Week 2 – Volcanoes and Earthquakes

WALT: Explore Volcanoes

S2S:

I can describe volcanic features

I can locate volcanoes accurately on a map

I can use key geographical vocabulary

Key Vocabulary

active	**An active volcano has erupted recently or is expected to erupt quite soon**
dormant	**Not active but capable of becoming active**
earthquake	**A shaking of the ground caused my movement on the earth's crust**
erupt	**When a volcano erupts, it throws out a lot of hot, melted rock called lava, as well as ash and steam.**
lava	**Very hot liquid that comes out of a volcano when it erupts**
magma	**Molten rock that is formed in very hot conditions inside the earth**

Tectonic plates	**Any of the several segments of the Earth's crust that moves**
Vent	**Part of a volcano through which lava and gases erupt**
volcano	**A mountain from which hot melted rocks, gas, steam and ash from inside the Earth, burst out**

Here are images of volcanoes.

Describe what you can see.

What makes volcanoes erupt?

Volcanoes (video 1)

vOLCANOES 2

Here is a volcano that has been cut in half.

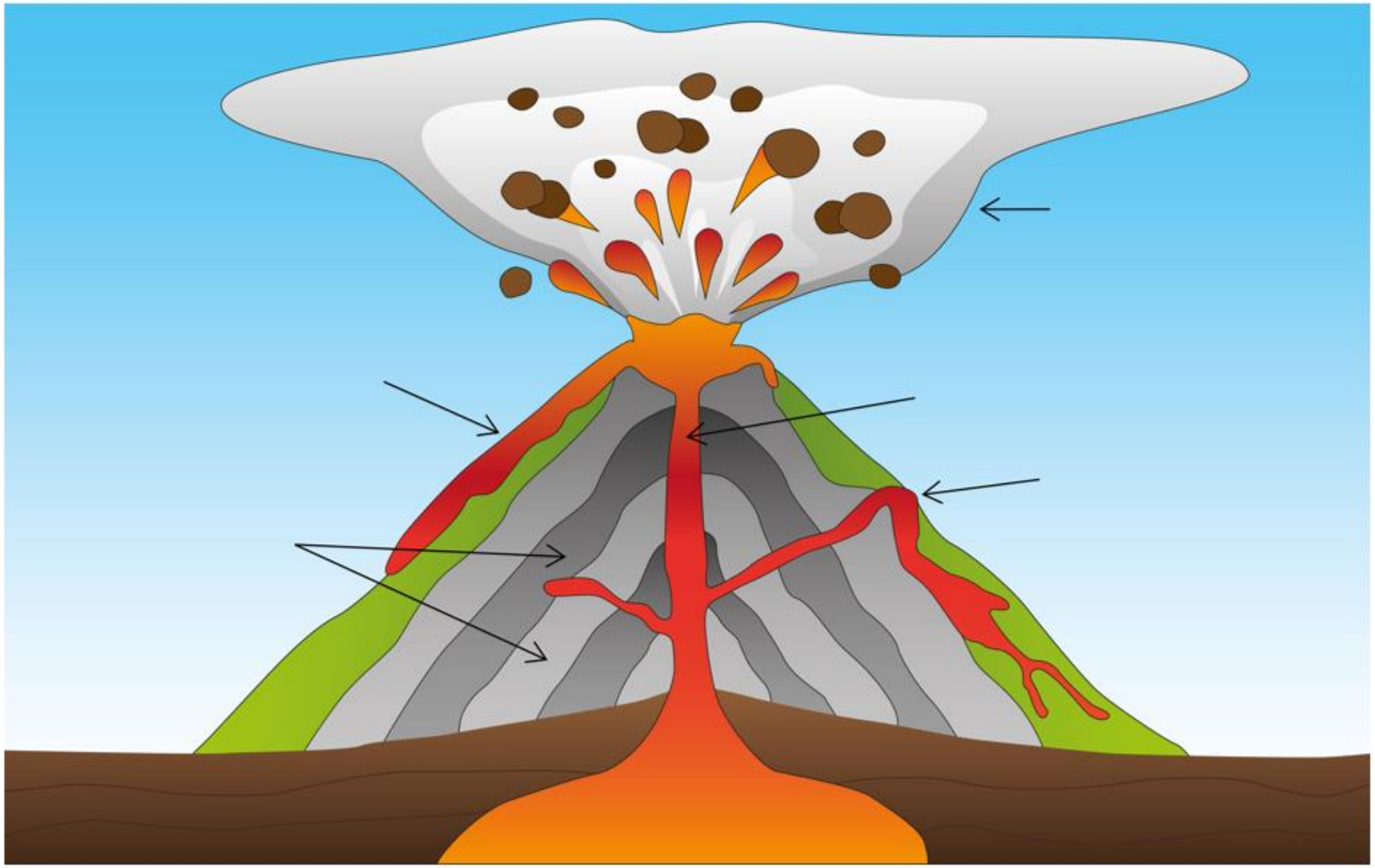
Describe what you can see.

