfall at once, strong winds, falling rock, warming temperatures

3. What are two steps we can take to prevent an avalanche?

Set up special fences or barriers or set off explosives to clear out any loose snow

LET'S LEARN ABOUT AVALANCHES

How do avalanches form?

What is an avalanche?

AVALANCHES



Disadvantages:

How to prevent avalanches:

LET'S LEARN ABOUT AVALANCHES

What is an avalanche?

When a large amount of snow moves down a hill very fast.

How do avalanches form?

When there is a layer of snow that isn't very strong, an avalanche might happen. It can happen if snow melts and freezes again, making snow weak.

AVALANCHES



Disadvantages:

They are very dangerous because they can take away anything in its path.

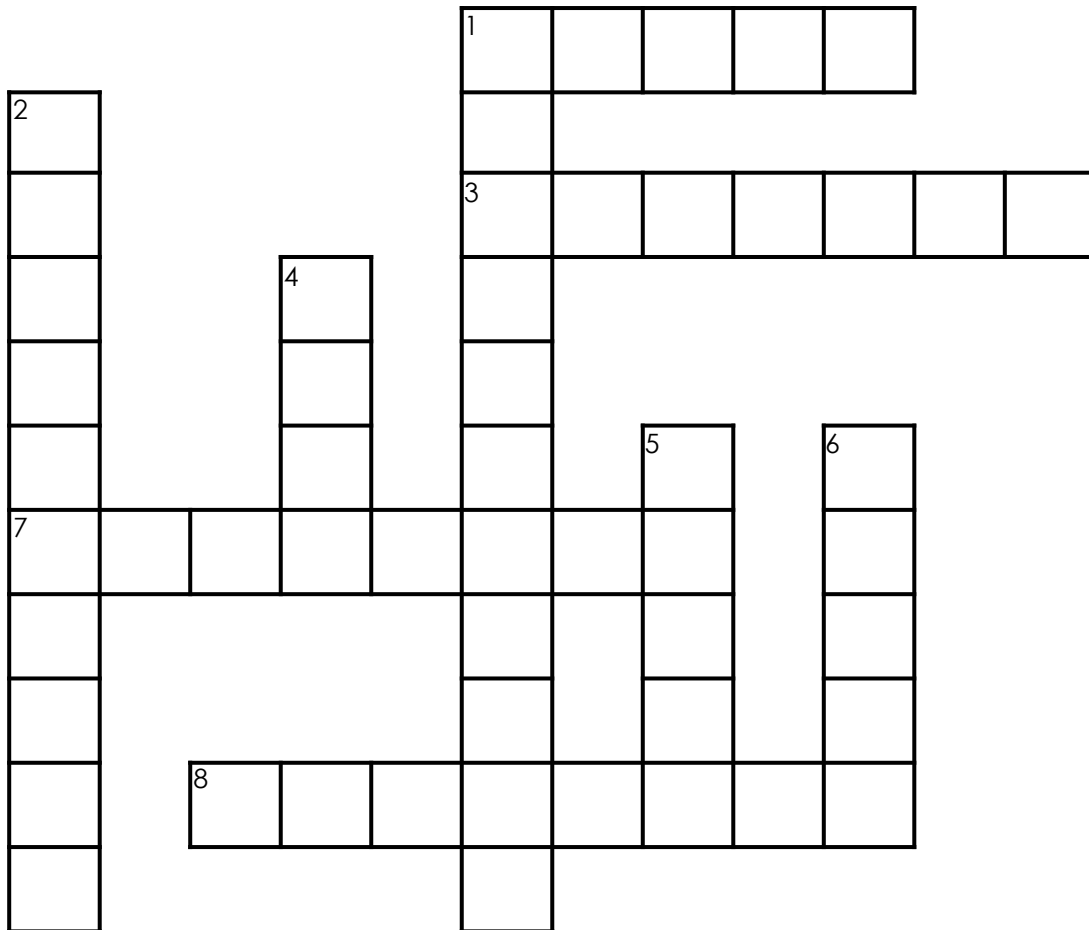
How to prevent avalanches:

Fences or barriers can be created on a mountain to hold the snow.

People can set off explosives to clear out any loose snow.

LET'S LEARN ABOUT AVALANCHES

Complete the crossword puzzle using the clues below:



Across

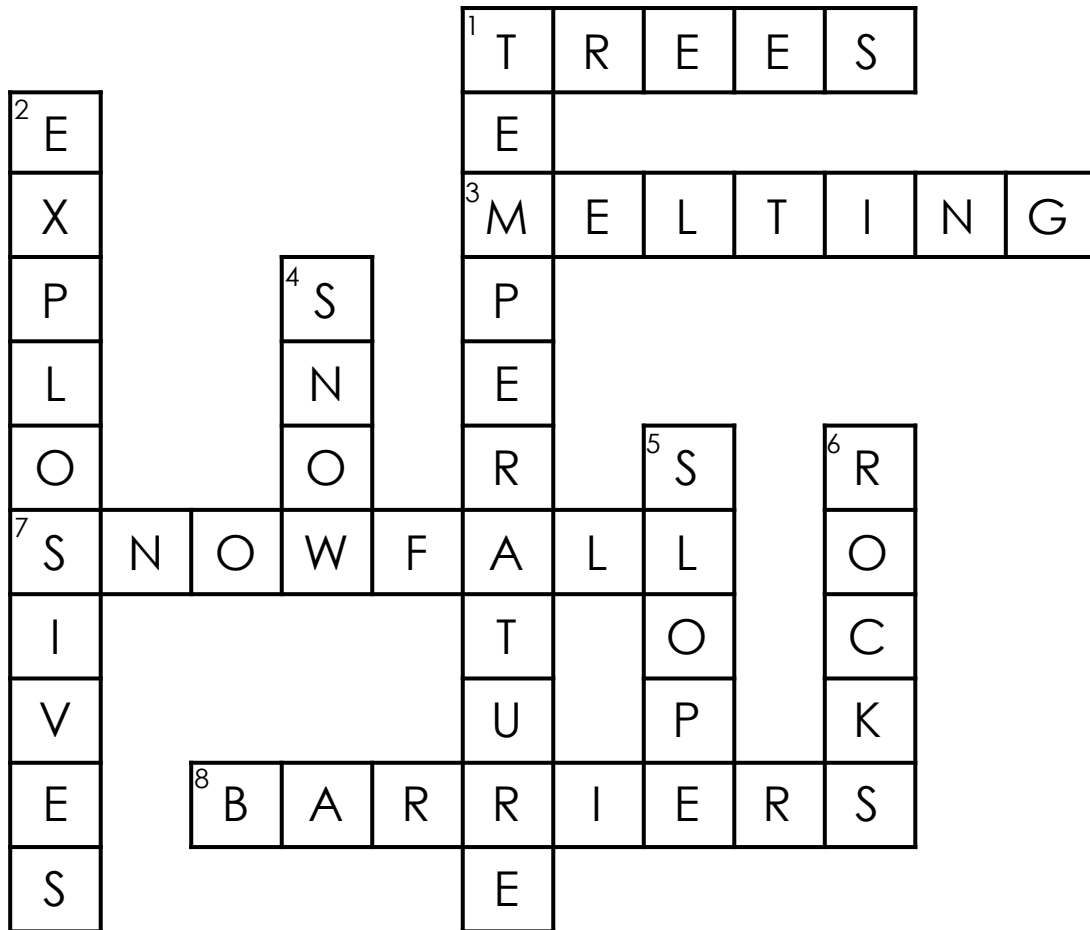
1. _____ and rocks help keep snow in place.
3. Snow that is _____ and refreezing can become weak.
7. Heavy _____ can cause avalanches.
8. People can set up fences and _____ to prevent avalanches.

