

# Revision Checklist – Restless Earth 1

	Revised for homework? (1)	Revised for homework? (2)	Revised in lesson?
Distribution of earthquakes and volcanoes.			
Structure of Earth.			
Tectonic plates.			
Convection currents.			
Plate margins: constructive, destructive, collision, conservative.			
Geographical skills.			



[Coordinates](#)



[OS maps](#)



[Grid references](#)



[Distance](#)



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[Writing tips](#)



[Revision tips](#)



# Knowledge Organiser – Restless Earth 1

## Distribution of Earthquakes and Volcanoes

### Knowledge

**Earthquakes** happen when the ground suddenly, intensely shakes.

**Volcanoes** are **places** where lava erupts from the ground.

**Volcanic eruptions** are the **times** when lava is erupting from the ground.

Most earthquakes and volcanic eruptions are distributed on **belts**.

Some of these belts are along the edges of continents. For example, the Pacific Ring of Fire is on the west coast of North America and South America.

Some of these belts are on the floor of the ocean. For example, the Mid-Atlantic Ridge is on the floor of the middle of the Atlantic Ocean.

However, some earthquakes and volcanoes are far from belts. For example, the Hawaiian volcanoes are in the middle of the Pacific Ocean, far from the nearest belt.



### Revision Questions

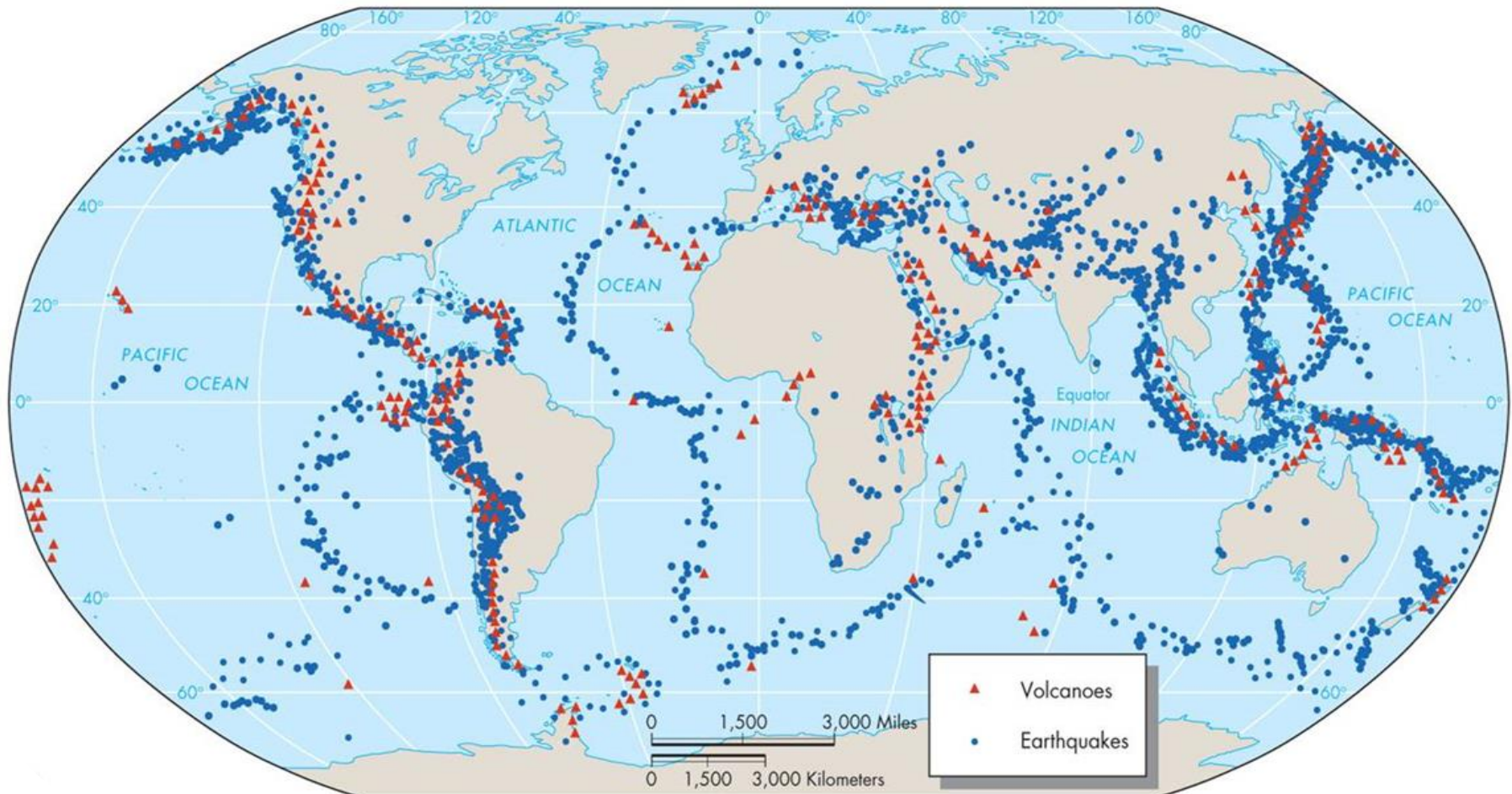
What is an earthquake?