Label the features of a volcano.

central vent

magma

old layers of lava



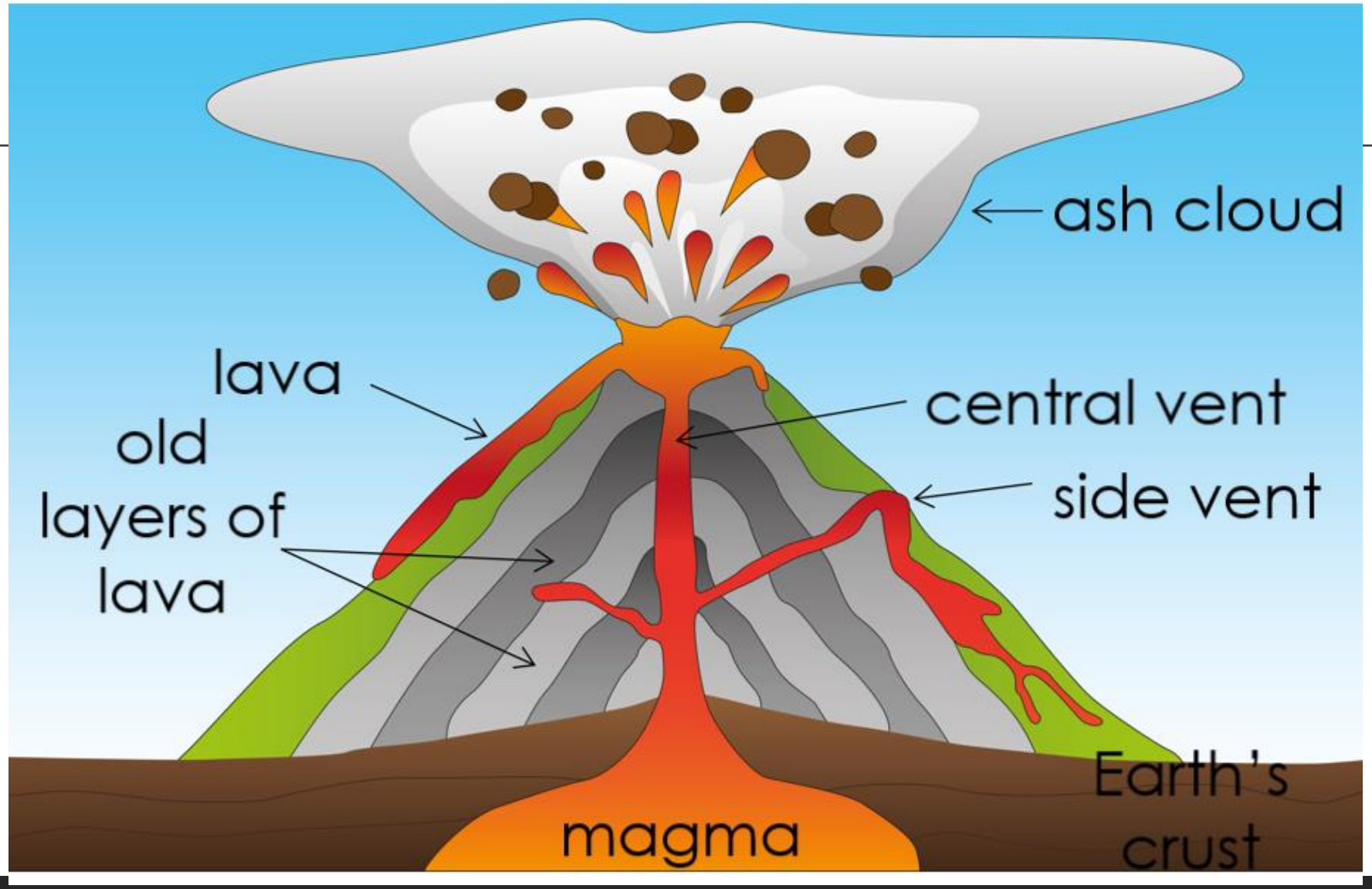
side vent

lava

Earth's crust

ash cloud

Answers Label the features of a volcano.



Can We Add To The Chain Of Knowledge?

What do we know now?

Order these sentences to explain the stages of a **volcanic eruption**.

A **Magma** may also be pushed through **side vents**, which can cause the volcano to erupt sideways.

B **Lava**, **ash** and **volcanic bombs** (flying rocks) are ejected from the **crater**. It's an eruption!

C A number of **earthquakes** may be the first sign that an eruption is about to happen.

D **Lava** flows down the side of the volcano and eventually sets hard. This adds more height to the volcano.

E The pressure builds underground and hot **magma** is forced upwards through the **central vent**.

Answers

Order these sentences to explain the stages of a **volcanic eruption**.

C A number of **earthquakes** may be the first sign that an eruption is about to happen.

E The pressure builds underground and hot **magma** is forced upwards through the **central vent**.

A **Magma** may also be pushed through **side vents**, which can cause the volcano to erupt sideways.

B **Lava**, **ash** and **volcanic bombs** (flying rocks) are ejected from the **crater**. It's an eruption!

D **Lava** flows down the side of the volcano and eventually sets hard. This adds more height to the volcano.

Glossary Game

Match the vocabulary from this lesson to its definition.

magma	Molten rock that flows out of a volcano.
ash cloud	A sudden ejection of substances from a volcano.
lava	A route through the Earth's crust to the surface.
central vent	Molten rock underground.
eruption	Tiny particles of rock ejected from a volcano into the air.

Answers

Glossary Game

Match the vocabulary from this lesson to its definition.

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A VOLCANIC ERUPTION FLIPBOOK

You are going to create a flipbook to show how a volcano erupts.

Can We Add To The Chain Of Knowledge?

What do we know now?

