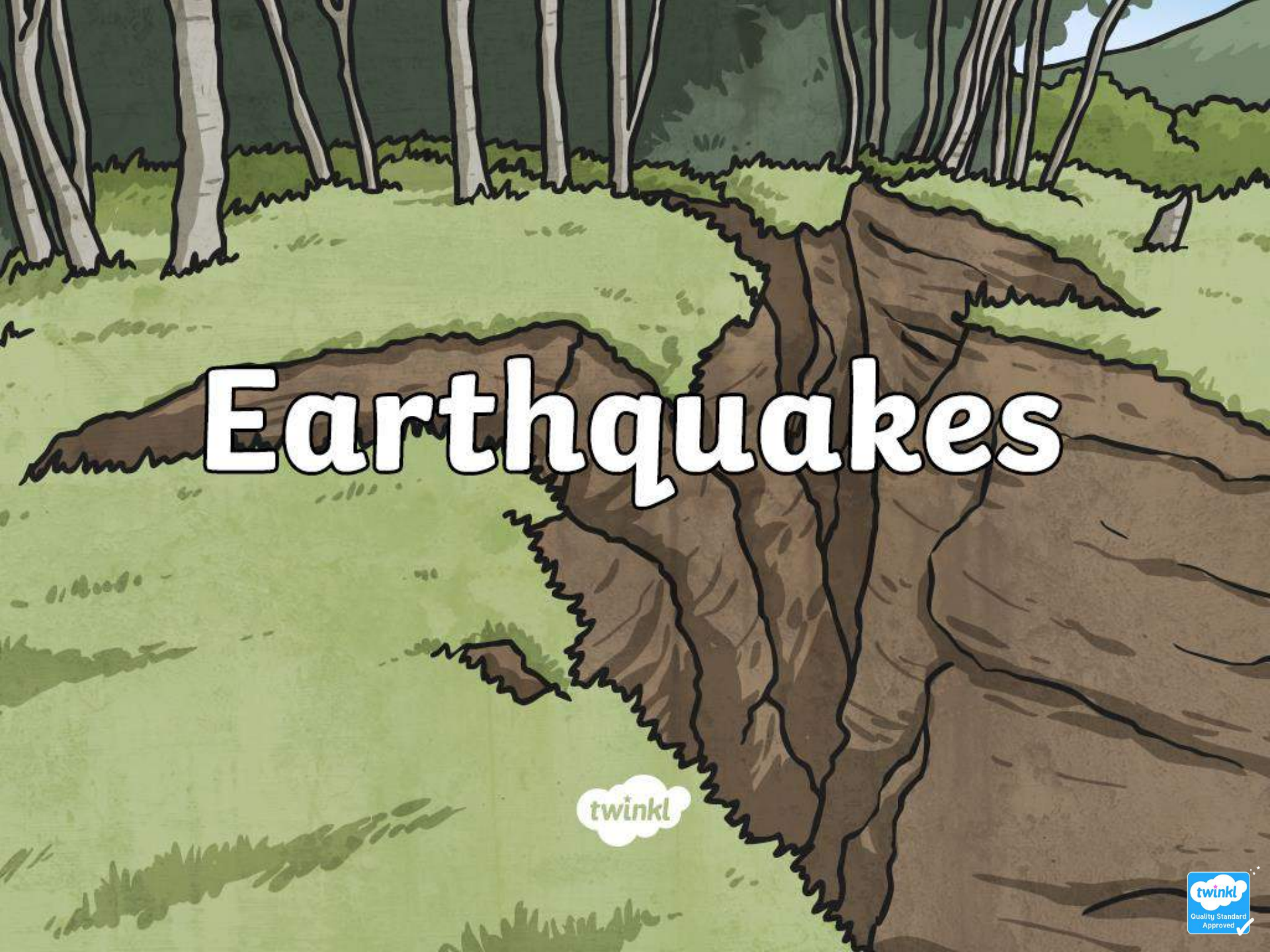

Earthquakes
twinkl
twinkl
Quality Standard
Approved

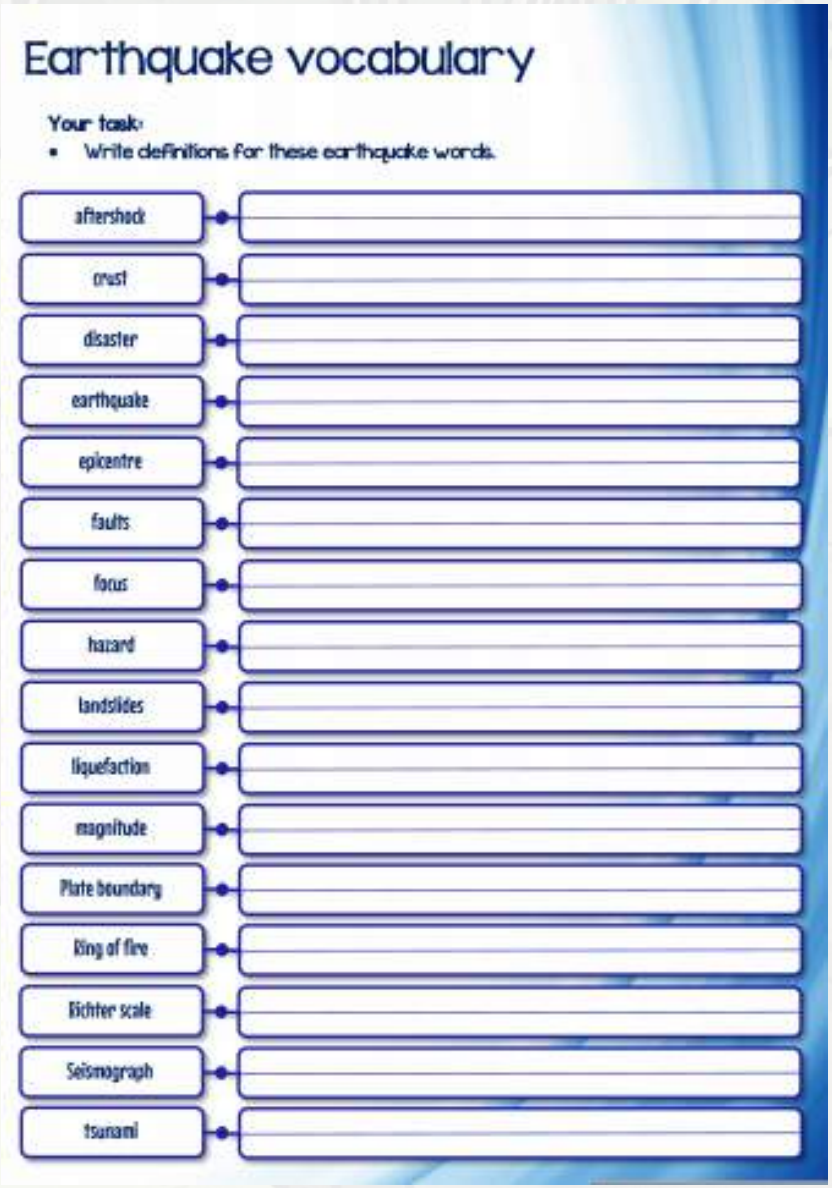
Watch the Video and Listen out for any Technical Vocabulary.