Down

1. Warming _____ can cause avalanches.
2. Setting off _____ can clear mountains of loose snow.
4. An avalanche is when a large amount of _____ moves down a slope.
5. Avalanches are likely to happen on a steep _____.
6. Falling _____ can cause avalanches.

LET'S LEARN ABOUT AVALANCHES

Complete the crossword puzzle using the clues below:



Across

1. **TREES** and rocks help keep snow in place.
3. Snow that is **MELTING** and refreezing can become weak.
7. Heavy **SNOWFALL** can cause avalanches.
8. People can set up fences and **BARRIERS** to prevent avalanches.

Down

1. Warming **TEMPERATURE** can cause avalanches.
2. Setting off **EXPLOSIONS** can clear mountains of loose snow.
4. An avalanche is when a large amount of **SNOW** moves down a slope.
5. Avalanches are likely to happen on a steep **SLOPE**.
6. Falling **ROCKS** can cause avalanches.

LET'S LEARN ABOUT AVALANCHES

True or False? If False, correct the sentence.

e.g	When mud slides down a slope, it is an avalanche.	false
	When snow slides down a slope, it is an avalanche.	
1	Likely to happen on a slope covered in trees and rocks.	
2	Snow becomes stronger when it melts and refreezes.	
3	A lot of snowfall at once, falling rocks, strong winds and cooling temperatures can cause avalanches.	
4	Barriers increase the chance of an avalanche.	
5	Fences help redirect falling snow.	

How can setting off explosives reduce avalanches? Answer in full sentences.

LET'S LEARN ABOUT AVALANCHES

True or False? If False, correct the sentence.

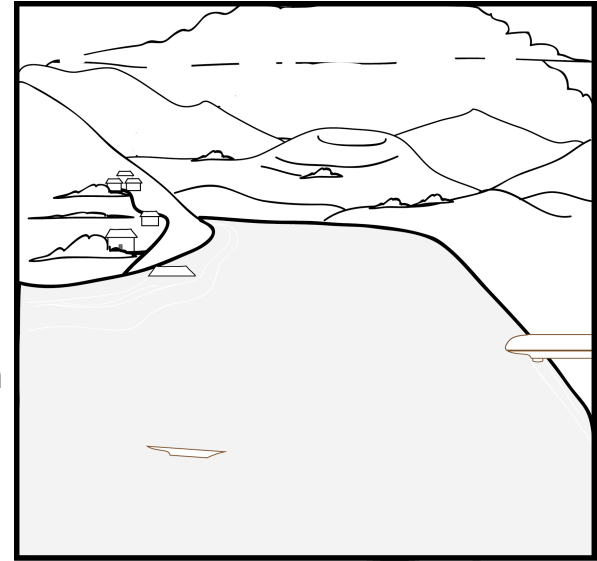
e.g	When mud slides down a slope, it is an avalanche.	false
	When snow slides down a slope, it is an avalanche.	
1	Likely to happen on a slope covered in trees and rocks.	false
	Likely to happen on a hill without trees and rocks.	
2	Snow becomes stronger when it melts and refreezes.	false
	Snow becomes weaker when it melts and refreezes.	
3	A lot of snowfall at once, falling rocks, strong winds and cooling temperatures can cause avalanches.	true
4	Barriers increase the chance of an avalanche.	false
	Barriers can help prevent an avalanche.	
5	Fences help redirect falling snow.	true

How can setting off explosives reduce avalanches? Answer in full sentences.

Setting off explosives can help clear out any loose snow that might cause an avalanche.

FLOODS

Floods can happen when the rainwater has nowhere to drain. Sometimes floods are a few inches, and sometimes they can be a few feet deep. Floods can be very dangerous. If there is heavy rain and nowhere for that rain to go, it is possible for a shallow stream to turn into a 20 foot flood, or more, in under an hour. Floods can become extremely powerful and take anything in its path.



Where do floods come from? They can happen anywhere there is a large amount of rainfall.

Some of the most common causes of floods are hurricanes, broken levees, ice or snow that melts very fast, or thunderstorms that move at a very slow rate.

Flooding can be extremely dangerous and can easily hurt people very quickly. This is the most common cause of death and injuries in storm related events. Even though it doesn't look like much, it is possible for a person to be knocked over in just six inches of flooding water. A powerful flood of just two feet can sweep a car away.

People should be extremely careful around flooding waters. It is not a good idea to walk through floods because the water could be contaminated with bacteria. One way to help prevent flooding in your neighborhood is to make sure the drains on the roads are clear of leaves and branches.

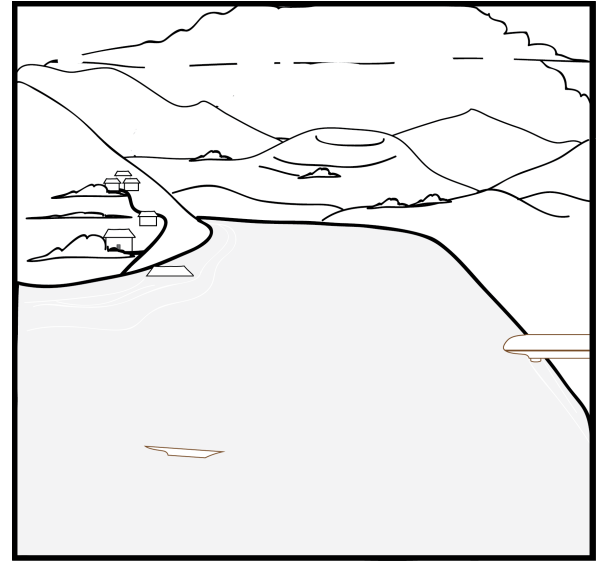
1. Floods can happen when the rainwater has nowhere to _____.

2. What are two common causes of floods?

3. How can you help to prevent flooding in your neighborhood?

FLOODS

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People should be extremely careful around flooding waters. It is not a good idea to walk through floods because the water could be contaminated with bacteria. One way to help prevent flooding in your neighborhood is to make sure the drains on the roads are clear of leaves and branches.

1. Floods can happen when the rainwater has nowhere to **drain**

2. What are two common causes of floods?

hurricanes, broken levees, ice or snow melting fast, slow moving thunderstorms

3. How can you help to prevent flooding in your neighborhood?

make sure drains are clear of debris

LET'S LEARN ABOUT FLOODS

What is a flood?

What causes floods?

FLOODS



Disadvantages:

Interesting Facts:

LET'S LEARN ABOUT FLOODS

What is a flood?

A lot of water with nowhere to drain

What causes floods?

hurricanes
broken levees
ice or snow melting too fast
slow moving thunderstorms
nowhere for water to drain

FLOODS

Disadvantages:

They can do a lot of damage and hurt people very quickly – sometimes with little warning.

Interesting Facts:

6 inches of water can knock over a person

Floods of just 2 feet of water can sweep a car away.

LET'S LEARN ABOUT FLOODS

Complete the sentences below by finding the words in the wordsearch.