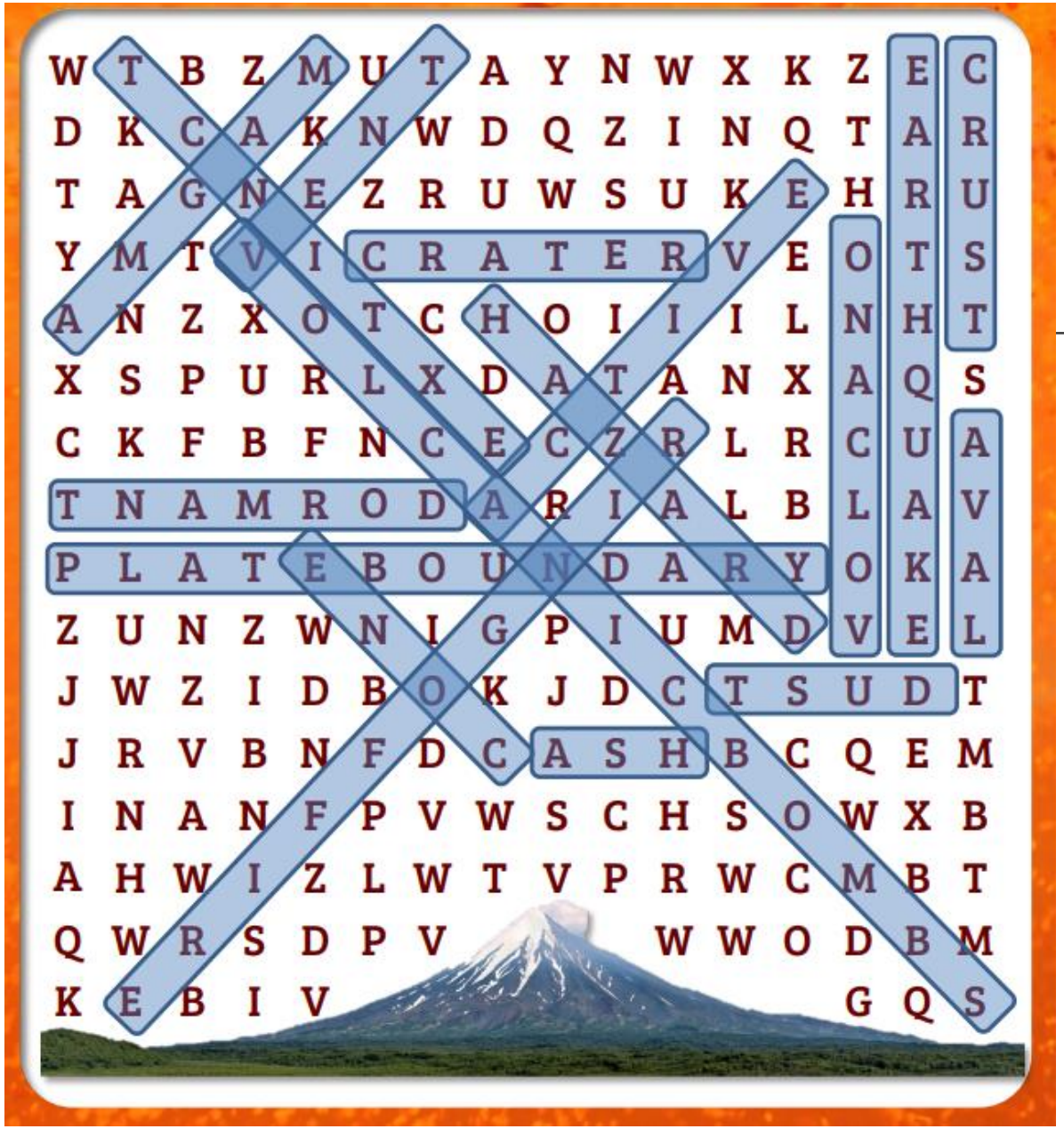
Famous Volcanoes

Volcano word search

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

Can you find these words in the word search?

Lava Active Ash Dust Cone Crater Volcano
Vent Crust Dormant Earthquake Extinct
Hazard Magma Plate boundary
Ring of fire Volcanic bombs


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

Atlas Skills

Here are the names of some of the world's most famous volcanoes.

Can you match them to the correct continent?