https://video.nationalgeographic.com/video/101-videos/00000144-0a2d-d3cb-a96c-7b2d6cd80000

twinkl.co.uk

Task 1

Look up the Definition of these Earthquake Words.



Earthquake vocabulary

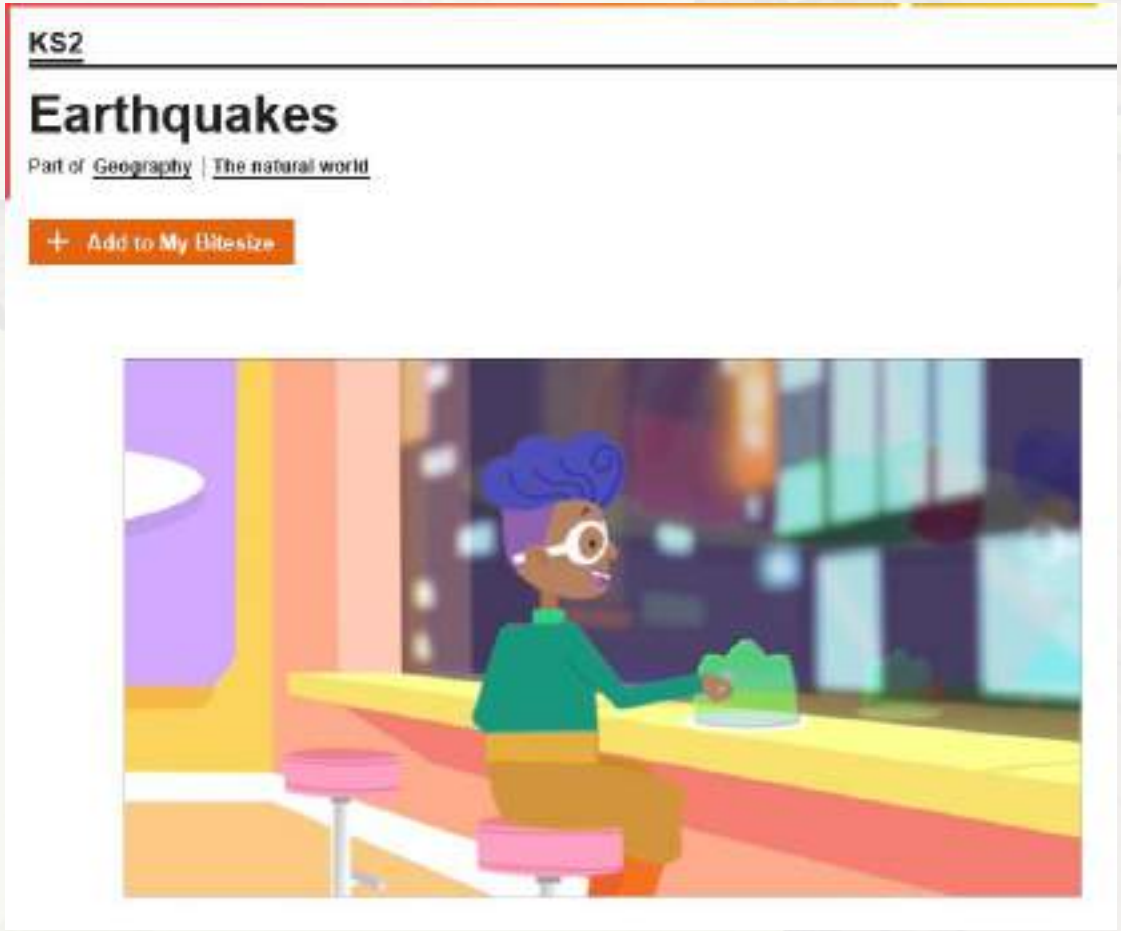
Your task:

- Write definitions for these earthquake words.

aftershock	
crust	
disaster	
earthquake	
epicentre	
faults	
focus	
hazard	
landslides	
liquefaction	
magnitude	
Plate boundary	
Ring of fire	
Richter scale	
Seismograph	
tsunami	

twinkl.co.uk

Go to the BBC Bitesize Website To Watch this Short Video.
https://www.bbc.co.uk/bitesize/topics/z849q6f/articles/zj89t39



twinkl.co.uk

The Earth's Crust

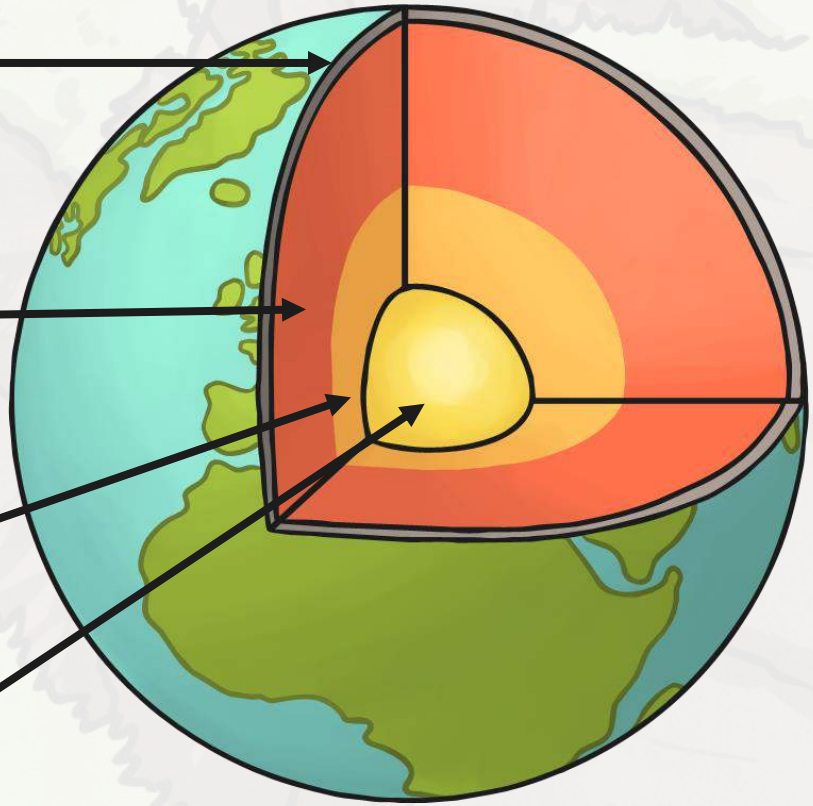
The Earth has four layers:

The crust: This is the outermost layer. The land we stand on is not just one solid piece. It is made of many pieces called plates. These plates fit together like puzzle pieces.

The mantle: This the widest part. It is extremely hot and is consists of semi-molten magma.

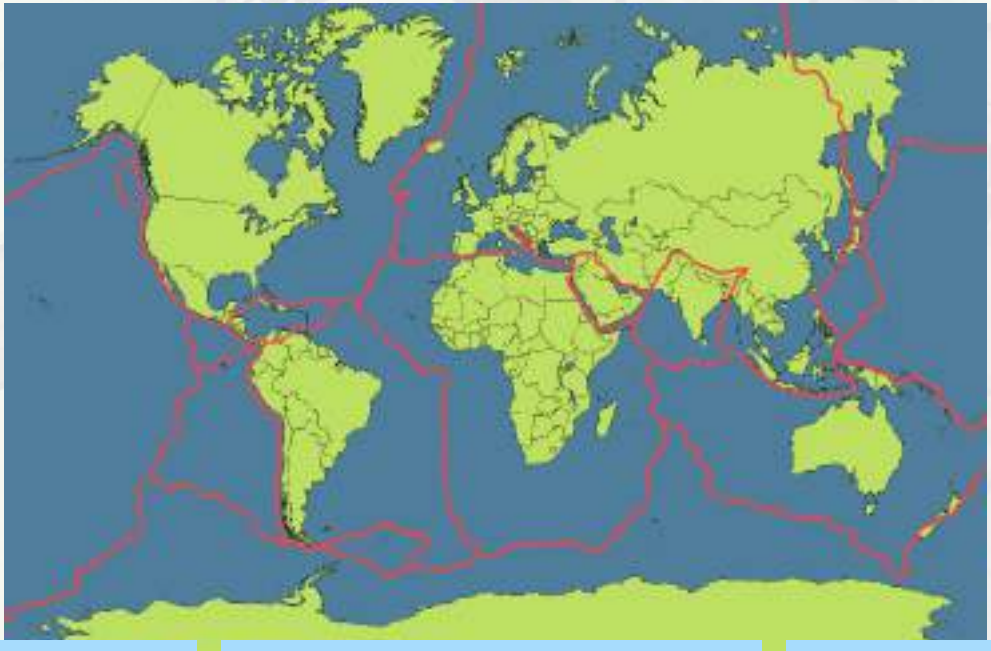
The outer core: This area is made of iron and nickel. It is very hot!