G	Y	H	U	R	R	I	C	A	N	E	S
F	N	S	A	P	A	W	P	O	L	G	S
C	O	N	T	A	M	I	N	A	T	E	D
D	W	O	D	I	E	E	N	I	K	R	E
S	H	W	F	K	Q	R	U	F	J	F	R
L	E	V	E	E	S	T	G	U	A	D	T
E	R	B	A	C	T	E	R	I	A	L	Y
R	E	K	P	O	W	E	R	F	U	L	L
T	O	B	L	O	C	K	E	D	G	E	U
T	H	U	N	D	E	R	S	T	O	R	M

Record your findings here:

1. Floods occur when rainwater has _____ to drain.
2. Small streams can become extremely _____ when flooded.
3. Floods occur anywhere there has been a large amount of _____.
4. Common causes of floods are _____, broken _____, ice or _____ that melts quickly, or slow moving _____.
5. Don't walk in flood water because it could be _____ with _____.
6. To try to prevent floods, make sure drains aren't' _____.

LET'S LEARN ABOUT FLOODS

Complete the sentences below by finding the words in the wordsearch.

		H	U	R	R	I	C	A	N	E	S
	N	S			A						
C	O	N	T	A	M	I	N	A	T	E	D
	W	O					N				
	H	W						F			
L	E	V	E	E	S				A		
	R	B	A	C	T	E	R	I	A	L	
	E		P	O	W	E	R	F	U	L	L
		B	L	O	C	K	E	D			
T	H	U	N	D	E	R	S	T	O	R	M

Record your findings here:

NOWHERE

POWERFUL

RAINFALL

HURRICANES

LEVEES

SNOW

THUNDERSTORM

CONTAMINATED

BACTERIA

BLOCKED

1. Floods occur when rainwater has **NOWHERE** to drain.
2. Small streams can become extremely **POWERFUL** when flooded.
3. Floods occur anywhere there has been a large amount of **RAINFALL**.
4. Common causes of floods are **HURRICANES**, broken **LEVEES**, ice or **SNOW** that melts quickly, or a slow moving **THUNDERSTORM**.
5. Don't walk in flood water because it could be **CONTAMINATED** with **BACTERIA**.
6. To try to prevent floods, make sure drains aren't **BLOCKED**.

LET'S LEARN ABOUT FLOODS

Answer the questions in full sentences.

1. How are floods caused?

2. Why are floods so dangerous? Explain THREE reasons.

3. How can we try to prevent floods in our neighborhood?

True or False? If False, correct the sentence.

1	Floods only happen in areas close to the coast.	

2	If you are a good swimmer, you don't have to worry about floods.	

LET'S LEARN ABOUT FLOODS

Answer the questions in full sentences.

1. How are floods caused?

They are caused when a lot of water has nowhere to drain.

2. Why are floods so dangerous? Explain THREE reasons.

A little bit of water can sweep away heavy objects.

The water can be contaminated with bacteria.

It is a common cause of death and injury in storm related events.

3. How can we try to prevent floods in our neighborhood?

Make sure drains in the roads are clear of leaves and branches.

True or False? If False, correct the sentence.

1	Floods only happen in areas close to the coast.	False
	Floods can happen anywhere water can't drain.	

2	If you are a good swimmer, you don't have to worry about floods.	False
	Just six inches of water can knock a person off their feet.	

THUNDERSTORMS

A thunderstorm is a storm with lightning and thunder and can create rain, wind, and maybe even hail.



The three things needed to form a thunderstorm are moisture, unsettled air, and lift. The moisture will form clouds and rain. The unsettled air is warm and will rise quickly. The lift can come from ocean breezes or mountains.

Thunderstorms form in three different stages. First is the developing stage. During this stage, the clouds are forming into a thunderstorm. The clouds, called cumulonimbus clouds, get very tall. There is very little rain in the developing stage but lightning can begin to strike. The second stage is called the mature stage. A thunderstorm enters this stage when the air continues to rise and the storm continues to grow. When the rain falls, the air starts to cool and then pushes down. This causes the storm to spread out and then a lot of wind forms. It is at this stage when it is most likely that a large amount of rain will fall, lots of lightning, heavy winds, hail, and the possibility of a tornado. The last stage is called the dissipating stage. This is when the storm starts to die down and the rain slows down. Even though it seems like the storms may be over, it is still possible that lightning can strike making the dissipating storm still dangerous.

1. What are the three things needed to form a thunderstorm?

2. What are the three stages of a developing thunderstorm?

3. Which stage of a forming thunderstorm will you see a lot of rain, heavy winds, and the possibility of a tornado?

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1. What are the three things needed to form a thunderstorm?

moisture, unsettled air, and lift

2. What are the three stages of a developing thunderstorm?

Developing, mature, and dissipating

3. Which stage of a forming thunderstorm will you see a lot of rain, heavy winds, and the possibility of a tornado?

This happens in the mature stage of a thunderstorm.

LET'S LEARN ABOUT THUNDERSTORMS

What is a thunderstorm?

characteristics

caused by:

Three stages of thunderstorms:

First:

Then:

Finally:

LET'S LEARN ABOUT THUNDERSTORMS

What is a thunderstorm?

characteristics

heavy rain, lightning, strong wind, hail, tornado

caused by:

Thunderstorms are caused by moisture, unsettled air, and lift.

Three stages of thunderstorms:

First:

Developing –
Clouds are forming a thunderstorm.
They get very tall.

Then:

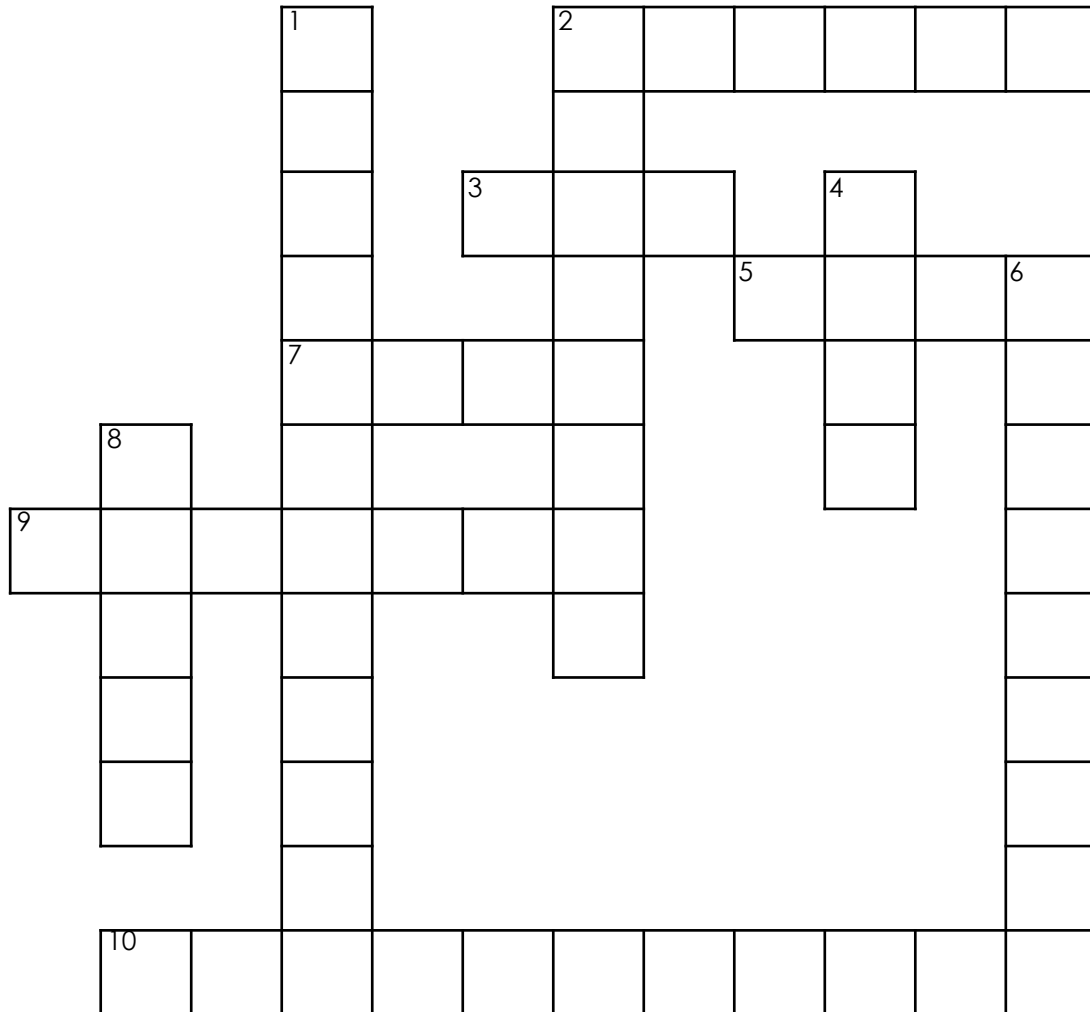
Mature –
Rain falls, air cools,
lighting, wind, hail,
possibly tornadoes