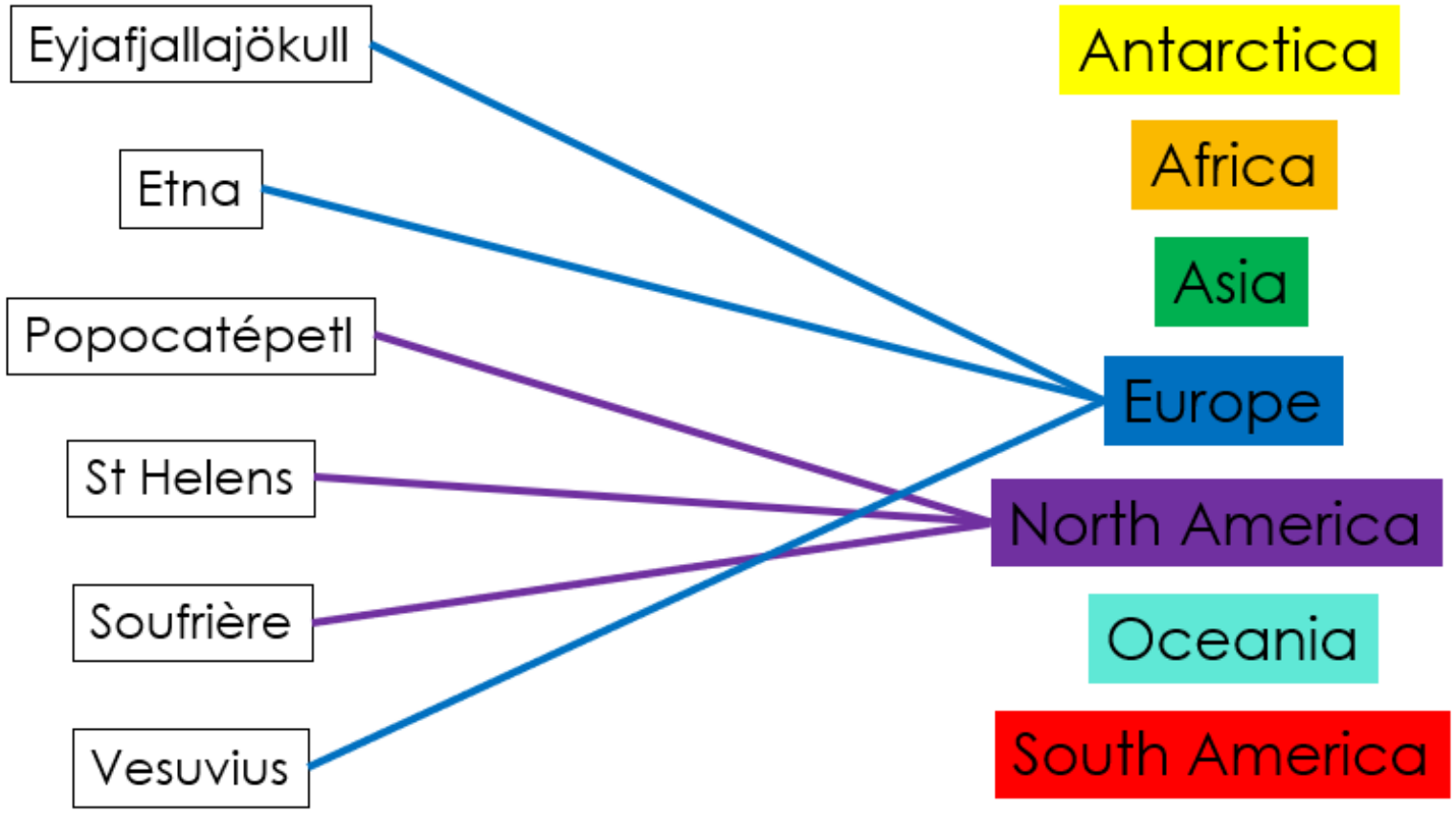
- Eyjafjallajökull
- Etna
- Popocatépetl
- St Helens
- Soufrière
- Vesuvius

- Antarctica
- Africa
- Asia
- Europe
- North America
- Oceania
- South America

Atlas Skills - Answers

Here are the names of some of the world's most famous volcanoes.

Can you match them to the correct continent?



Locate each of the famous volcanoes on the map.