The inner core: This is the warmest layer. Temperatures can reach 5,500°C.



twinkl.co.uk

The Earth's Plates



The Earth's plates are always moving. They move so slowly that we usually can't feel it.

The edges of plates are called faults. Faults can rub together, push toward each other, or pull away from each other.

Have a look at the Earth's plates. What do you notice about where New Zealand is?

twinkl.co.uk

Where do Earthquakes Occur?

Look at the map. Earthquakes happen frequently in these areas. What do you notice about where they happen?

twinkl.co.uk

Task 2
Can you Identify the Missing Words in Each Sentence?

Check your answers once you've finished.
How did you do?

Understand plate tectonics and how earthquakes happen

volcanoes	faults	moving	joined	plates
seismograph	tectonics	earthquakes	mountains	

1) The Earth's continents are slowly _____.

2) The Earth's crust is split into different pieces called _____.

3) 200 million years ago the continents were all _____ to each other.

4) The idea that Earth's crust is split into pieces is called plate _____.

5) Where the plates collide, they form _____.

6) Where one plate slides under another, _____ form.

7) When two plates lock together, then break free, there are _____.

8) Where plates meet, these lines are called _____.

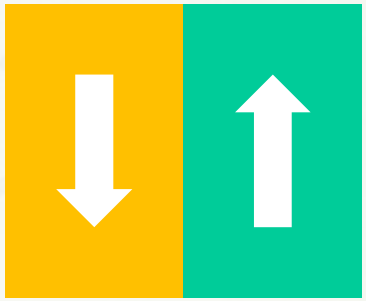
9) Scientists record waves from earthquakes on a _____.

twinkl.co.uk

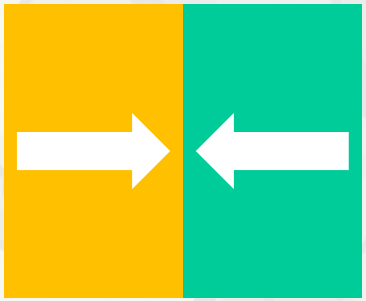
How the Plates Move?

Look at the different ways the plates move around?

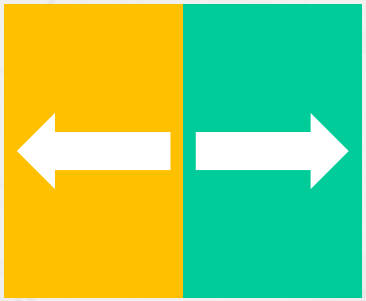
Rubbing together



Towards each other



Away from each other

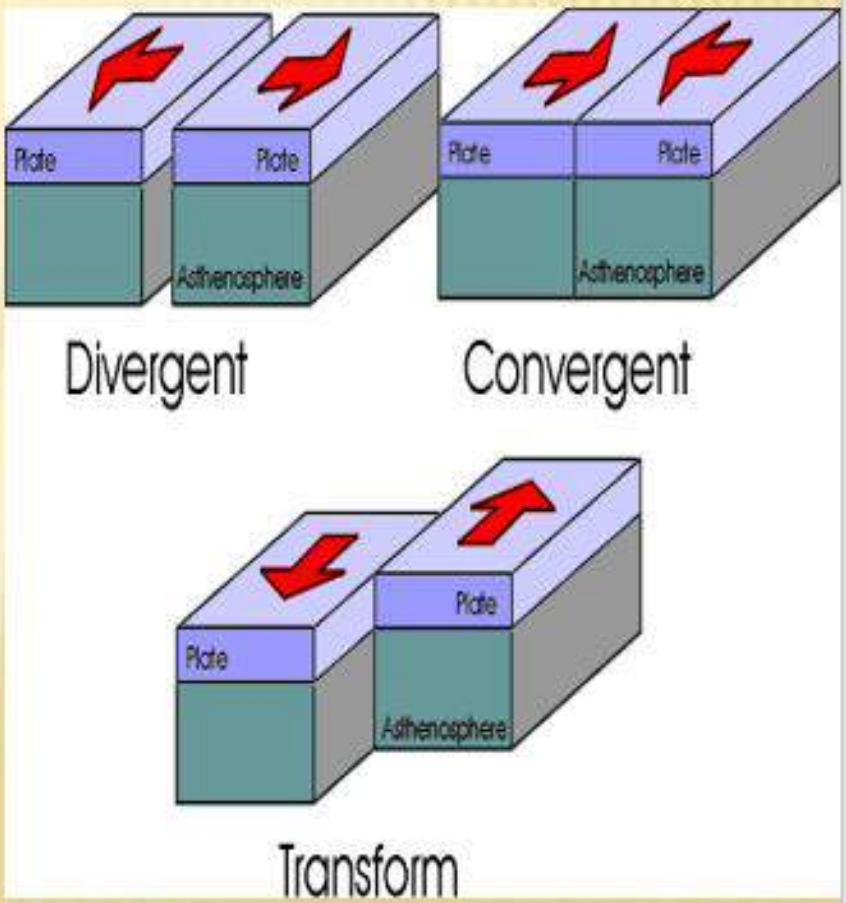


This kind of movement causes earthquakes.

twinkl.co.uk

HOW TECTONIC PLATES MOVE

- Plates can
- diverge
- converge
- transform



twinkl.co.uk

Task 3
Can you Draw 3 Diagrams Describing the Plates Movements?