Finally:

Dissipating –
Storm dies down
and rain slows.
Lightning can still
linger.

LET'S LEARN ABOUT THUNDERSTORMS

Complete the crossword puzzle using the clues below:



Across

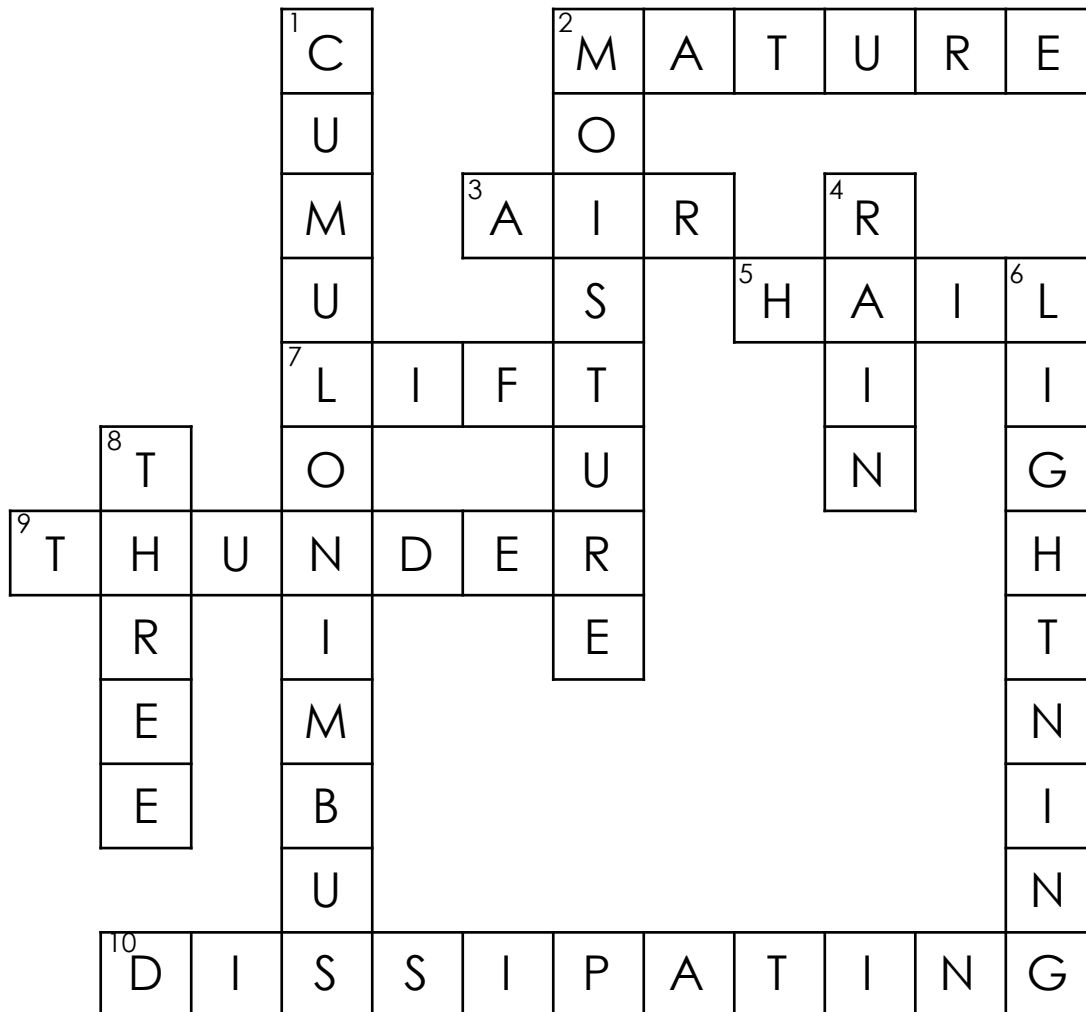
2. The _____ stage is the second stage.
3. Unsettled _____ is needed for a thunderstorm.
5. Sometimes _____ falls.
7. _____ comes from ocean breezes.
9. _____ is the loud bang you hear during a thunderstorm.
10. The _____ stage is the final stage of a thunderstorm.

Down

1. _____ clouds form during a thunderstorm.
2. _____ forms the clouds in the first stage.
4. Thunderstorms often result in _____.
6. _____ results in a flash of light.
8. Thunderstorms form in _____ different stages.

LET'S LEARN ABOUT THUNDERSTORMS

Complete the crossword puzzle using the clues below:



Across

2. The **MATURE** stage is the second stage.
3. Unsettled **AIR** is needed for a thunderstorm.
5. Sometimes **HAIL** falls.
7. **LIFT** comes from ocean breezes.
9. **THUNDER** is the loud bang you hear during a thunderstorm.
10. The **DISSIPATING** stage is the final stage of a thunderstorm.

Down

1. **CUMULONIMBUS** clouds form during a thunderstorm.
2. **MOISTURE** forms the clouds in the first stage.
4. Thunderstorms often result in **RAIN**.
6. **LIGHTNING** results in a flash of light.
8. Thunderstorms form in **THREE** different stages.

LET'S LEARN ABOUT THUNDERSTORMS

Explain each word and how it has to do with THUNDERSTORMS.

DEVELOPING STAGE	
DISSIPATING STAGE	
CUMULONIMBUS	
MATURE STAGE	
UNSETTLED AIR	
MOISTURE	

DID YOU KNOW...

Lightning kills between 75 and 100 people every year! Being outside during a thunderstorm is a very dangerous place to be. Here are some tips if you find yourself stuck outdoors during a thunderstorm:

If you hear thunder, go to a safe place immediately.

Best place to go is car or sturdy building. Make sure windows are shut.

Avoid sheds, picnic areas and bleachers.

No shelter? Crouch low in the open field, far away from trees.