Eyjafjallajökull

Etna

Popocatépetl

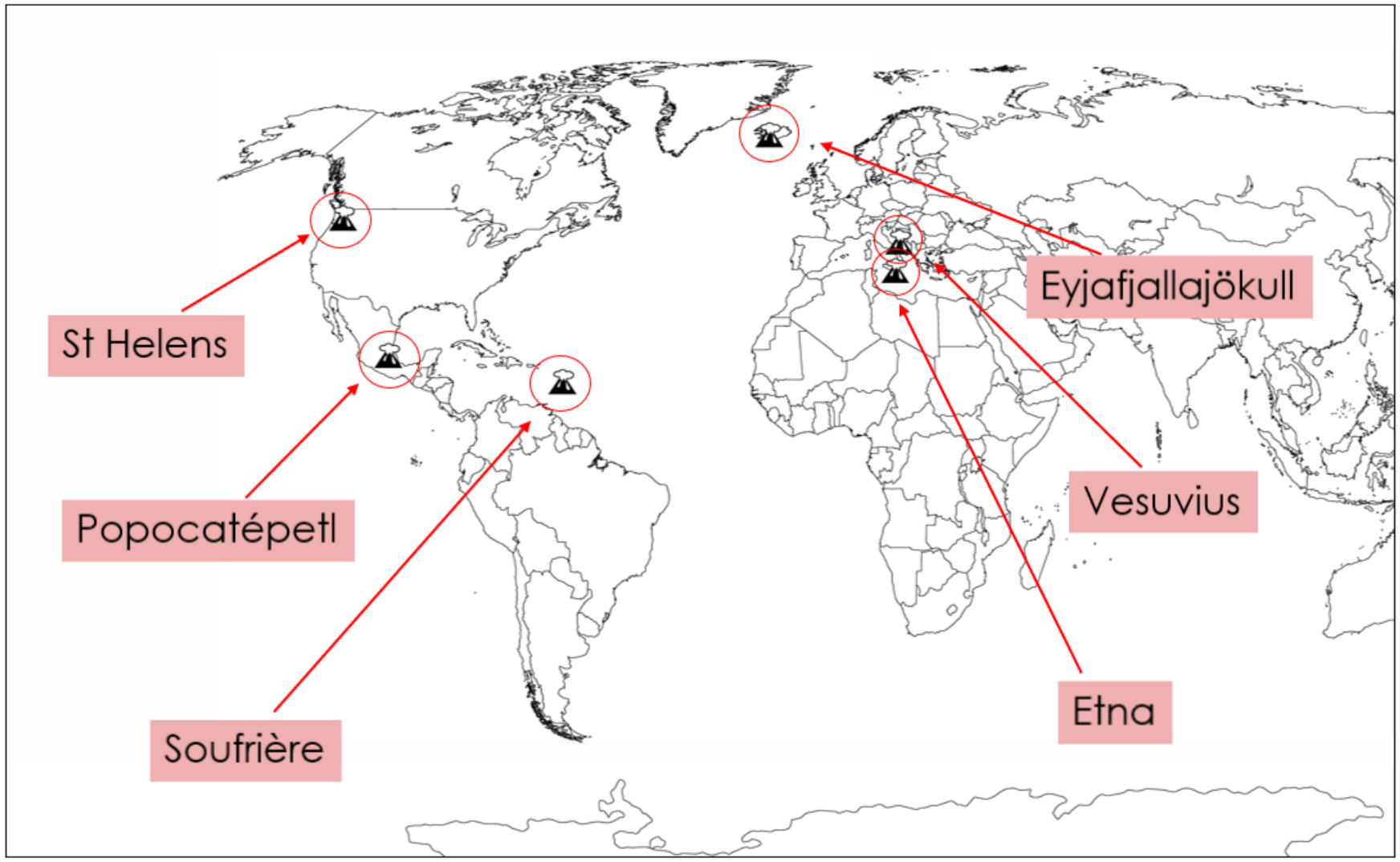
St Helens

Soufrière

Vesuvius

Answers

Locate each of the famous volcanoes on the map.



Can We Add To The Chain Of Knowledge?

What do we know now?

Challenge Question

How could a volcanic eruption effect the surrounding settlements (towns, cities and villages)?

You could consider:

Volcanic ash	Gases	Lava flow	Explosion
• It covers plants, leaving animals with nothing to eat and destroying crops.	• It can cause breathing difficulties for people and animals. • Poisonous gases kill people and animals living on or close to the mountain.	• Homes and schools, businesses and roads may be destroyed.	• A tsunami (giant wave) may be triggered by the collapse of an island volcano.

When you use a key geographical word – underline it in green pencil!

WALT: Explore Earthquakes

S2S

I can describe how earthquakes occur

I can name some famous Earthquakes

I can locate where earthquakes commonly occur

How do earthquakes happen?

What causes an earthquake?

The earth's crust is cracked into pieces called tectonic plates. These plates move around.

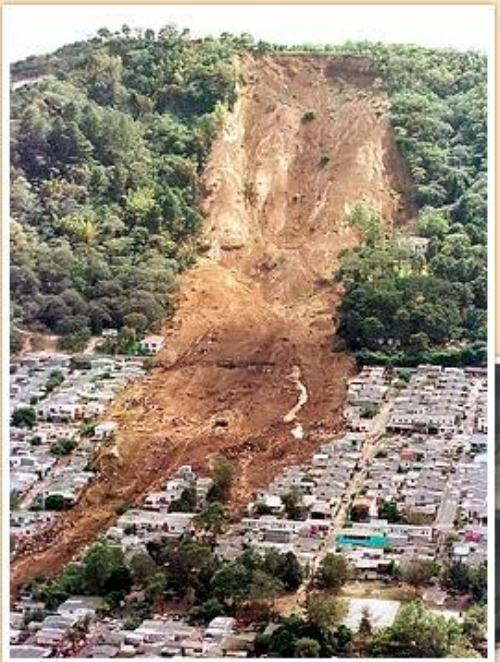
In some places they move apart form each other and in other places, they move together.

These movements are felt on the surface and they vary in size. Most are too small to be felt by humans and are measured using a sensitive machine called a seismometer. How big the earthquake is, is measured on the Richter scale.

Some earthquakes are large and can cause extensive damage to property and loss of life.

DISCUSS: What do you think the effects of an Earthquake are?