How plates move

The edges, or boundaries, of tectonic plates meet up in different ways. There are three main types of boundaries: transform, convergent, and divergent. At transform boundaries, plates move past each other. This is one of the most common causes of earthquakes. At convergent boundaries, plates move towards each other. They can push together and cause mountain ranges to form. At other times, one plate gets pushed down beneath the other plate. This can cause volcanoes. At divergent boundaries, plates move apart from each other. When this happens, new plate material forms.

Challenge yourself to use the technical vocabulary you have learnt.

twinkl.co.uk

Preparing for an Earthquake

Plan	Practise	Find Safe Places
You need to have an emergency plan at home and school. Have your survival kit or getaway kit ready to go.	At school we practise our emergency drills, we need to do this at home too. Remember: COVER, DROP, HOLD!	Before an earthquake make sure you know where the safe places are – under a strong table, away from glass, in a doorway, near a wall...

twinkl.co.uk

Preparing for an Earthquake

No one can predict when an earthquake will occur. You need an emergency plan and an emergency survival kit.

Packing an Emergency Kit:

Include the following items:

- plenty of water;
- a torch and spare batteries;
- emergency whistles;
- spare shoes and clothes;
- a first aid kit;
- a battery operated radio.

What else could you include in an emergency kit?

twinkl.co.uk

Task 4

Your task

Your Task is to design your own kit, remember, these supplies should be able to help you and your family survive for 3-5 days following an earthquake.

twinkl.co.uk

Earthquake Survival Kit

Draw the items you think you will need to help your family survive for 3–5 days.

Write a short explanation of the item, explaining its importance.

twinkl
Quality Standard Approved

During an Earthquake

Inside	Outside
Drop, cover and hold, stay away from windows. Do not try to run out of the building during strong shaking, hold tight until the shaking stops.	Drop, cover and hold, try to move away from buildings, trees, power lines and street lights. If you are near a beach, when the shaking stops, go to higher ground in case of a tsunami.

twinkl.co.uk

After an Earthquake

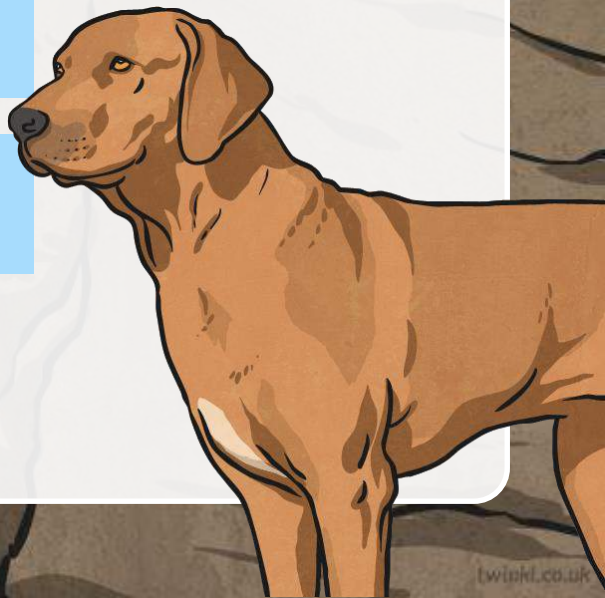
Listen to the radio for information.

Be aware of aftershocks.

Get help if you need it, see if you can help others.

Try to get outside if the building you are in is damaged.

Look after your pets, they will be scared too!