Stay out of water and away from metal.

Wait 30 minutes before resuming outdoor activities.

LET'S LEARN ABOUT THUNDERSTORMS

Explain each word and how it has to do with THUNDERSTORMS.

DEVELOPING STAGE	This is when storm clouds begin to form. They get very dark and tall.
DISSIPATING STAGE	This is when the thunderstorm is finishing. Rain slows down, but lightning can remain.
CUMULONIMBUS	Clouds that create a thunderstorm. They are very tall.
MATURE STAGE	This stage of the storm has all the bad weather.
UNSETTLED AIR	Unsettled air causes a thunderstorm.
MOISTURE	Moisture is needed for a thunderstorm to form.

DID YOU KNOW...

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- If you hear thunder, go to a safe place immediately.
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- Avoid sheds, picnic areas and bleachers.
- No shelter? Crouch low in the open field, far away from trees.
- Stay out of water and away from metal.
- Wait 30 minutes before resuming outdoor activities.

WILDFIRES

A wildfire is a big fire that is not controlled. Wildfires typically happen in the forest because of all the trees, but there are also hill fires, grass fires, and brush fires.



There are two major reasons why wildfires start. The first reason is people. Sometimes people can be careless and not put out their campfire all the way or drop a lit cigarette in the forest. People can also commit arson, which is setting a forest on fire on purpose, and this is illegal. Humans cause about 80% of wildfires. The second reason why wildfires start are natural causes. This can be lightning striking or when a volcano erupts.

There are three ways wildfires spread. The first way they spread is by the weather. It is likely a fire can spread if it is very windy. The second way it spreads is if the area is very dry. The dry leaves and wood can be energy for a growing fire. The third way wildfires spread is how the land lays out. Wildfires tend to spread going uphill and they can spread quickly if there are slopes and hills.

There are two ways to stop a wildfire. The first is called a firebreak. This is when firefighters get rid of all the trees and grass that can be energy for the fire to grow. The second way to help stop a wildfire is by dropping water and special chemicals from the air.

1. What are the two major reasons wildfires can start?

2. What are three ways wildfires can spread?

3. What are two ways we can stop wildfires?

WILDFIRES

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1. What are the two major reasons wildfires can start?

They can be caused by people or from natural causes.

2. What are three ways wildfires can spread?

Weather/wind – dry conditions – how land is laid out (hills)

3. What are two ways we can stop wildfires?

Firebreak – when firefighters get rid of all the trees and grass
Dropping water and special chemicals from the air.

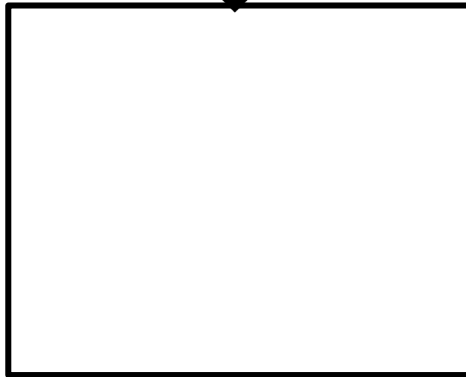
LET'S LEARN ABOUT WILDFIRES

What causes wildfires?

Cause 1:

Cause 2:

Ways wildfires are spread:



How to stop wildfires:



LET'S LEARN ABOUT WILDFIRES

What causes wildfires?

Cause 1:

People

Cause 2:

Natural causes

Ways wildfires are spread:

Weather – wind can spread fires quickly

Dry conditions – dry leaves and wood can give energy to a fire

Land – wildfires tend to spread going uphill and can spread quickly on slopes and hills

How to stop wildfires:

Firefighters get rid of all the trees and grass that can be energy for the fire to grow.

Water and special chemicals can be dropped from the air.

LET'S LEARN ABOUT WILDFIRES

Find words relating to WILDFIRES.

Record your findings
here:

W	F	R	C	F	H	D	R	Y	F
A	I	E	A	Q	O	P	K	P	L
T	R	S	M	W	U	R	M	L	I
E	E	A	P	E	J	O	E	K	G
R	B	D	F	R	M	I	N	S	H
S	R	W	I	N	D	Y	H	J	T
D	E	T	R	T	N	U	G	H	N
C	A	R	E	L	E	S	S	G	I
O	K	U	P	H	I	L	L	F	N
P	Y	U	A	R	S	O	N	C	G

Write three sentences about wildfires using the words found.
You don't need to use them all.

1.

2.

3.

LET'S LEARN ABOUT WILDFIRES

Find words relating to wildfires.

W	F		C	F		D	R	Y	
A	I		A		O				L
T	R		M			R			I
E	E		P				E		G
R	B		F					S	H
	R	W	I	N	D	Y			T
	E		R						N
C	A	R	E	L	E	S	S		I
	K	U	P	H	I	L	L		N
			A	R	S	O	N		G

Record your findings
here:

FOREST

CARELESS

CAMPFIRE

ARSON

LIGHTNING

WINDY

UPHILL

DRY

FIREBREAK

WATER

Write three sentences about wildfires using the words found.
You don't need to use them all.

1.

2.

3.

LET'S LEARN ABOUT WILDFIRES

Cut out the pictures and descriptions. Paste them in order to show the process of a wildfire.

1.



2.



3.



4.



5.



6.



7.

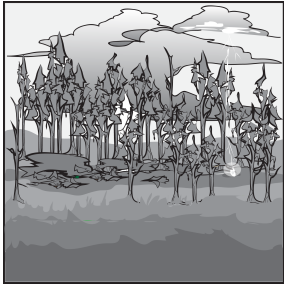


8.

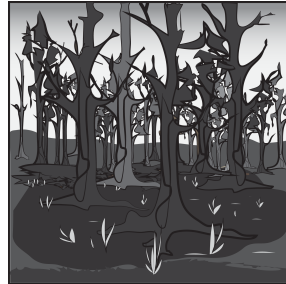


LET'S LEARN ABOUT WILDFIRES

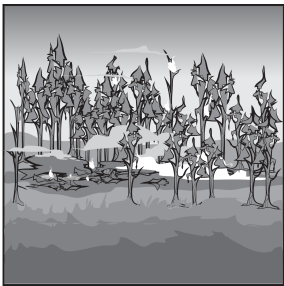
Cut out the pictures and descriptions. Paste them in order to show the process of a wildfire.



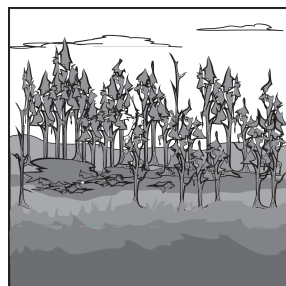
Lightning strikes the dry forest.



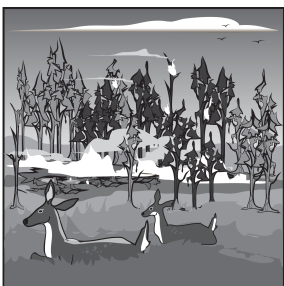
New shoots of plants are growing.



Wildfire starting



Forest in drought. Everything is dry.



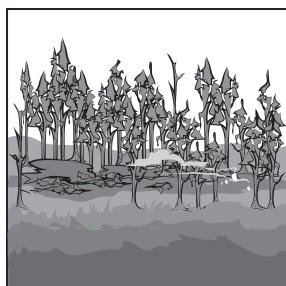
Wildfires raging and animals escaping.