What is a volcano?

What is a volcanic eruption?

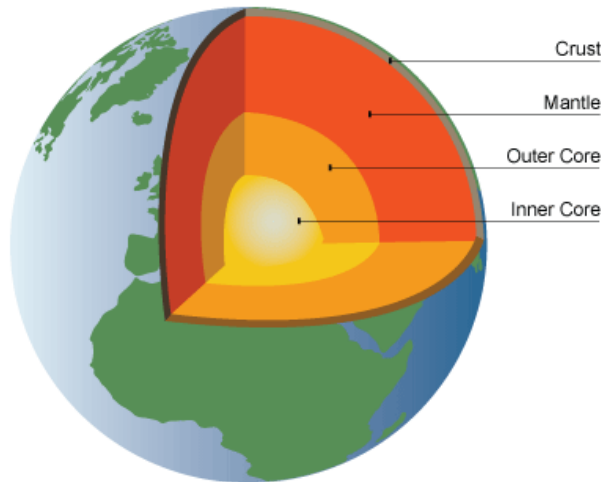
Describe the distribution of earthquakes and volcanoes.

## Distribution of Earthquakes and Volcanoes



## Structure of Earth

### Knowledge



### Revision Questions

How many layers is Earth made of?

What are the names of each layer?

What is the name of the layer in the centre?

What is the name of the layer on the edge?

**Crust**

**Mantle**

**Outer core**

**Inner core**

500 – 2000 °C.

4000 – 6000 °C.

Up to 7000 °C.

What is the temperature of each layer?

Made of solid rock.

Made of magma  
(semi-melted rock).

Made of liquid iron  
and nickel.

Made of solid iron  
and nickel.

What material is each layer made of?

5 – 100 km thick.

2900 km thick.

2300 km thick.

1200 km thick.

How thick is each layer?