Landslides



Liquifaction

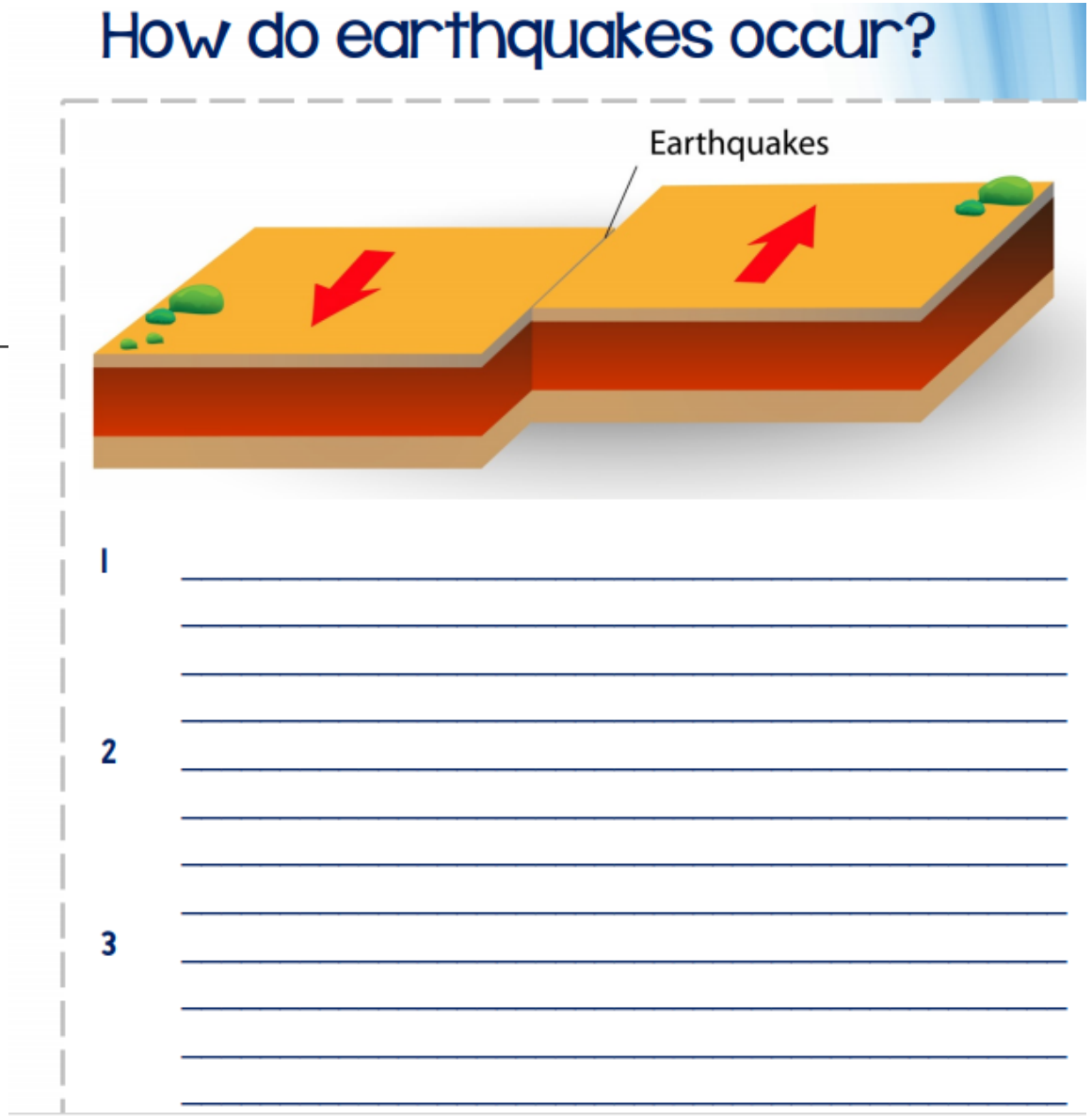
Damage to infrastructure

Homelessness

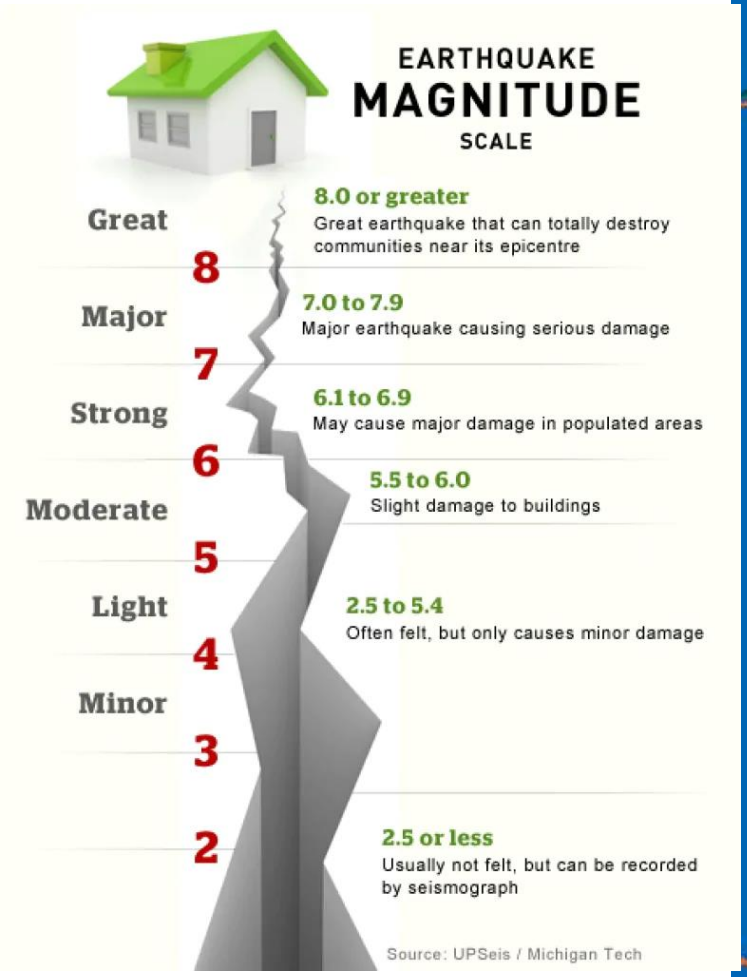
Tsunamis