Wildfires reaching populated area.



Burnt forest

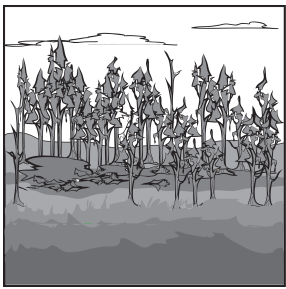


Smouldering leaves and small fires

LET'S LEARN ABOUT WILDFIRES

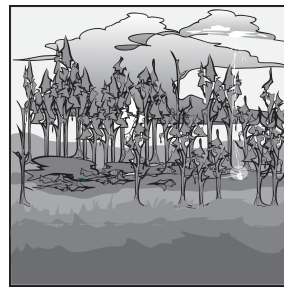
Cut out the pictures and descriptions. Paste them in order to show the process of a wildfire.

1.



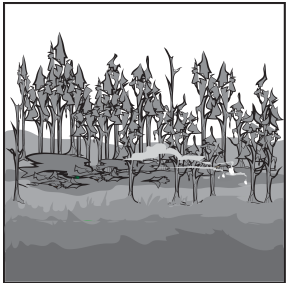
Forest in drought.
Everything is dry.

2.



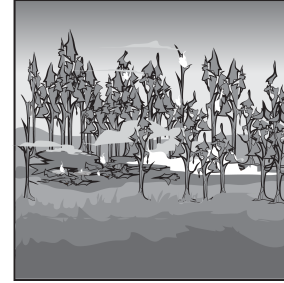
Lightning strikes the dry forest.

3.



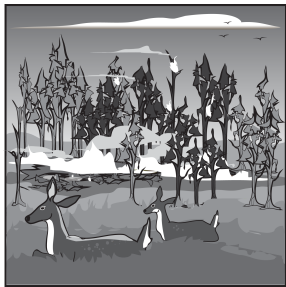
Smouldering leaves and small fires

4.



Wildfire starting

5.



Wildfires raging and animals escaping.

6.



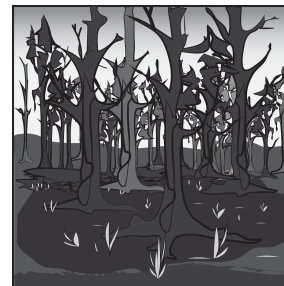
Wildfires reaching populated area.

7.



Burnt forest

8.



New shoots of plants are growing.

UNIT ASSESSMENT

NATURAL DISASTERS ASSESSMENT

Name: _____ Date: _____

A: MULTIPLE CHOICE - Circle the correct answer.

[6]

1. What do we use to measure an earthquake?
a. Fujita scale b. Richter scale c. Dissipating scale d. Saffir-Sampson scale
2. Which factor does not cause an avalanche?
a. skiers b. strong winds c. forest covered slopes d. warming temperatures
3. Which is not a factor that aids the spread of wildfires?
a. dry forests b. windy c. uphill g. downhill
4. Tsunamis are caused by...
a. floods b. earthquakes c. hurricanes d. landslides
5. Which one is a fault movement?
a. Natural slip b. Strike slip c. Strike fault d. Reverse strike
6. Which volcano is less steep, shorter, and has repeated eruptions ?
a. Shield b. Cinder Cone c. Composite d. Lava

B: DEFINITION - Write the definition for the words.

[6]

1. **Hurricane**

2. **Cumulonimbus**

3. **Ring of Fire**

4. **Firebreak**

5. **Storm surge**

6. **Erosion**

Name: _____ Date: _____

C: TRUE OR FALSE? - If false, correct the answer.

[5]

1. A hurricane is also known as a "harbor wave".
2. Earthquakes happen because of stress between the Earth's plates.
3. Floods are caused by land erosion.
4. If you can't take shelter in a building during a thunderstorm, you should sit under a tree.
5. Small streams become powerful during a flood.

D: WHAT IS IT? Read the definition and write the word it defines.

[5]

1. When gas and molten rock shoot through an opening in a volcano.	
2. When a lot of rain water can't drain away.	
3. The act of starting a damaging fire on purpose.	
4. The name given to an area in the U.S. where tornadoes occur most.	
5. Spinning columns of wind, strong enough to lift a car.	

E: FILL IN THE MISSING WORD.

[12 x 1/2 = 6]

1. Avalanches are caused by strong _____ and fast _____ snow.
2. Thunderstorms need moisture, _____ and _____.
3. We can prevent avalanches by building _____ and _____ as well as setting off _____ to clear loose snow.

Name: _____ Date: _____

4. A tornado is a _____ cloud that forms when _____ air is pushed up very quickly by _____ air.
5. Flooding can be prevented by clearing _____.
6. Most of the Earth's earthquakes happen on the _____ floor.

F: ANSWER THE QUESTIONS in full sentences.

[7]

1. What level earthquake is the most dangerous?

2. How are landslides and avalanches different?

_____ (2)

3. How long can a hurricane last?

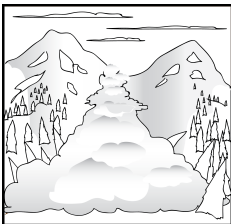
4. How is a mountain's appearance different from a volcano's?

5. Is a campfire similar to a wildfire? Explain.

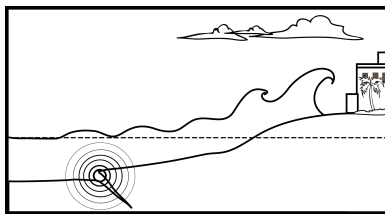
6. Where is the largest shield volcano in the world?

G: IDENTIFY THE NATURAL DISASTERS– Label the pictures.

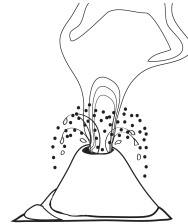
[6]



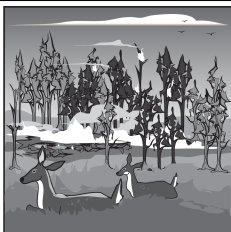
1.



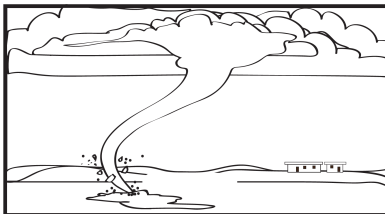
2.



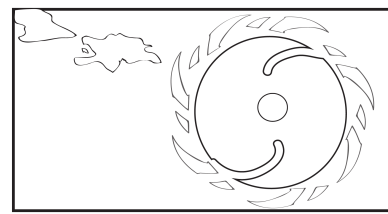
3.



4.



5.



6.

Name: _____ Date: _____

H: DISCUSSION TOPICS.

[19]

1. Discuss weather conditions in the "eye" of a hurricane.

_____ (3)

2. What would make landslides dangerous?

_____ (2)

3. Discuss the differences between lava and magma.

_____ (2)

4. Explain how tsunamis are formed.

_____ (4)

5. What tips can you give your friend to stay safe in a thunderstorm?

_____ (5)

6. Choose one of the Natural Disasters (except thunderstorms and landslides). Identify why it is dangerous and what you would do to keep safe.

_____ (3)

TOTAL [60]

NATURAL DISASTERS ASSESSMENT

Name: _____ Date: _____

A: MULTIPLE CHOICE - Circle the correct answer.