## Tectonic Plates (1 / 2)

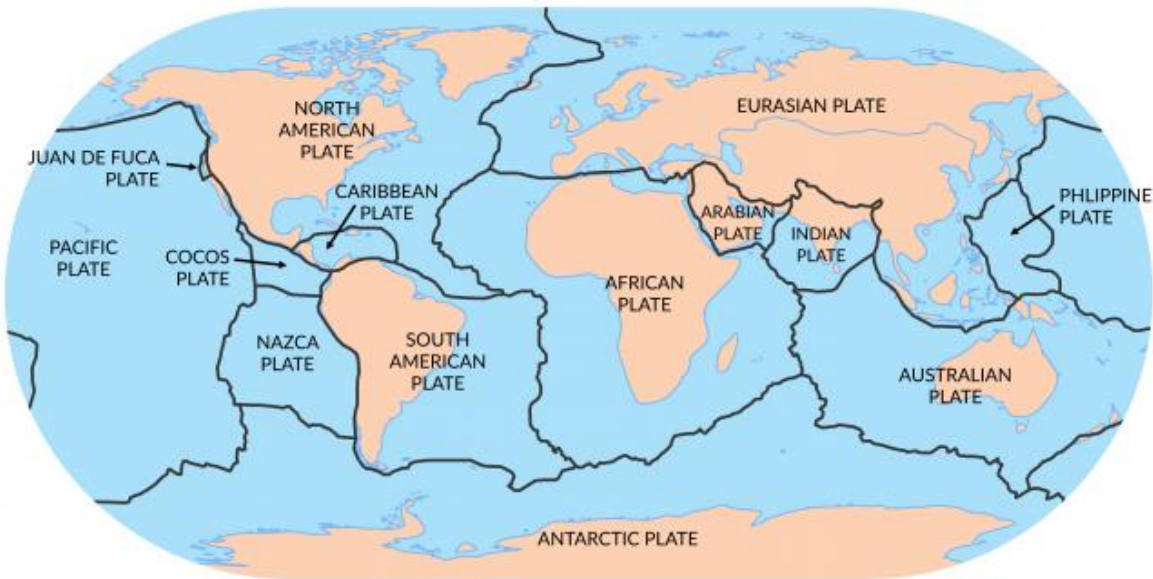
### Knowledge

Earth's crust is split into pieces called **tectonic plates**.

Tectonic plates float on top of the magma in the mantle.

Each plate has a name. Often the name is similar to the continent or ocean on top of it.

**Plate margins** are where 2 tectonic plates meet each other.



### Revision Questions

What is a tectonic plate?

What do tectonic plates float on?

[Tectonic plates names quiz](#)

What is a plate margin?

## Tectonic Plates (2 / 2)

### Knowledge

Tectonic plates can be **continental** or **oceanic**.

Continental plates are mostly land. Oceanic plates are covered by the oceans.

#### Continental

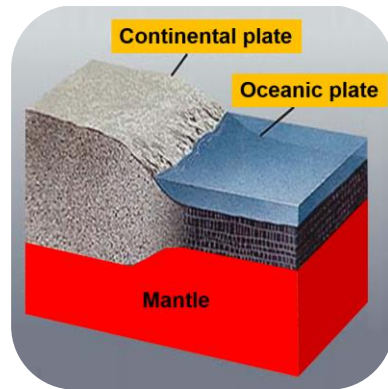
25 – 70 km thick.

Less dense (less heavy).

#### Oceanic

5 – 10 km thick.

More dense (more heavy).



### Revision Questions

What are the 2 types of tectonic plate?

Which type of tectonic plate is thicker?

Which type of tectonic plate is denser?

# Knowledge Organiser – Restless Earth 1

## Convection Currents (1 / 2)

### Knowledge

Tectonic plates move because of **convection currents** of magma in the mantle.

1. Magma in the mantle is heated up by the core.
2. This means that it rises through the mantle, towards the crust.
3. Eventually, it reaches the crust, so cannot rise any further.
4. This means that the **magma moves sideways, pulling the tectonic plates** with it.
5. Now it is far from the core, the magma cools down.
6. This means that it sinks through the mantle, towards the core.
7. Eventually, it reaches the core and is heated up again.
8. Therefore, the process repeats and the tectonic plates keep moving.

### Revision Questions

Why do tectonic plates move?

What happens to magma near the core?

Where will magma near the core move?

Why does magma move sideways underneath tectonic plates?

What happens to magma far from the core?

