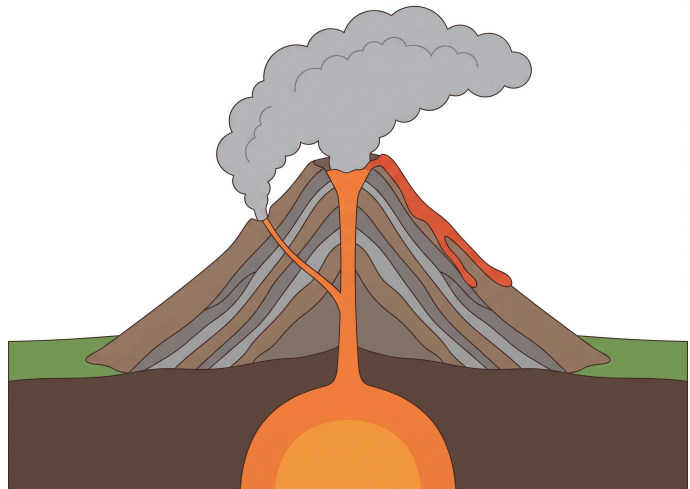
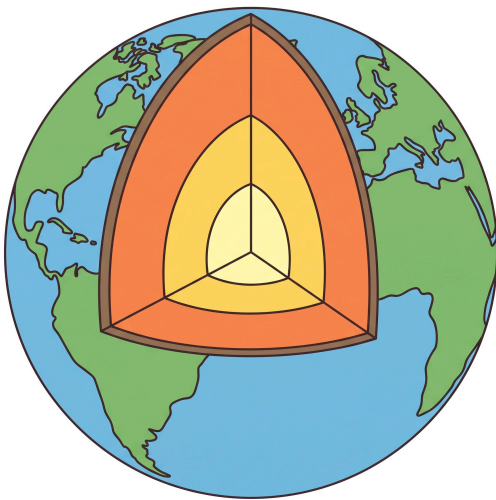


Inside the Earth and Volcanoes

The layers of the Earth and the parts of a volcano



10

printable sheets

22

pages

All

answer keys included

Inside the Earth and Volcanoes Teaching Pack

The layers of the Earth and the parts of a volcano

How to use this pack. The sheets are in a suggested teaching order: show the labeled diagrams, have students label the blank ones, then work through the practice sheets and finish with the quiz. Use them all over a week or pick the ones you need. The answer keys are together at the back.

What is inside

1. Teach

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Volcano Diagram	4

2. Label

Blank Layers of the Earth	5
Blank Volcano	6

3. Match

Layers of the Earth: Key Words	7
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5. Order

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6. Review

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7. Check

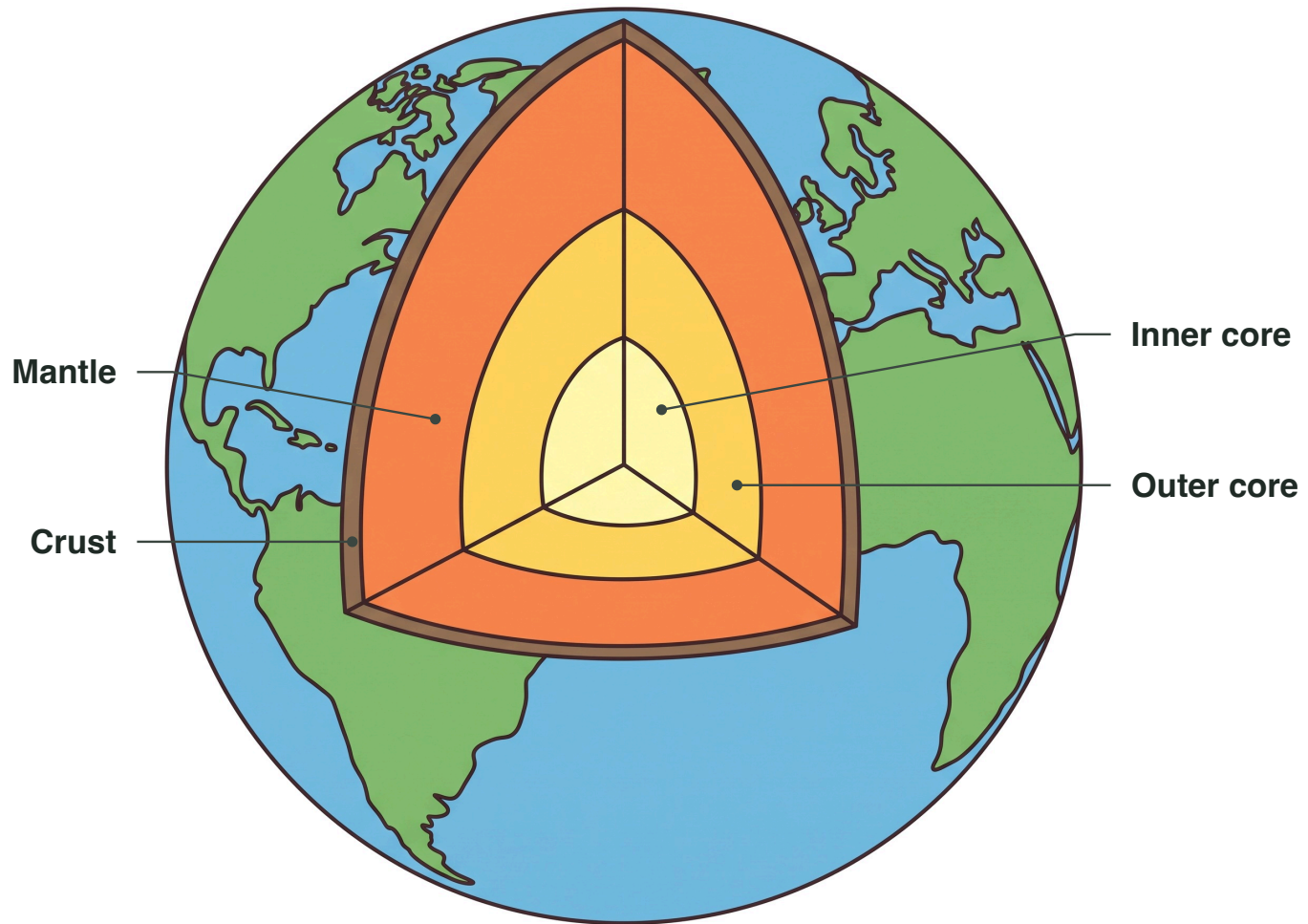
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Answer keys