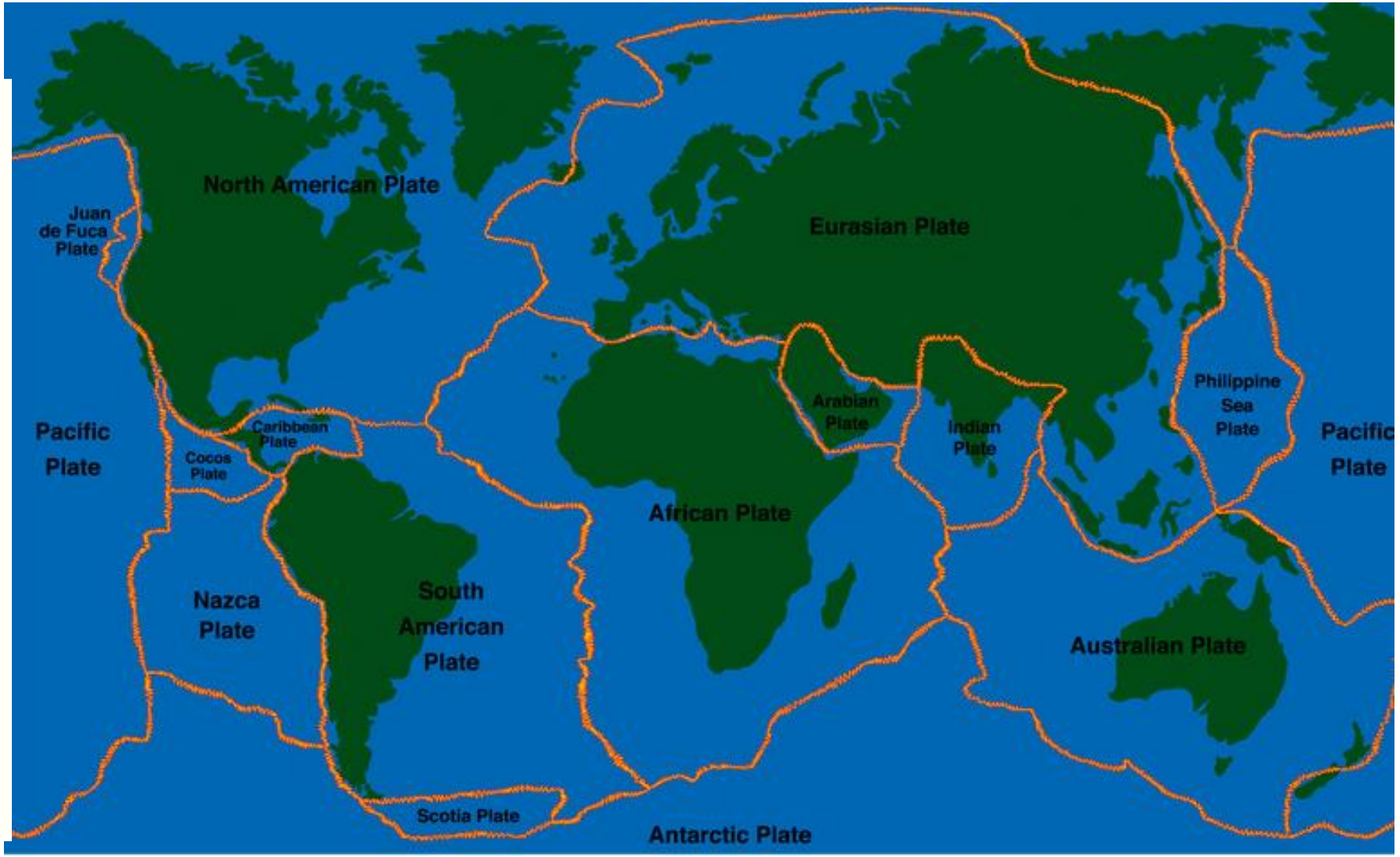
Challenge Question

What could we include?

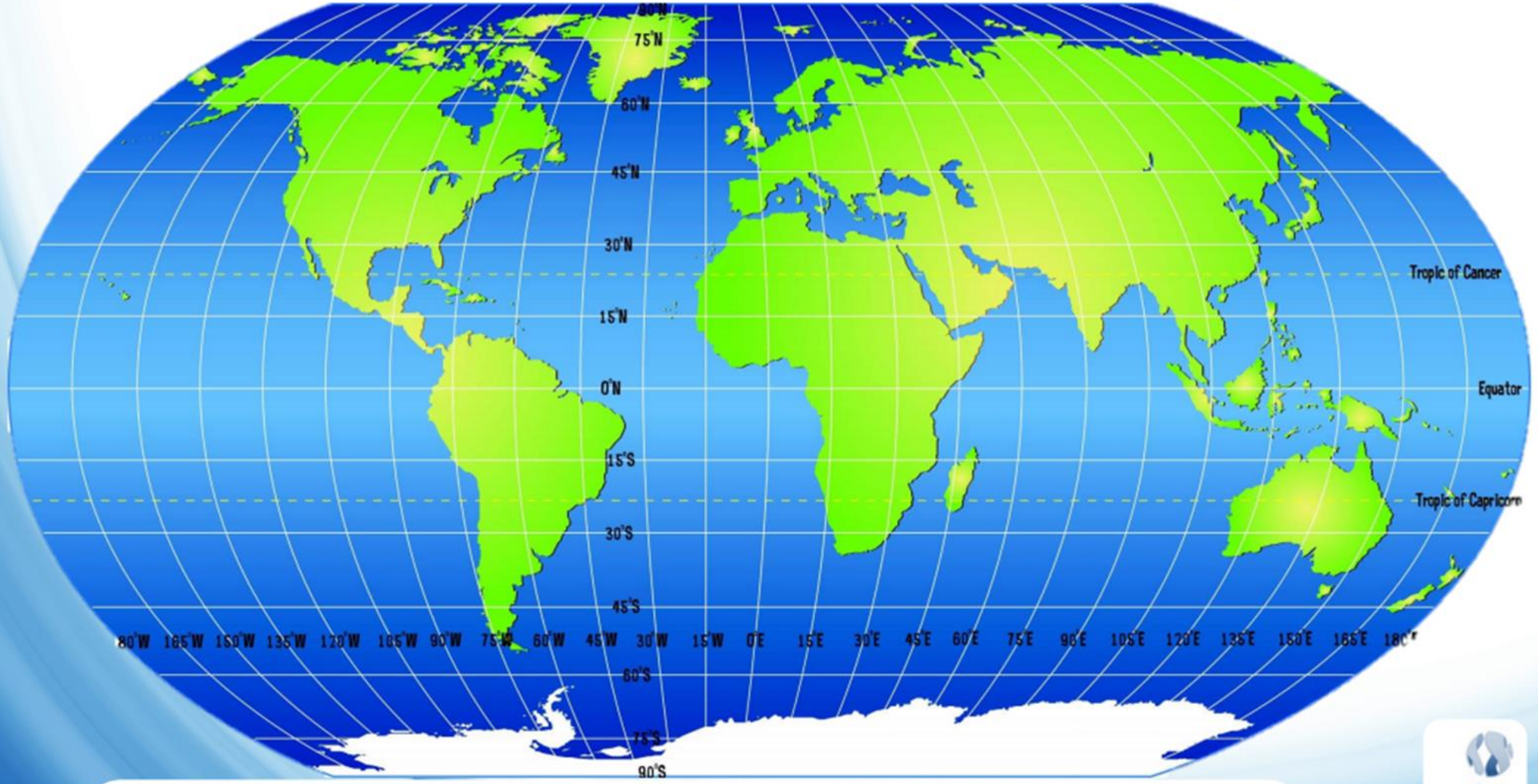


Where do Earthquakes occur?