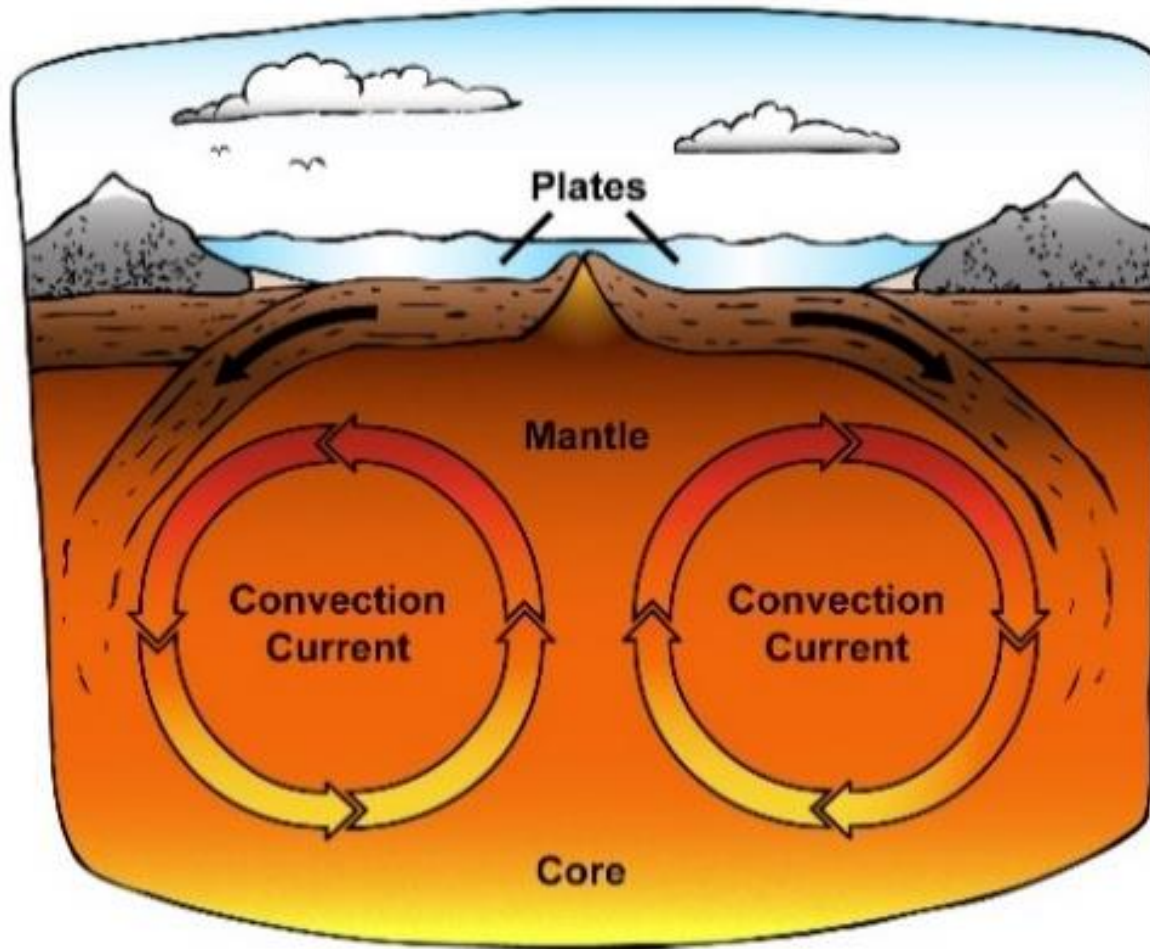
What happens to magma far from the core?

Where will magma far from the core move?

Why do tectonic plates continually move?



## Convection Currents (2 / 2)



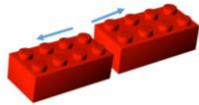


## Plate Margins (1 / 3)

### Knowledge

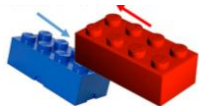
Plate margins are where 2 tectonic plates meet each other. There are 4 types of margin.

#### Constructive Margins



1. Convection currents cause 2 oceanic plates to move away from each other.
  2. Magma rises from the mantle between the plates, meeting the cool sea water above.
  3. The magma solidifies into solid rock. This forms new crust and sometimes islands.
  4. Some magma melts through the new, thin crust as volcanic eruptions.
- There is friction between the jagged edges of the moving plates, building up pressure.
  - Eventually, the plates suddenly slip, releasing the pressure as an earthquake.

#### Destructive Margins



1. Convection currents cause a continental and oceanic plate to move towards each other.
  2. The continental plate is less dense, so its edge folds up. This forms a belt of mountains.
  3. The oceanic plate is more dense, so it sinks into the mantle. This is called subduction.
  4. The edge of the oceanic plate melts in the mantle. This forms, fresh, hot magma.
  5. The fresh, hot magma rises quickly and erupts from the mountains.
- There is friction between the jagged edges of the moving plates, building up pressure.
  - Eventually, the plates suddenly slip, releasing the pressure as an earthquake.

### Revision Questions

What is a plate margin?

‘Only earthquakes happen at constructive margins’. True or false?

What types of tectonic plate meet at constructive plate margins? What direction do they move? Why do they move?

Explain how earthquakes and volcanic eruptions happen at constructive margins.

‘Only volcanic eruptions happen at destructive margins’. True or false?