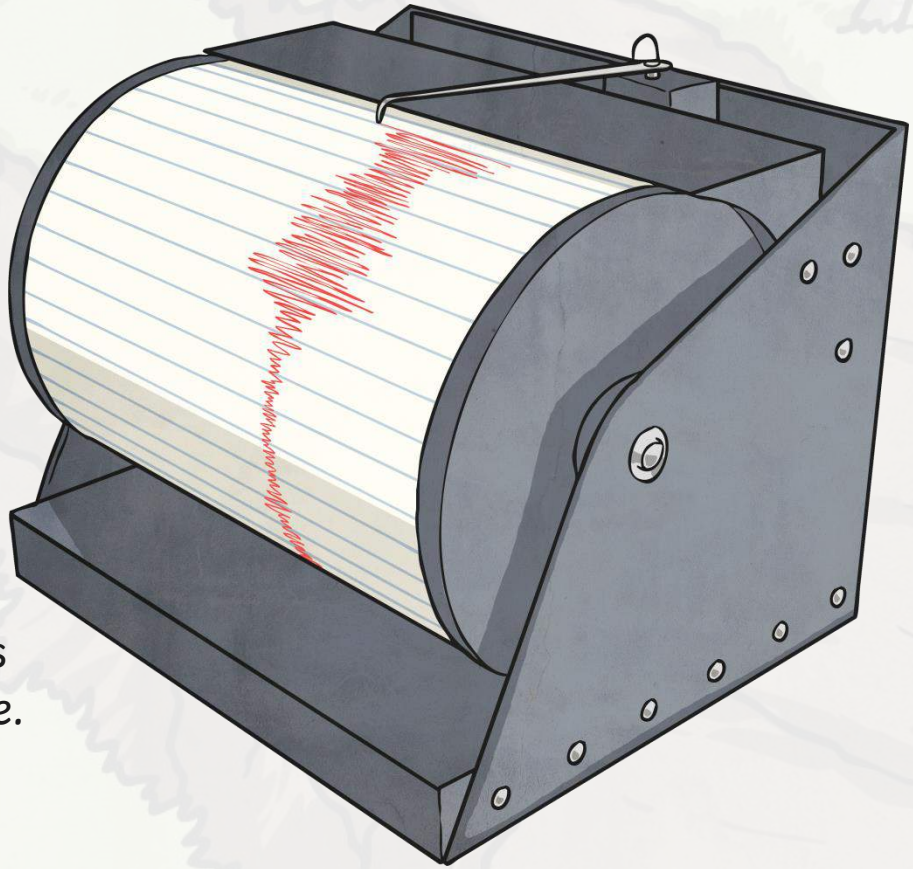
twinkl.co.uk

How Strong Is It?

There are two main ways to measure the power of an earthquake.

Machines called seismographs measure the power of an earthquake at its epicentre on a scale called the Richter scale.

Another measure is the Mercalli scale, and this is based on people's observations during an earthquake.



twinkl.co.uk

The Richter Scale

0-2.0	Not measured, not felt.
2.1-2.9	Measured, but not felt.
3.0-3.9	Sometimes felt, no damage caused.
4.0-4.9	Light shaking of items, little damage, if any.
5.0-5.9	Slight structural damage possible.
6.0-6.9	Potential for destcructive tremors.
7.0-7.9	Serious damage over large areas.
8.0-8.9	Devastating damage over huge areas.
9.0-10	Extreme destruction.

twinkl
Quality Standard Approved
twinkl.co.uk

Comparing Earthquakes

Mercalli Intensity	Effect
I	Felt by no one.
II	Felt by very few people. Hanging objects may swing.
III	Felt by many but they don't realise it is an earthquake.
IV	Felt indoors by most people. Vibrations similar to a lorry hitting a building.
V	Felt by nearly everyone. Sleeping people may be woken. Trees and telegraph poles sway.
VI	Felt by all. People run outside. Furniture moves. Slight damage to property.
VII	Felt by all. People run outside. Moderate damage to buildings
VIII	Specially designed buildings damaged, others collapse.
IX	All buildings damaged. Cracks appear in ground.
X	Many buildings destroyed.
XI	Almost all buildings destroyed. Wide cracks in the ground. Water, gas and electric out of action.
XII	Total destruction. The ground moves in waves or ripples.

twinkl.co.uk

Additional Task

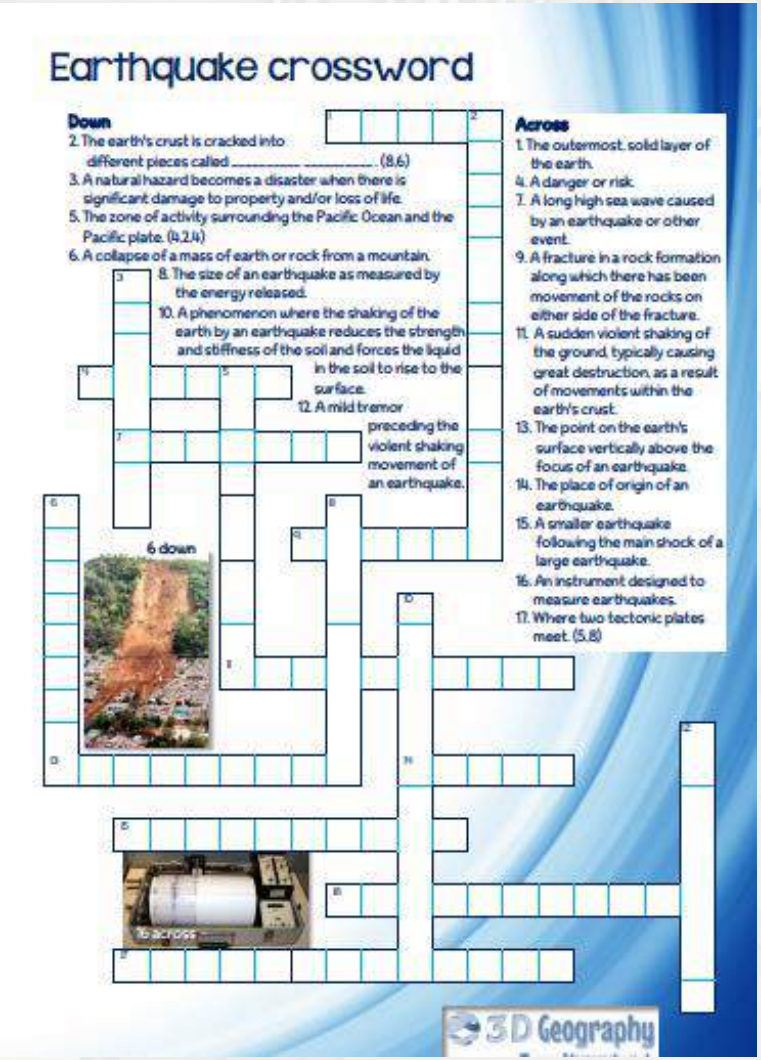
Can you cut out and match The Richter Scale description To the Mercalli intensity scale?

