

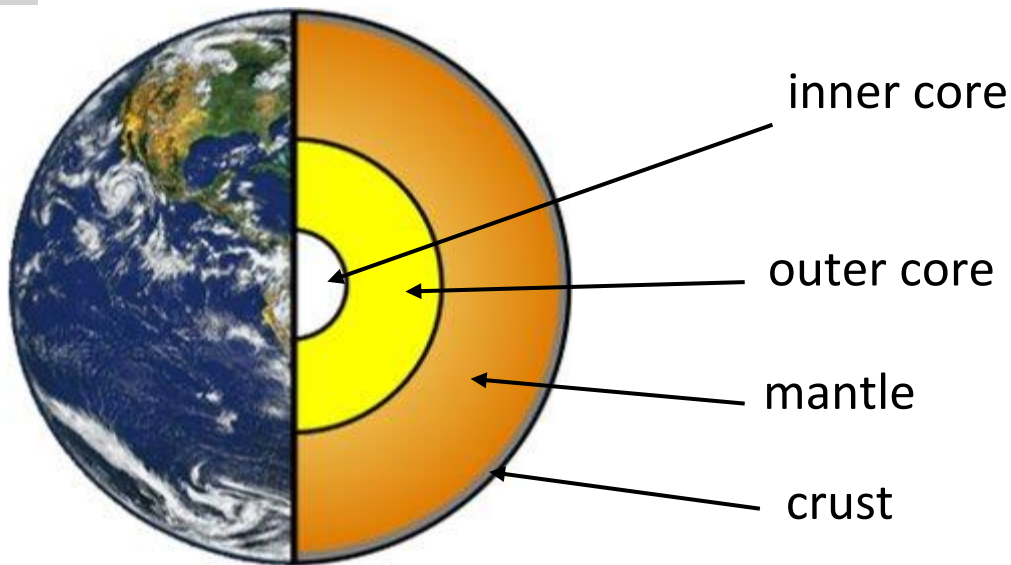
1. The earth's structure and convection currents:

1. Name all four layers of the earth.
2. Draw a cross section of the earth, labelling each of the layers.
3. Which is the thinnest layer of the earth?
4. Which is the hottest layer of the earth?
5. What are the two types of crust on the earth's surface?
6. What does it mean for something to be dense?
7. Which type of crust is thin and dense?
8. What does the crust from question 7 usually lie under?
9. What are tectonic plates?
10. What causes tectonic plates to move?
11. What happens to the mantle as it gets closer to the core?
(2)
12. What happens to the mantle as it rises and moves away from the core?
13. Draw a diagram showing how convection currents move tectonic plates, showing the core, the mantle and the crust.

1. The earth's structure and convection currents:

1. The inner core, the outer core, the mantle, and the crust

2.



3. The crust

4. The inner core

5. Oceanic and continental

6. When something is closely packed together

7. Oceanic

8. Oceans

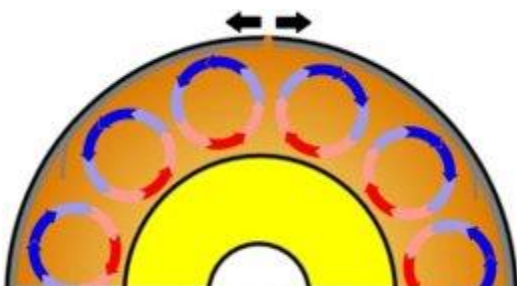
9. Huge plates that make up the earth's crust and which move because of convection currents

10. Convection currents

11. It becomes hotter and less dense

12. It becomes cooler and more dense

13.



2. Plate Boundaries:

1. What process causes tectonic plates to move?
2. What is the difference between a plate and a plate boundary?
3. What are the four different types of plate boundary?
4. Which tectonic hazards and landforms occur at destructive plate boundaries?
5. Which two types of plate meet at collisional plate boundaries?
6. At which two types of plate boundary do earthquakes happen?
7. At which two types of plate boundary do volcanoes happen?
8. How do plates move at a conservative plate boundary?
9. At which two types of plate boundary do the plates move towards each other?
10. How do plates move at a constructive plate boundary?