What types of tectonic plate meet at destructive plate margins? What direction do they move? Why do they move?

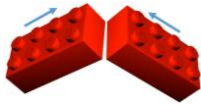
Explain how earthquakes and volcanic eruptions happen at destructive margins.

## Plate Margins (2 / 3)

### Knowledge

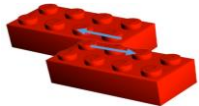
Plate margins are where 2 tectonic plates meet each other. There are 4 types of margin.

#### Collision Margins



1. Convection currents cause 2 continental plates to move towards each other.
  2. Both plates are equally dense. Neither is very dense.
  3. This means that they fold up. This forms a belt of mountains.
- There is friction between the jagged edges of the moving plates, building up pressure.
  - Eventually, the plates suddenly slip, releasing the pressure as an earthquake.

#### Conservative Margins



1. Convection currents cause a 2 tectonic plates to move past each other.
2. The plates might move in opposite directions or the same direction at different speeds.
3. There is friction between the jagged edges of the moving plates, building up pressure.
4. Eventually, the plates suddenly slip, releasing the pressure as an earthquake.

### Revision Questions

What is a plate margin?

‘Only earthquakes happen at collision margins’. True or false?

What types of tectonic plate meet at collision plate margins? What direction do they move? Why do they move?

Explain how earthquakes happen at constructive margins.

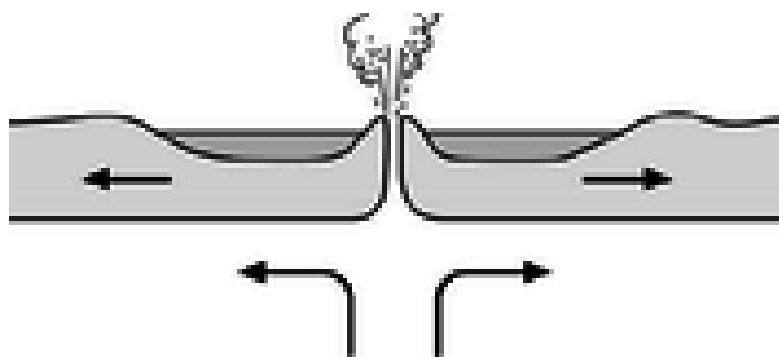
‘Only earthquakes happen at collision margins’. True or false?

What types of tectonic plate meet at collision plate margins? What direction do they move? Why do they move?

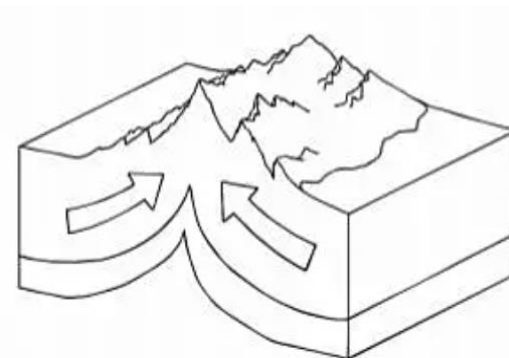
Explain how earthquakes happen at constructive margins.

## Plate Margins (3 / 3)

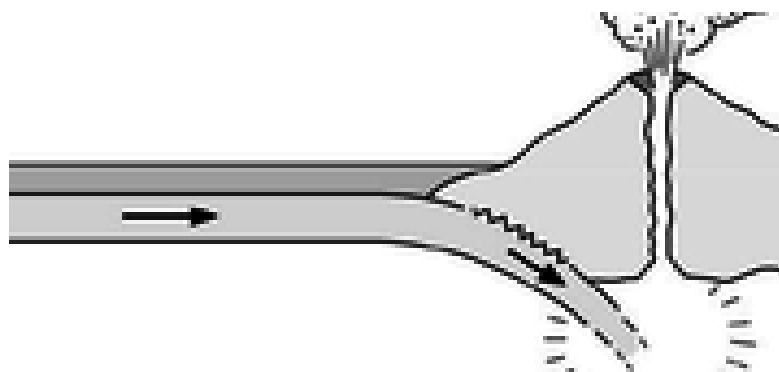
### Constructive Margins



### Collision Margins



### Destructive Margins



### Conservative Margins