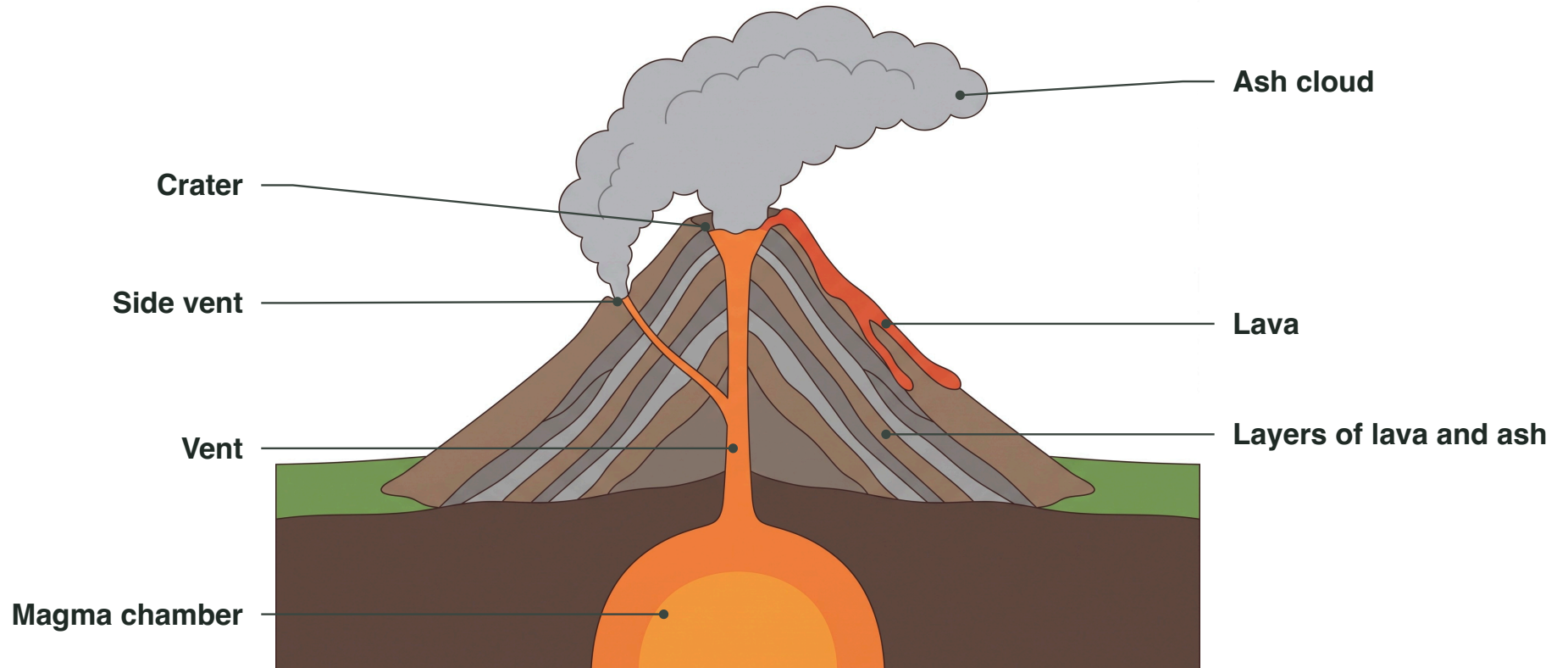
Every answer key, in the same order	16
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More free teaching packs. Rocks and the Rock Cycle, Layers of the Atmosphere and more at printablescholar.com/teaching-packs/