2. Plate Boundaries:

1. Convection currents

2. The plate is an area of crust and a plate boundary is where two plates meet,

3. Destructive, constructive, collisional, and conservative

4. Composite volcanoes and earthquakes

5. Continental

6. Conservative and destructive

7. Constructive and destructive

8. The plates move alongside each other.

9. Constructive and collisional

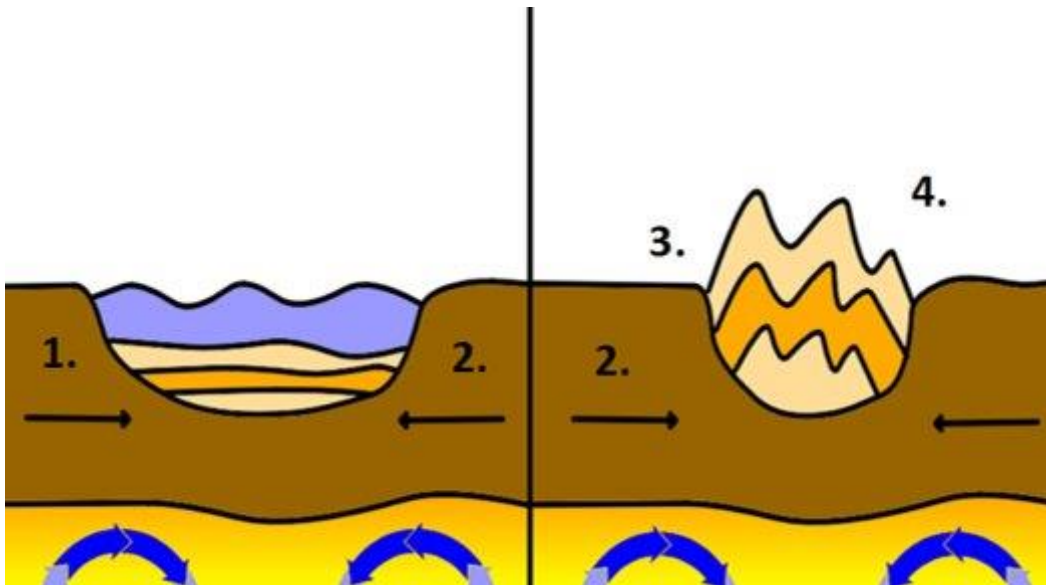
10. The plates move away from each other.

3. Fold Mountains:

1. At which type of plate boundary do fold mountains form?
2. What is sediment?
3. How does sediment become sedimentary rock after it has been deposited on the ocean floor?
4. What happens to this sedimentary rock as the plates move towards each other?
5. Draw a diagram of the formation of fold mountains. Label the movement of the plates.

3. Fold Mountains:

1. Collisional
2. Eroded material in a river or ocean
3. The material became compressed because of further sediment being deposited on top of it.
4. The sedimentary rock crumples and folds.
- 5.