[6]

1. What do we use to measure an earthquake?
a. Fujita scale **b. Richter scale** c. Dissipating scale d. Saffir-Sampson scale
2. Which factor does not cause an avalanche?
a. skiers b. strong winds **c. forest covered slopes** d. warming temperatures
3. Which is not a factor that aids the spread of wildfires?
a. dry forests b. windy c. uphill **g. downhill**
4. Tsunamis are caused by...
a. floods **b. earthquakes** c. hurricanes d. landslides
5. Which one is a fault movement?
a. Natural slip b. Strike slip **c. Strike fault** d. Reverse strike
6. Which volcano is less steep, shorter, and has repeated eruptions ?
a. Shield b. Cinder Cone c. Composite d. Lava

B: DEFINITION - Write the definition for the words.

[6]

1. Hurricane **An enormous rotating storm that develops over warm ocean water.**
2. Cumulonimbus **Tall clouds that cause thunderstorms.**
3. Ring of Fire **An area of the Pacific Ocean where earthquakes and volcanoes form.**
4. Firebreak **When firefighters clear trees and leaves from a wildfire.**
5. Storm surge **Large waves caused by a hurricane.**
6. Erosion **The movement of rocks or dirt.**

Name: _____ Date: _____

C: TRUE OR FALSE? - If false, correct the answer.

[5]

1. A hurricane is also known as a "harbor wave".

False - A tsunami is known as a "harbor wave".

2. Earthquakes happen because of stress between the Earth's plates.

True

3. Floods are caused by land erosion.

False - Floods are caused by a lot of water with nowhere to drain.

4. If you can't take shelter in a building during a thunderstorm, you should sit under a tree.

False - Never sit under a tree during a thunderstorm.

5. Small streams become powerful during a flood.

True

D: WHAT IS IT? Read the definition and write the word it defines.

[5]

1. When gas and molten rock shoot through an opening in a volcano.	eruption
2. When a lot of rain water can't drain away.	flood
3. The act of starting a damaging fire on purpose.	arson
4. The name given to an area in the U.S. where tornadoes occur most.	tornado alley
5. Spinning columns of wind, strong enough to lift a car.	tornado

E: FILL IN THE MISSING WORD.

[12 x 1/2 = 6]

1. Avalanches are caused by strong winds and fast moving snow.

2. Thunderstorms need moisture, unsettled air and lift

3. We can prevent avalanches by building fences and barriers as well as setting off explosions to clear loose snow.

Name: _____ Date: _____

4. A tornado is a **funnel** cloud that forms when **warm** air is pushed up very quickly by **cold** air.
5. Flooding can be prevented by clearing **debris**
6. Most of the Earth's earthquakes happen on the **ocean** floor.

F: ANSWER THE QUESTIONS in full sentences.

[7]

1. What level earthquake is the most dangerous?

Level 9 earthquakes are the most dangerous.

2. How are landslides and avalanches different?

A landslide is the sliding of rocks and dirt. Avalanches is the sliding of snow. 2)

3. How long can a hurricane last?

They can last for over a week.

4. How is a mountain's appearance different from a volcano's?

A volcanic mountain has a hole, or crater, on top.

5. Is a campfire similar to a wildfire? Explain.

A campfire is a controlled fire. A wildfire is out of control over a big area.

6. Where is the largest shield volcano in the world?

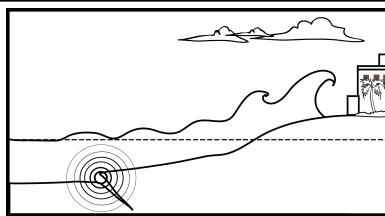
The largest shield volcano is in Hawaii.

G: IDENTIFY THE NATURAL DISASTERS– Label the pictures.

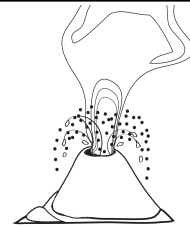
[6]



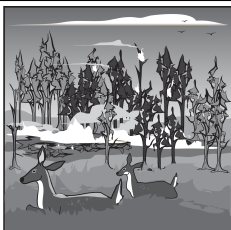
1. **Avalanche**



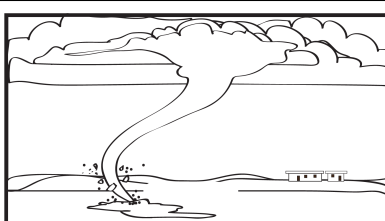
2. **Tsunami**



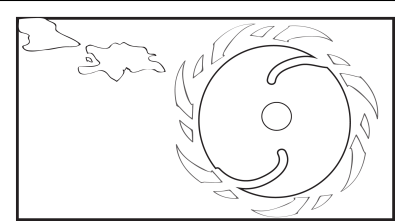
3. **Volcano**



4. **Wildfire**



5. **Tornado**



6. **Hurricane**

Name: _____ Date: _____

H: DISCUSSION TOPICS.

[19]

1. Discuss weather conditions in the “eye” of a hurricane.

Weather in the eye of the hurricane is typically calm. (3)

2. What would make landslides dangerous?

Debris can travel very quickly and damage everything in its path. (2)

3. Discuss the differences between lava and magma.

Magma is molten rock inside a volcano. Lava is molten rock outside a volcano. 2)

4. Explain how tsunamis are formed.

Tsunamis start from earthquakes under the ocean floor. The movement of the ocean floor causes waves that travel inland. (4)

5. What tips can you give your friend to stay safe in a thunderstorm?

Answers will vary. (5)

6. Choose one of the Natural Disasters (except thunderstorms and landslides). Identify why it is dangerous and what you would do to keep safe.

Answers will vary. (3)

TOTAL [60]

LABS

HOW IT WORKS THUNDERSTORMS

Let's explore THUNDERSTORMS!

Purpose:

To determine how warm and cold air creates unsettled air resulting in a thunderstorm.

Materials:

- Lukewarm water
- Red food coloring
- Ice blocks made with blue food coloring and water
- Clear shoe box.

Method:

1. Prepare some blue ice cubes prior to the experiment.
2. Fill the plastic shoe box half full with lukewarm water. (It must be lukewarm to avoid purple water.)
3. Drop a few drops of red food coloring on the one side of the shoe box.
4. Add two blue ice cubes to the opposite side of the shoe box.

Prediction

What do you think will happen?

HOW IT WORKS THUNDERSTORMS

Let's explore THUNDERSTORMS!

Findings

Draw a diagram of your observations:



What did you observe when the red food coloring and blue ice cubes were added to the lukewarm water?

What happens when the blue and red water reach the same temperature? Why do you think this happens?

Conclusion

What can you conclude from your findings:

HOW IT WORKS VOLCANOES

Let's explore VOLCANOES!

Purpose:

To determine how eruptions occur.

Materials:

Volcano structure:

- Plaster cloth
- Tape
- Construction Paper
- Plastic bottle

Eruption experiment:

- Baking Soda
- Vinegar
- Red food coloring (optional)

Method to make volcano structure:

1. Wrap your construction paper around your bottle to make a cone shape. Tape it in place. Be sure to keep the opening of the bottle open.
2. Cover the construction paper with plaster by cutting it in strips, dipping in water and smoothing onto the surface of the cone shape. The more layers, the stronger the volcano.
3. Seal the gap between the construction paper and the bottle opening with plaster.
4. Allow to dry over night.
5. Once dry, paint the volcano if desired.