Layers of the Earth



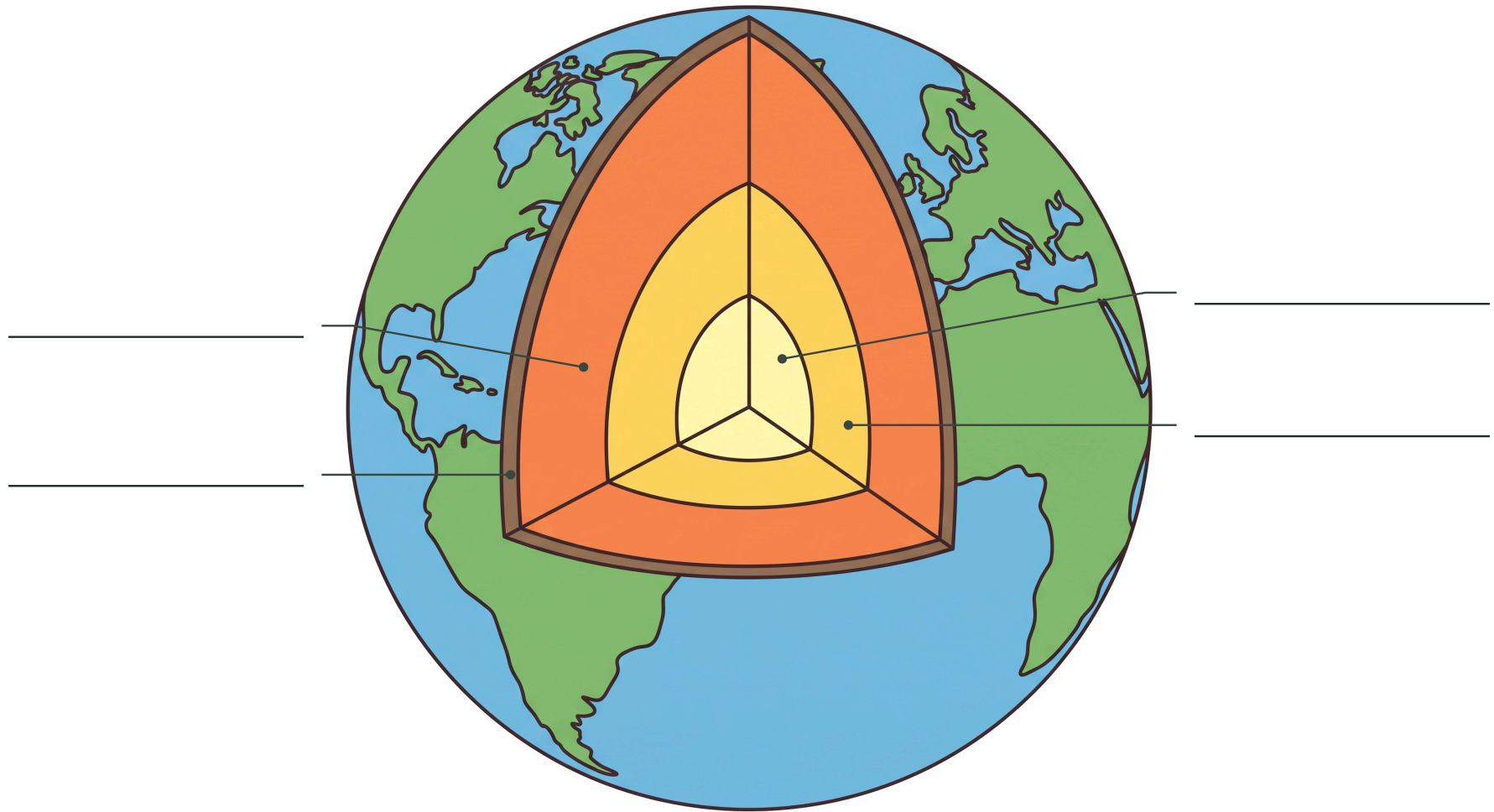
Parts of a Volcano



Layers of the Earth

Name: _____

Write the name of each part on its line. Use the word bank.