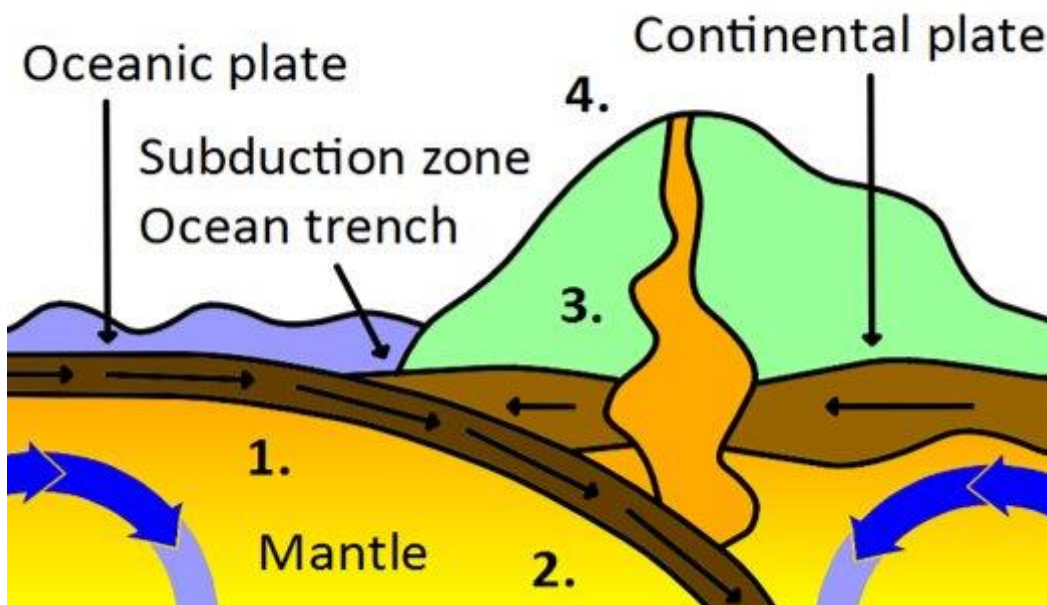


4. The Formation of a Composite Volcano:

1. At which type of plate boundary do composite volcanoes occur?
2. In which direction do the plates move at this boundary?
3. What is subduction?
4. Which plate subducts under the other when a composite volcano forms?
5. What happens to this plate as it subducts?
6. What forms on the surface of the earth in the subduction zone?
7. Why does the continental plate rise, forming mountains?
8. How does the melted magma from the oceanic plate affect the crust above it?
9. Draw a diagram of the formation of a composite volcano. Label the two types of crust, the movement of the plates, the magma chamber and the vent.

4. The Formation of a Composite Volcano:

1. Destructive
2. Towards each other
3. When one plate is forced to move under another
4. The oceanic plate subducts under the continental plate.
5. It melts.
6. A magma pool
7. It is less dense.
8. It causes volcanic eruptions and earthquakes.
- 9.



5. Shield Volcanoes

1. At which type of plate boundary do shield volcanoes form?
2. How do the plates move at this type of plate boundary?
3. What happens as the plates move?
4. What is a cone?
5. How does the cone of a shield volcano form over time?
6. Give two differences about the eruptions of shield volcanoes and composite volcanoes. (Do not discuss lava.)
7. Give one difference about the lava of shield volcanoes and composite volcanoes.
8. How is the shape of a shield volcano different to a composite volcano?

5. Shield Volcanoes

1. Constructive

2. Away from each other

3. A gap is created, magma rises filling the gap creating a volcano and new crust

4. Ash and lava that hardens around the vent of a volcano

5. Repeated eruptions of lava cool and harden over time

6. Shield eruptions are gentle and frequent whereas composite eruptions are violent and infrequent

7. Shield lava is basic whereas composite lava is acidic

8. Shield volcanoes are gently sloped and very large, whereas composite volcanoes are steeply sloping and smaller

6. The Effects of a Composite Volcanic Eruption

1. What is pyroclastic flow?
2. What is a lahar?
3. How can falling ash from a volcanic eruption damage buildings?
4. What is a secondary effect of buildings being damaged by falling ash?
5. Why can a volcanic eruption cause food and water shortages?
6. What is the secondary effect of road and transport links being damaged by a volcanic eruption?
7. What is debris?
8. Why can volcanic eruptions cause long term health problems?

6. The Effects of a Composite Volcanic Eruption

1. A mass of hot ash, gases, and lava fragments which is ejected from a volcano at great speeds
2. A dangerous mudslide which is caused by water mixing with ash and debris from a volcanic eruption
3. Buildings can collapse from the weight of ash or debris.
4. People are left homeless or unemployed if businesses are destroyed.
5. Ash clouds can damage crop growth. Roads and transport links can be destroyed.
6. It can take longer for aid or emergency services to reach an area.
7. Loose material, particularly pieces of rock
8. Inhaling ash can cause breathing problems.