The answers are provided, BUT don't peek too soon!

Richter Scale	Mercalli Scale
Strong - moderate damage in populated areas	**VII –** bricks and tiles fall. People find it difficult to stand up
Great - severe destruction and loss of life over large areas	**IV –** felt indoors by a few people. Rattling of windows and doors
Micro - generally not felt by people, but recorded on local instruments	**IX –** general panic. Many buildings collapse and some pipes break
Minor - felt by many people; no damage	**VI –** felt by all people. Ornaments, pictures and books fall
Moderate - some damage to weak structures	**V–** felt by most people. Liquids spill from glasses and bowls
Light - felt by all; minor breakage of objects	**VIII–** wooden buildings collapse. Many people are very frightened
Major - serious damage over large areas; loss of life	**X –** many well-built structures destroyed. Large landslides

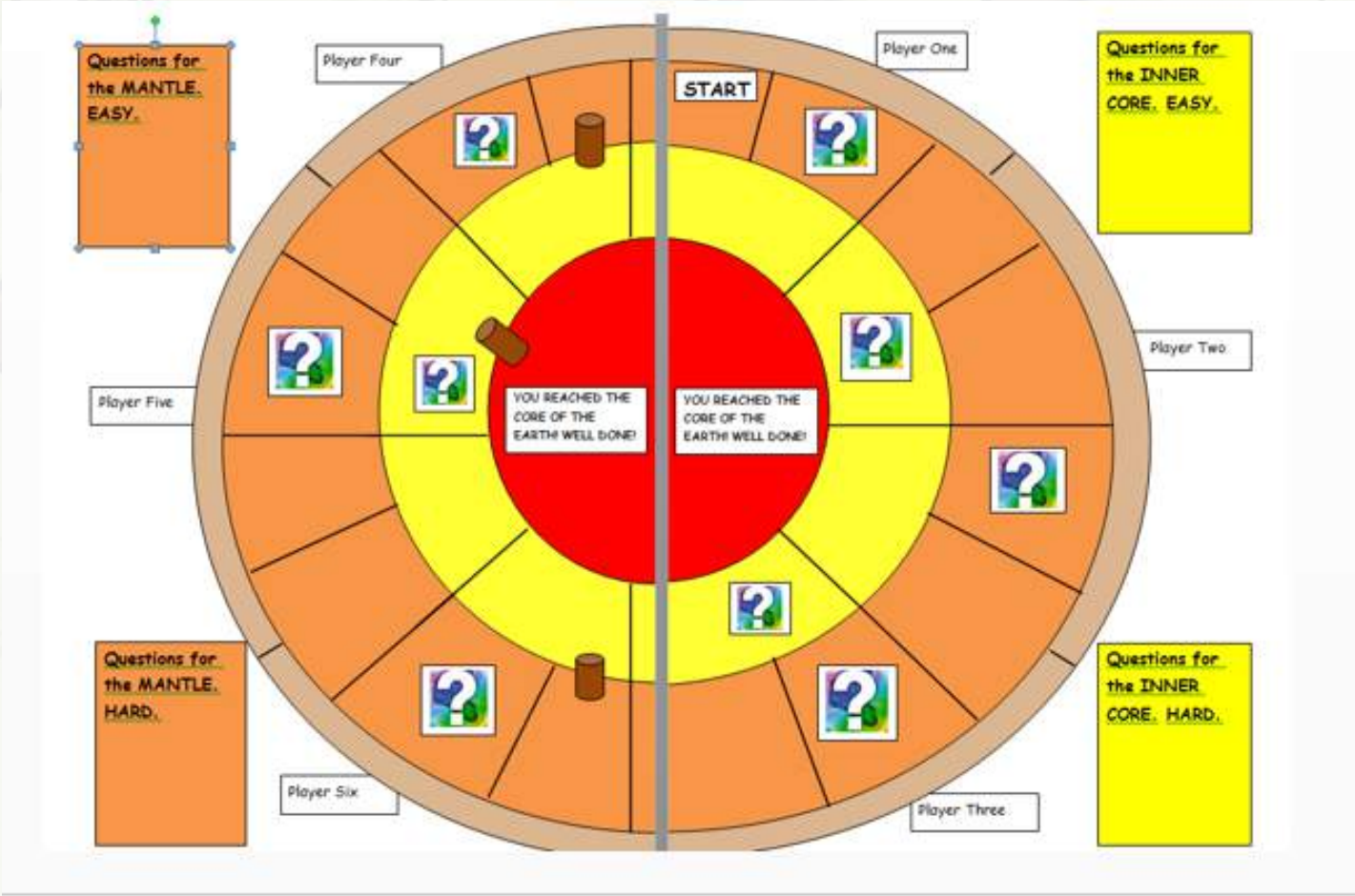
twinkl.co.uk

If you Have Time, Complete the Crossword!



twinkl.co.uk

Make and Play



twinkl.co.uk

Rules

You need to roll a six to get onto the start.

Go round the board game in a clockwise direction

When you land on a question card you must choose to a card from the layer you are on e.g. if your counter is in the mantle then you choose a mantle card.

The winner is the first to reach the Inner Core.

Question Cards

You can pick either a 'hard' question or an 'easy' question.

If you pick a **'hard'** question: If you get the question right you go forward 2 spaces but if you get it wrong you go back 2 spaces.