Word bank

Crust

Inner core

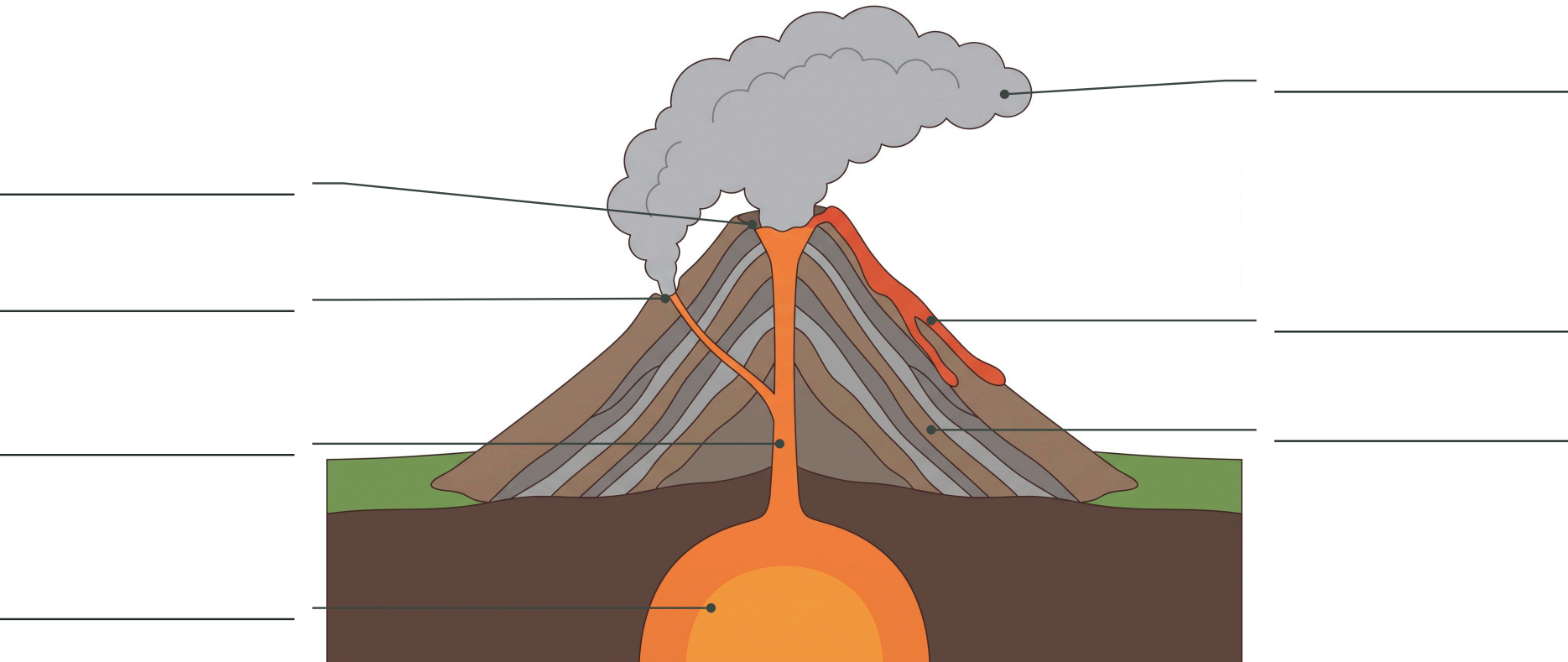
Mantle

Outer core

Parts of a Volcano

Name: _____

Write the name of each part on its line. Use the word bank.



Word bank

Ash cloud

Crater

Lava

Layers of lava and ash

Magma chamber

Side vent

Vent

Layers of the Earth: Key Words

Use the labeled layers of the Earth diagram to help you. Four of the words are not on the diagram.

Part A. Write the word or words that fit each description.

Word bank

Crust

Earthquake

Inner core

Magma

Mantle

Outer core

Tectonic plates

Volcano

1. The thickest layer. It is hot, solid rock that flows very slowly. _____

2. A shaking of the ground that happens when rock underground suddenly breaks or slips. _____

3. A ball of solid iron and nickel at the very center of the Earth. _____

4. Molten rock that is still under the ground. _____

5. The thin, solid outer layer of rock. It makes up the land and the ocean floor. _____

6. The huge, slowly moving pieces that the Earth's rocky outer shell is broken into. _____

7. A layer of liquid iron and nickel. Its movement creates the Earth's magnetic field. _____

8. An opening in the Earth's surface where molten rock, ash and gases escape. _____

Part B. Answer the questions.