7. Predicting and monitoring volcanoes:

1. What does it mean to predict a volcanic eruption?
2. Name four methods which scientists use to try and predict volcanic eruptions.
3. What does a tiltmeter do?
4. Why would a tiltmeter help scientists to predict a volcanic eruptions?
5. What is a seismometer?
6. Why would scientists measure sulphur to try and predict volcanic eruptions?
7. Why do temperatures around volcanoes increase before a volcanic eruption?

7. Predicting and monitoring volcanoes:

1. To try to take an educated guess as to when a volcano will erupt.
2. Tiltmeters, seismometers, monitoring gas, or monitoring temperature
3. Tiltmeters measure changes in the shape or angle of the land
4. A change in the shape of the cone of a volcano could suggest the build up of magma near the surface.
5. A piece of equipment which measures vibrations in the earth's crust
6. Volcanoes release a lot of sulphur when they erupt.
7. Hot magma builds up close to the surface of the earth.

8. Preparing people for and protecting people from volcanic eruptions

1. What is the difference between an active volcano and a dormant volcano?
2. What is a volcano drill?
3. What does it mean to evacuate an area?
4. What is it important that people who live near volcanoes complete volcano drills?
5. What are hazard maps?
6. How do hazard maps help to reduce the damage during a volcanic eruption?
7. Give an example of a piece of emergency equipment which people might get before a volcanic eruption.
8. Why would respirators help to protect people from the effects of a volcanic eruption?

8. Preparing people for and protecting people from volcanic eruptions

1. Active volcanoes erupt regularly whereas dormant volcanoes have not recently erupted.
2. People practise evacuating from a volcanic eruption.
3. To leave a dangerous area to go somewhere safer
4. People will be less likely to panic and will know how to keep themselves and their property safe.
5. Maps which show areas which are likely to be damaged or affected by a volcanic eruption.
6. People are unlikely to build or live in high risk areas.
7. Respirators
8. Respirators can reduce the risk of breathing problems caused by breathing in ash.

9. Mount Merapi case study:

1. What type of volcano is Mount Merapi?
2. What equipment gave the first sign an eruption was likely?
3. How long did the eruption last for?
4. How many people lived on the slopes of the volcano?
5. List 3 primary effects of the eruption.
6. List 3 secondary effects of the eruption.
7. What was an immediate short term response to the eruption?
8. Give an example of a NGO who provided international aid.
9. How many people moved away from the volcano permanently in response to the eruption?

9. Mount Merapi case study:

1. Composite

2. Tiltmeters

3. Over 30 days

4. Over 11,000 people

5. Volcanic bombs, heat clouds, pyroclastic flows, volcanic ash

6. Transport disruption, 350,000 people displaced, 353 killed, increased risk of disease.

7. Evacuation, international aid from NGOs, permanent relocation.

8. Red Cross

9. 2,500

10. Living near a volcano:

1. How much of the earth is covered in volcanic soil?
2. Give two reasons why some people have no choice but to live near an active or dormant volcano.
3. What is infrastructure?
4. Give one reason why farmers may choose to live near volcanoes.
5. Why do people choose to permanently live in areas which get a lot of tourism?
6. What is geo-thermal energy?

10. Living near a volcano:

1. 1%

2. It may be impossible to avoid living near an active or dormant volcano or people feel that they have to live in cities, many of which were established near volcanoes.

3. The basic physical facilities in an area, such as electricity, running water, roads, and buildings such as hospitals

4. Soil near volcanoes is usually fertile.

5. People can generate income from tourists who visit volcanoes.

6. Energy which is generated from natural heat.

11. Earthquakes:

1. What is an earthquake?
2. What causes earthquakes?
3. Give two reasons why plates can get stuck.
4. What can happen if an earthquake happens near or in an ocean?
5. What is a tsunami?
6. What causes tsunamis? (because of an earthquake)
7. What is displacement?
8. Which is above the ground, the epicentre of an earthquake or the focus?
9. Do settlements want the focus of earthquakes to be shallow or deep?