Draw a sketch of your volcano here:

HOW IT WORKS VOLCANOES

Let's explore VOLCANOES!

Method to conduct the experiment:

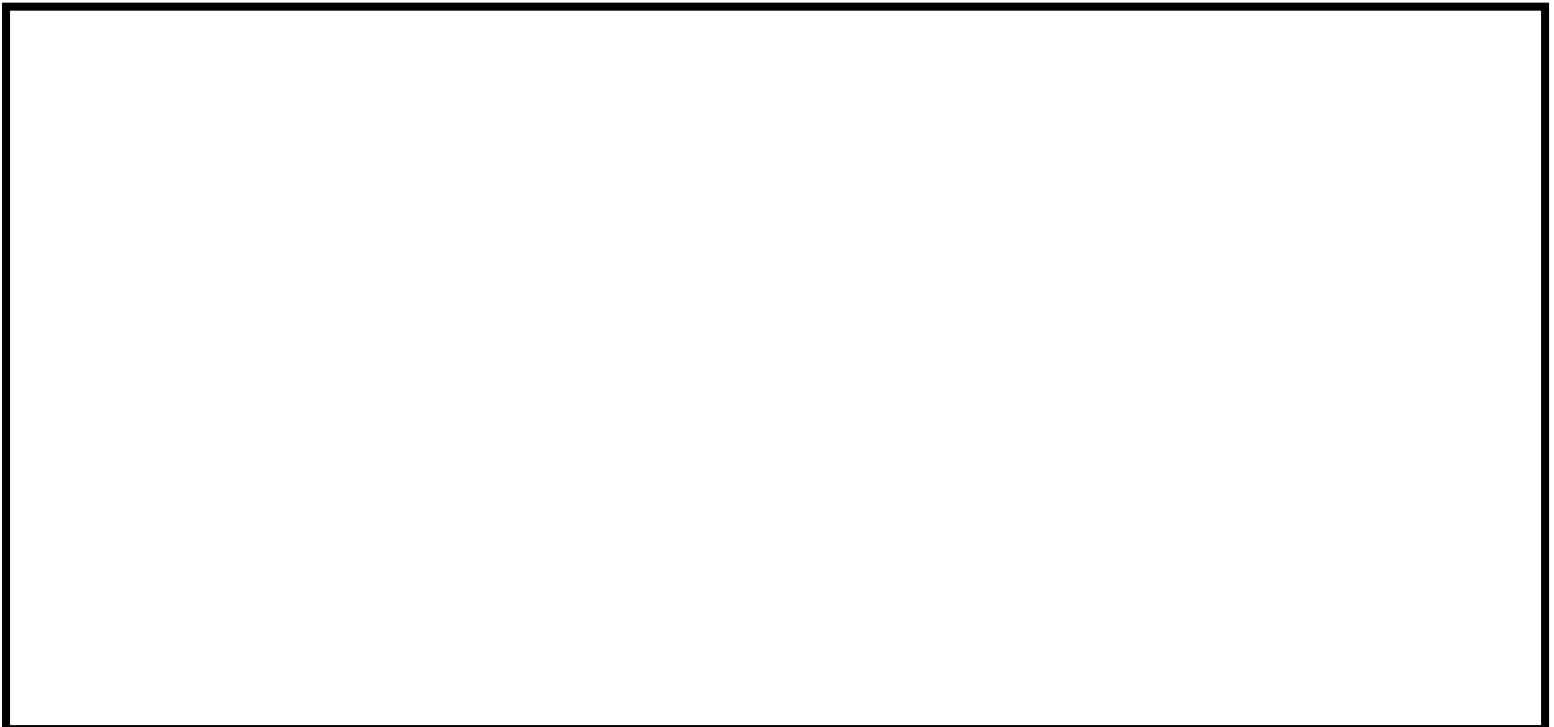
1. Fill the bottle $\frac{3}{4}$ of the way, full with baking soda. (A funnel can work well for this.)
2. Place a tray under the volcano.
3. Add red food coloring to the vinegar.
4. Pour the vinegar into the baking soda.

Prediction

What do you think will happen?

Findings

Draw and label a diagram of your observations:



HOW IT WORKS VOLCANOES

Let's explore volcanoes!

What did you observe when you added the vinegar solution to the baking soda?

Why do you think this happened?

How is this experiment relevant to volcanic eruptions?

Is there something you would do differently next time?

Conclusion

What can you conclude from your findings:

TASK CARDS

1 Tornadoes are spinning columns of _____.

- A. water
- B. energy
- C. wind
- D. dirt

2 Where do hurricanes often occur?

- A. along the coasts
- B. in the mountains
- C. in the Midwest
- D. in the desert

3 What causes a tsunami?

- A. fire
- B. wind
- C. tornado
- D. earthquake

4 The Richter scale measures which natural disaster?

- A. hurricane
- B. earthquake
- C. tornado
- D. tsunami

5 Which of the following is **not** a type of volcano?

- A. cinder cone
- B. shield
- C. dome
- D. composite

6 Which of the following is **not** something you'd find in a landslide?

- A. grass
- B. dirt
- C. pebbles
- D. rocks

7

An avalanche is when _____ moves down a hill very fast.

- A. snow
- B. water
- C. rocks
- D. sand

8

Floods happen when rainwater has nowhere to...

- A. fall
- B. melt
- C. drain
- D. freeze

9

Which is **not** something a thunderstorm needs to form?

- A. moisture
- B. unsettled air
- C. lift
- D. wind

10

A wildfire is a big fire that is not _____.

- A. big
- B. controlled
- C. hot
- D. moving

11

The Fujita Scale is used to measure which natural disaster?

- A. tsunami
- B. hurricane
- C. tornado
- D. earthquake

12

The eye of a hurricane is _____.

- A. very windy
- B. calm
- C. loud
- D. loud

13

Which natural disaster frequently happens around the Ring of Fire?

- A. avalanche
- B. wild fire
- C. hurricane
- D. tsunami

14

Most earthquakes occur _____ and we don't feel them.

- A. on the ocean floor
- B. on a mountain
- C. at the coast
- D. on flat land

15

Volcanoes are formed when _____ from inside the Earth's mantle works its way to the surface.

- A. lava
- B. rock
- C. magma
- D. mud

16

Which other natural disaster can cause a flood?

- A. landslide
- B. hurricane
- C. earthquake
- D. volcano

17

_____ happen when there is a large amount of rainfall on a hill.

- A. tsunamis
- B. mudslides
- C. landslides
- D. thunderstorms

18

Which of the following is **not** something that can cause an avalanche?

- A. a lot of snowfall at once
- B. strong winds
- C. warming temperatures
- D. rain

19

Which of the following is **not** one of the three stages of a thunderstorm?

- A. developing
- B. mature
- C. strengthening
- D. dissipating

20

Where can wildfires spread quickly?

- A. slopes and hills
- B. flat land
- C. along rivers
- D. in the desert

21

Each time a volcano erupts, it'll get _____.

- A. hotter
- B. more violent
- C. bigger
- D. weaker

22

Before a _____, a warning will be issued. You will need to move inland or to the top of a tall building.

- A. hurricane
- B. earthquake
- C. volcano
- D. tsunami

23

In which state will you least likely see a tornado?

- A. Oklahoma
- B. Vermont
- C. Kansas
- D. Nebraska

24

Which natural disaster happens when plates move apart?

- A. earthquake
- B. landslide
- C. tsunami
- D. volcano

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