1. Which two layers are made mostly of iron and nickel?

2. Both the mantle and the outer core are very hot. How are they different?

3. The inner core is even hotter than the outer core, but it is solid. Why?

Parts of a Volcano

Use the labeled volcano diagram to help you.

Part A. Write the part that fits each description.

Word bank

Ash cloud

Crater

Lava

Layers of lava and ash

Magma chamber

Side vent

Vent

1. The bowl-shaped opening at the top of the volcano. _____
2. The pool of molten rock deep underground. _____
3. Molten rock that has reached the surface and flows out. _____
4. The central pipe that carries molten rock up to the surface. _____
5. Gas and tiny bits of rock blasted high into the air during an eruption. _____
6. A smaller opening on the slope of the volcano, fed by a branch pipe. _____
7. Built up over many eruptions, they form the cone of the volcano. _____

Part B. Answer the questions.

1. What is the difference between magma and lava?

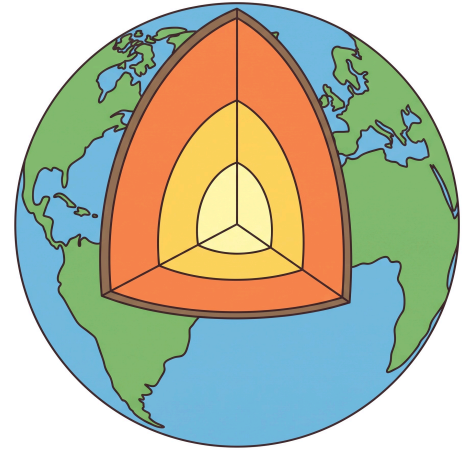
2. Name the two openings on the diagram where material can escape from the volcano.

3. A volcano like this one gets taller over time. Explain how.

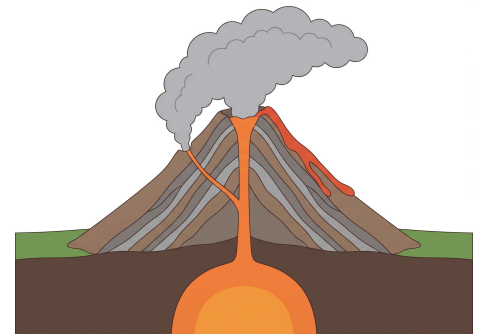
Under Your Feet

Read the text. Then answer the questions on the next page.

- 1 Nobody has ever traveled to the center of the Earth. Even the deepest hole ever drilled did not get through the outer layer. Scientists learn about the inside of the planet by studying how earthquake waves pass through it. They have found that the Earth has four main layers.
- 2 We live on the **crust**. It is a thin layer of solid rock that makes up the land and the ocean floor. Under the crust is the **mantle**, the thickest layer. The mantle is solid rock, but it is so hot that it flows very slowly.
- 3 At the center of the Earth is the core. It is made mostly of iron and nickel. The **outer core** is liquid. The **inner core** is even hotter, but it is solid. The pressure at the center is so great that the metal there cannot melt.
- 4 The crust and the top of the mantle are broken into huge pieces called **tectonic plates**. The plates move very slowly, about as fast as your fingernails grow. Where two plates meet, rock can suddenly slip. This makes the ground shake in an **earthquake**. Most volcanoes are found along the edges of plates too.
- 5 A **volcano** is an opening in the Earth's surface. Deep below it, some rock has melted. Molten rock under the ground is called **magma**. It collects in a pool called the magma chamber. In an **eruption**, magma rises through a pipe called the vent and comes out at the crater. Once it reaches the surface, it is called **lava**. Ash and gas blast into the air. When the lava and ash cool, they harden into a new layer of rock. After many eruptions, the layers build a tall cone.



A slice cut out of the Earth shows its four layers.



An erupting volcano, cut open to show the inside.

Under Your Feet: Questions

Go back to the text to find each answer. The paragraphs are numbered to help you.

1. What is this text mostly about?

- ☐ How to stay safe in an earthquake
- ☐ What the Earth is like inside and how a volcano erupts
- ☐ How scientists drill deep holes
- ☐ Why the Earth has oceans

2. How do scientists learn about the inside of the Earth?

3. Which layer is the thickest?

- ☐ The crust
- ☐ The mantle
- ☐ The outer core
- ☐ The inner core

4. Number these layers 1, 2 and 3. Start at the surface and go down (paragraphs 2 and 3).

- ☐ The outer core
- ☐ The crust
- ☐ The mantle

5. Which layer is liquid?

- ☐ The crust
- ☐ The mantle
- ☐ The outer core
- ☐ The inner core

6. Why is the inner core solid?

7. What are tectonic plates?

- ☐ Layers of lava and ash
- ☐ Pools of molten rock
- ☐ Huge pieces of the crust and the top of the mantle
- ☐ Waves made by an earthquake