ANSWERS

1. Vibrations in the earth's crust
2. Movement of tectonic plates
3. Rough edges, moving at different speeds and friction
4. Tsunami
5. Large tidal wave
6. Displacement
7. Where water is lifted by the sea bed
8. Epicentre
9. Deep

12. The Effects of an Earthquake:

1. How do the effects of earthquakes compare to the effects of a volcanic eruption?
2. What is debris?
3. Give two secondary effects which happen because of damage to buildings.
4. What can happen to water and sewage pipes during an earthquake?
5. Give two secondary effects which can be caused by damage to water and sewage pipes.
6. Why can damage to roads and transport links cause further problems for countries which have experienced an earthquake?
7. What causes most deaths during an earthquake?

ANSWERS

1. Affects a wider area
2. Destroyed material left behind after a hazard
3. Homelessness, loss of jobs
4. They can break and spill their contents
5. Contaminated drinking water, spread of disease
6. This stops aid from arriving from other countries
7. Building collapse

13. Predicting earthquakes:

1. Name three methods which scientists can use to try to predict earthquakes.
2. What does a seismometer do?
3. Why can seismometers help scientists to predict large earthquakes?
4. Which gas is released when plates move?
5. How do scientists use lasers to monitor plate boundaries?
6. What do scientists look for when using lasers to predict large earthquakes?

ANSWERS

1. Using Seismometers, gas meters and lasers
2. Measures vibrations
3. Foreshocks happen before major earthquakes
4. Radon
5. Lasers monitor movement in plate boundaries.
6. Changes to the normal pattern of movement may suggest that a large earthquake is about to happen.

14. Preparing for and protecting people from earthquakes:

1. What is a tectonic hazard?
2. What are the three 'strategies' which governments can use to cope with earthquakes?
3. What is an earthquake drill?
4. Why do earthquake drills help to prepare people for earthquakes?
5. Give an example of how buildings can be built to withstand earthquakes.
6. Why would earthquake resistant buildings help to lower the number of deaths caused by an earthquake?
7. What is an emergency kit?
8. Why would emergency kits lower the number of deaths caused by earthquakes?

ANSWERS

1. Hazard caused by movements in the Earth's crust
2. Drills, building regulations and emergency kits
3. Practicing what to do during an earthquake
4. Ensures people stay calm and know what to do, reducing risk of death or injury
5. Deep foundations help absorb shaking
6. Buildings are less likely to collapse
7. Kits with medical supplies, torches and rations.
8. People are more likely to survive if they get trapped in buildings while they wait for help.

15. Earthquakes in areas of differing levels of development

1. Give two factors which can affect how badly an area is affected by an earthquake.
2. Give the magnitude (strength) on the Richter scale of the Indonesia and Japan earthquakes.
3. Which country is more developed: Indonesia or Japan?
4. Which country experienced more deaths: Indonesia or Japan?
5. Which country suffered more damage to buildings and infrastructure: Indonesia or Japan?
6. Which country received international aid to cope with their earthquake: Indonesia or Japan?
7. How much money did insurance companies pay out to repair damaged buildings in Japan?

15. Earthquakes in areas of differing levels of development

1. How severe the earthquake is, how well PPP is used, history of earthquakes in the area, level of development.

2. Indonesia 7.5, Japan 7.0.

3. Japan

4. Indonesia

5. Indonesia

6. Indonesia

7. £2.4 billion

Answering quiz questions for the first time:

1. Read the section of the knowledge organiser which matches the questions you have been set.
2. Turn over the knowledge organiser so you can't see it and explain the content you have read to someone else. (Don't worry if you can't remember all of it!)
3. Answer the questions from the quiz you have been set in your quiz booklet. **Use your knowledge organiser to answer the questions.**

Re-quizzing:

1. Using scrap paper or a notebook, cover the answers to the quiz you have been set and test yourself **from memory**. (If you have been set more than one quiz, do them one at a time and space them out over the week.)
2. After you complete the quiz, **mark and correct it in green pen using the answers in your quiz book.**
3. Go back to re-read sections which you have found difficult, or go and see your teacher to ask for help.
4. Bring your scrap paper or notebook to your next lesson.

Marking quizzes is as important as doing them; it doesn't matter if you get answers wrong, but you need to know how to improve!