Locating Famous Earthquakes



Can you locate these famous earthquakes on this world map using their latitude and longitude co-ordinates?

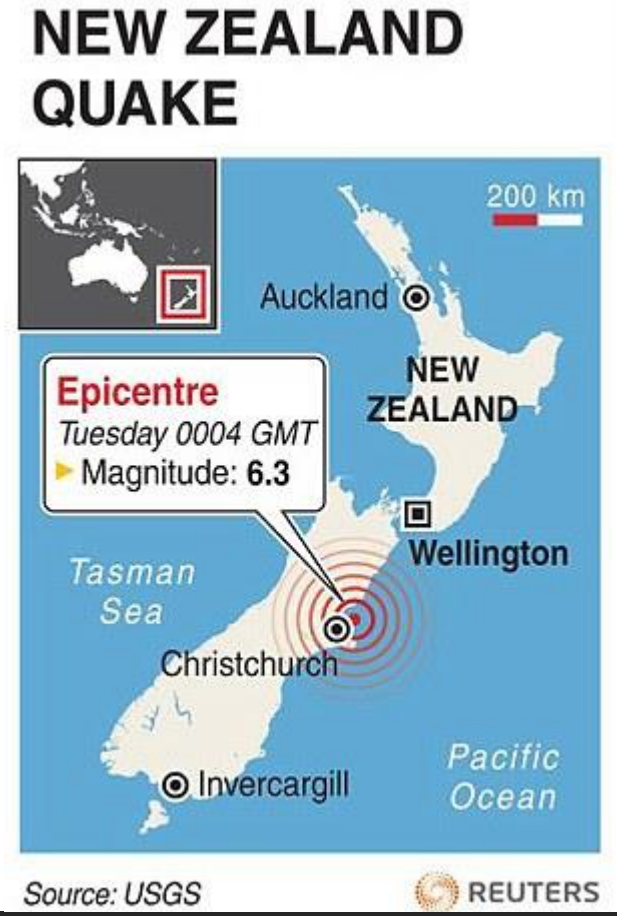
2011 Tohoku	32°N	142°E	1985 Mexico City	18°N	102°W	1908 Messina	38°N	15°E
2011 Christchurch	43°S	172°E	1976 Tangshan	40°N	118°E	1906 San Francisco	37°N	122°W
2010 Haiti	18°N	72°W	1964 Alaska	61°N	147°W	1755 Lisbon	36°N	11°W
2010 Chile	32°S	70°W	1960 Valdivia	38°S	73°W	1556 Shaanxi	34°N	109°E
2004 Indian Ocean	3°N	95°E	1952 Kamchatka	53°N	160°E	1138 Aleppo	36°N	37°E

Using the printed map – try to locate the earthquakes listed below

Ext: Choose 2 earthquakes and describe their location (include compass points, longitude, hemispheres etc

Christchurch Earthquake – case study

Christchurch information



Earthquakes plenary

1. Tick 'true' or 'false' for the statements below.

Statements	True	False
The Earth's crust is made up of giant pieces called plates.		
Most earthquakes occur at plate boundaries.		
An earthquake is when the ground erupts.		

Circle the correct answer.

2. A tsunami is…

a) the centre of a tropical storm.

b) a giant wave created by an earthquake under the sea.

c) a Japanese earthquake.

3. A seismometer measures…

a) the height of buildings left standing after a quake.

b) the length of faults in the sea bed.

c) the strength of an earthquake.

4. An earthquake drill is…

a) a set of instructions used to protect people.

b) something used to rescue people trapped under rubble.

c) the sound an earthquake makes in a city.

5. Complete the sentence using these words:

earthquake powerful seismometer when

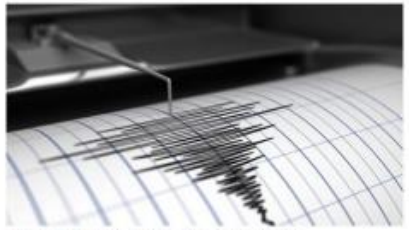


Image Credit: Petrovich9/Thinkstock/Getty Images

This is a ..... It records ..... an .....

takes place and tells us how ..... it was.

Answers

Part A

1. Tick 'true' or 'false' for the statements below.

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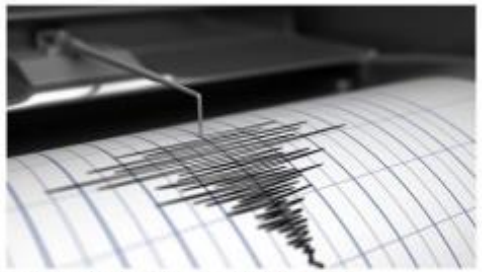

Image Credit: Petrovich9/Thinkstock/Getty Images

This is a *seismometer*. It records *when* an *earthquake* takes place and tells us how *powerful* it was.

Can We Add To The Chain Of Knowledge?

What do we know now?

Self Assessment

I can statements	Traffic Lights	Justify (can you answer the I can statements?)
I can describe how earthquakes occur		
I can name some famous Earthquakes		
I can locate where earthquakes commonly occur		