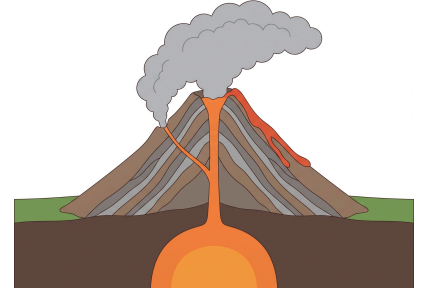
8. When is molten rock called magma, and when is it called lava?

How a Volcano Erupts

These steps are mixed up. Put them in order. Start deep underground.

Part A. Number the steps from 1 to 6.

- ☐ Deep underground, some rock melts and becomes magma.
- ☐ The volcano erupts. Lava pours out of the crater, and ash blasts into the air.
- ☐ The lava and ash cool and harden into a new layer on the volcano.
- ☐ More and more magma fills the chamber, and the pressure builds.
- ☐ The pressure forces magma up the vent toward the top of the volcano.
- ☐ The magma rises and collects in the magma chamber.



Part B. Answer the questions.

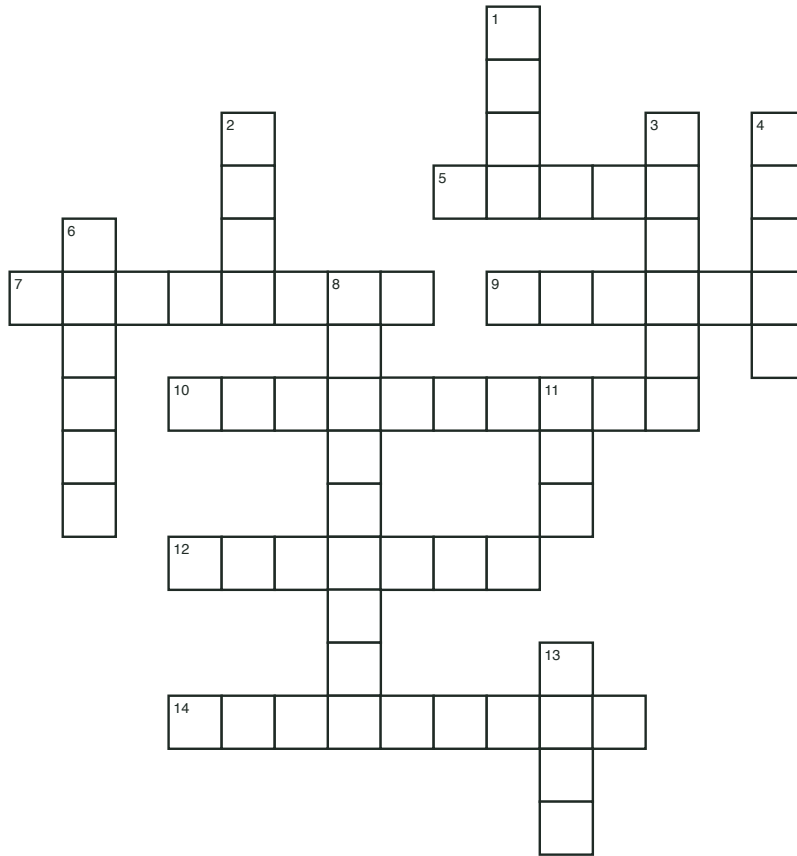
1. In which step does the molten rock stop being called magma and start being called lava? Why?

2. What two things come out of the volcano in the eruption step?

3. What happens to the shape of the volcano after many eruptions?

Inside the Earth and Volcanoes Crossword

Read each clue. Write the answer in the puzzle, one letter in each box. Use the word bank if you get stuck.



ACROSS

5. Molten rock that is still under the ground.
7. When lava, ash and gas burst out of a volcano.
9. Tectonic _____ are the huge, slowly moving pieces of the Earth's outer shell.
10. A shaking of the ground when rock underground suddenly slips.
12. An opening in the Earth's surface where molten rock, ash and gases escape.
14. The ball of solid iron and nickel at the center of the Earth (2 words).