If you pick an **'easy'** question: If you get the question right you go forward 1 space but if you get it wrong you go back 1 space.

Key

A drill hole: This means you go down to the layer of the earth.

Pick up a question card.

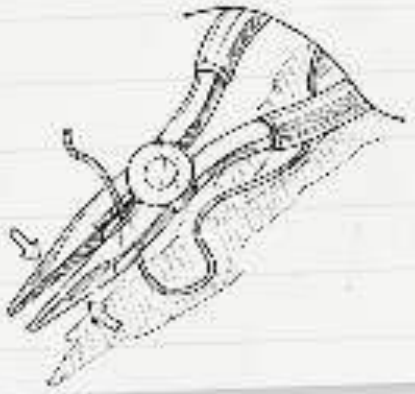
twinkl.co.uk

The Spaghetti and Marshmallow Challenge

See the Next Few Slides for Tips

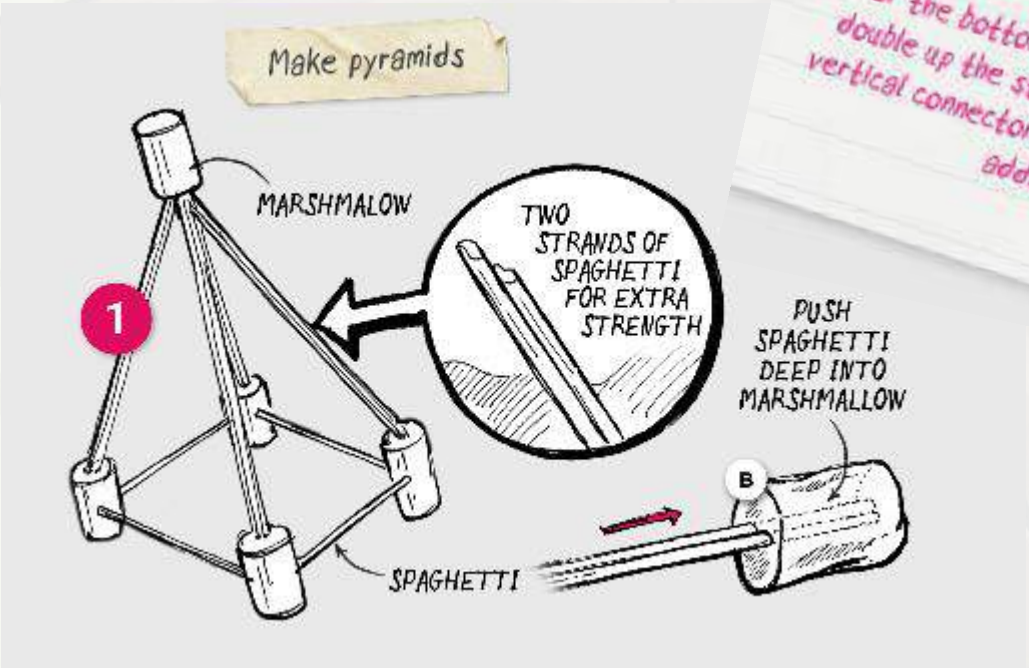
Materials

- 1 x packet of spaghetti
- 2 x large packets of marshallows
- Lots of patience!



twinkl.co.uk

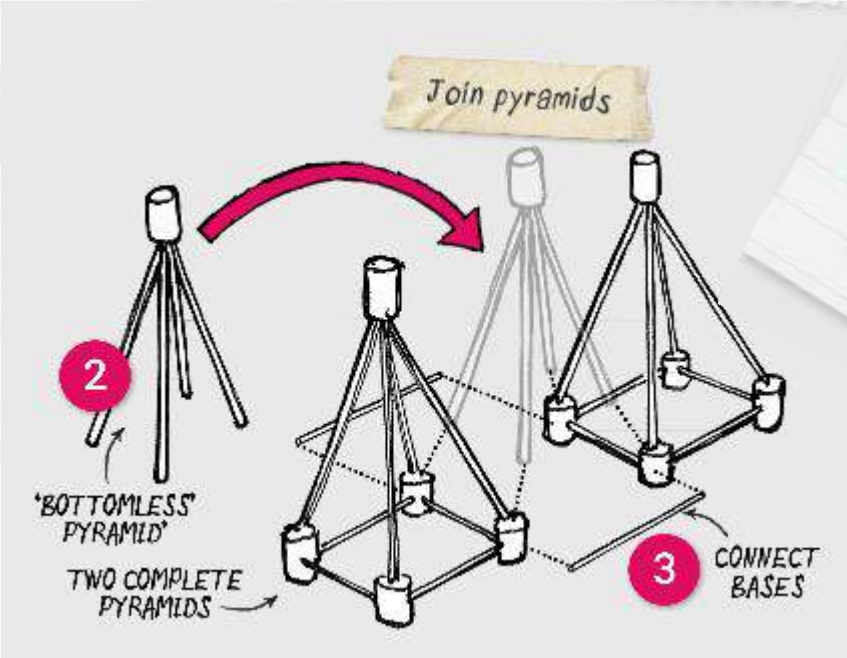
The Spaghetti and Marshmallow Challenge



twinkl.co.uk

The Spaghetti and Marshmallow Challenge

Who can Make the Tallest Tower?



twinkl.co.uk


twinkl