DOWN

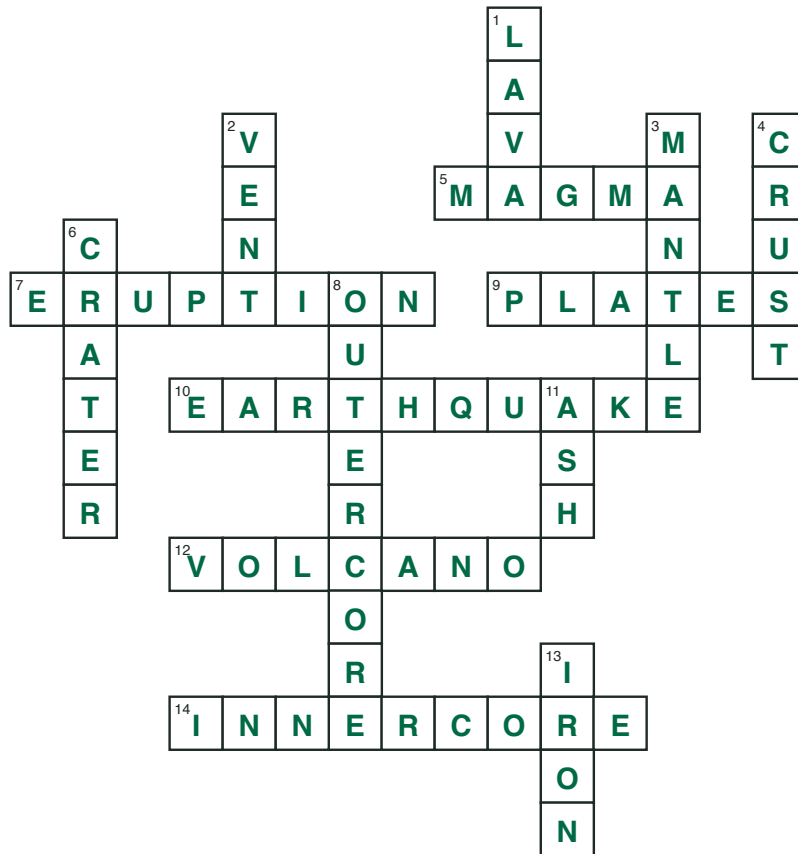
1. Molten rock that has reached the surface.
2. The central pipe that carries molten rock up to the surface.
3. The thickest layer of the Earth. Its hot, solid rock flows very slowly.
4. The thin, solid outer layer of the Earth, where we live.
6. The bowl-shaped opening at the top of a volcano.
8. The layer of liquid iron and nickel (2 words).
11. Tiny bits of rock blasted into the air by a volcano.
13. The core is made mostly of nickel and this metal.

Word bank

ash crater crust earthquake eruption inner core iron lava magma
mantle outer core plates vent volcano

Inside the Earth and Volcanoes Crossword: Answer Key

Answers are in green.



ACROSS

5. Molten rock that is still under the ground.
7. When lava, ash and gas burst out of a volcano.
9. Tectonic _____ are the huge, slowly moving pieces of the Earth's outer shell.
10. A shaking of the ground when rock underground suddenly slips.
12. An opening in the Earth's surface where molten rock, ash and gases escape.
14. The ball of solid iron and nickel at the center of the Earth (2 words).

DOWN

1. Molten rock that has reached the surface.
2. The central pipe that carries molten rock up to the surface.
3. The thickest layer of the Earth. Its hot, solid rock flows very slowly.
4. The thin, solid outer layer of the Earth, where we live.
6. The bowl-shaped opening at the top of a volcano.
8. The layer of liquid iron and nickel (2 words).
11. Tiny bits of rock blasted into the air by a volcano.
13. The core is made mostly of nickel and this metal.

Word bank

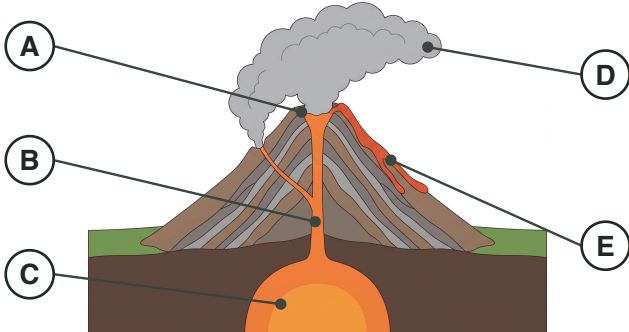
ash crater crust earthquake eruption inner core iron lava magma
mantle outer core plates vent volcano

Inside the Earth and Volcanoes Quiz

Score _____ / 13

Show what you know about the layers of the Earth and volcanoes.

Part A. This is a volcano, cut open. Write the name of each part.



- A _____
B _____
C _____
D _____
E _____

Ash cloud · Crater · Lava · Magma chamber · Vent

Part B. Choose the best answer.

1. Which layer of the Earth do we live on?

- ☐ The crust
☐ The mantle
☐ The outer core
☐ The inner core

2. Which layer is the thickest?

- ☐ The crust
☐ The mantle
☐ The outer core
☐ The inner core

3. Which layer is liquid?

- ☐ The crust
☐ The mantle
☐ The outer core
☐ The inner core

4. What is the core mostly made of?

- ☐ Lava and ash
☐ Solid rock
☐ Water and ice
☐ Iron and nickel

5. What are tectonic plates?

- ☐ Huge, slowly moving pieces of the Earth's outer shell
☐ Layers of lava and ash
☐ Pools of molten rock
☐ The two parts of the core

6. What is molten rock called once it reaches the surface?

- ☐ Magma
☐ Ash
☐ Lava
☐ Mantle

Part C. Write your answer.

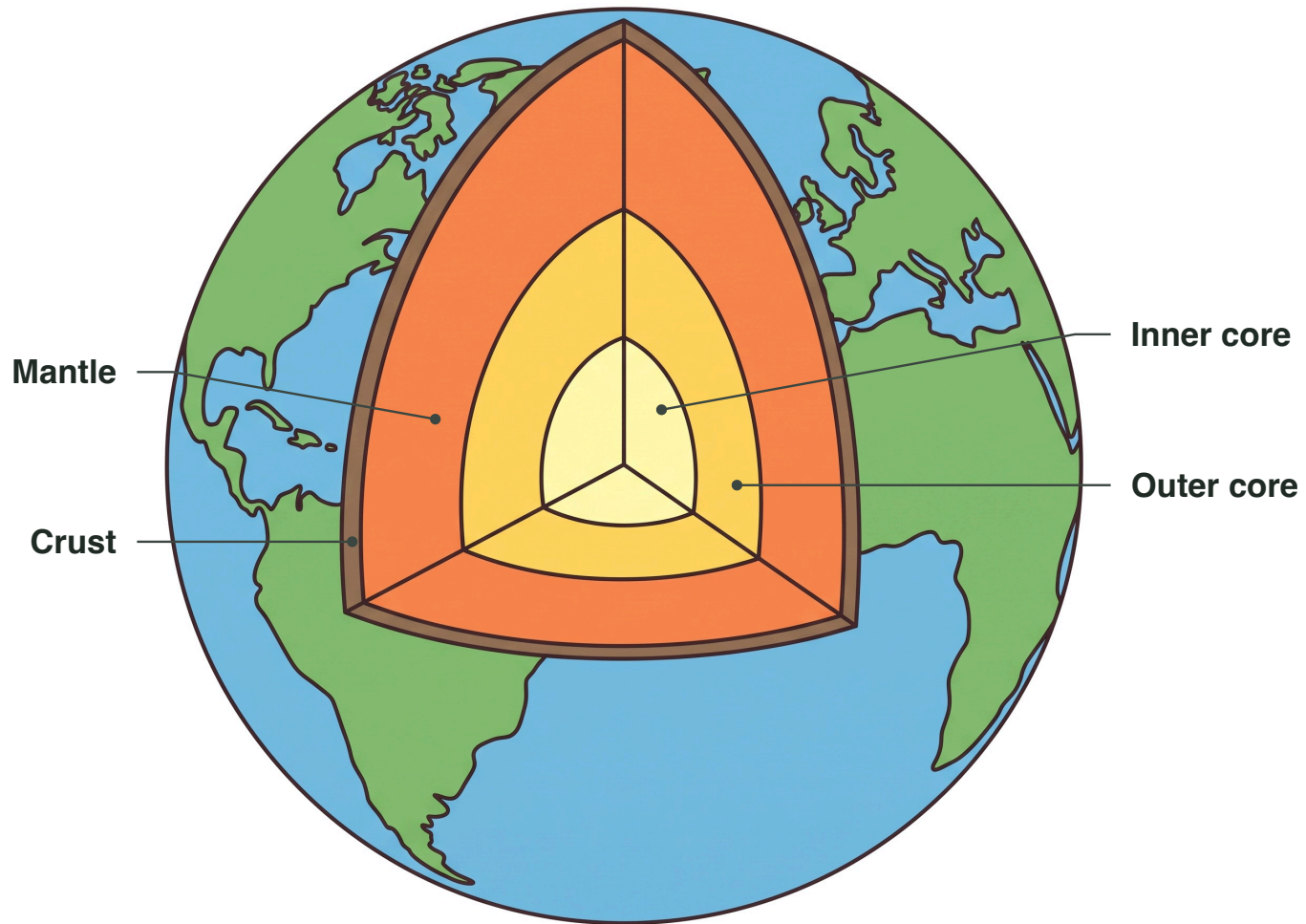
7. Name the Earth's four layers in order. Start at the surface.

8. How does a volcano like the one in the picture grow taller?

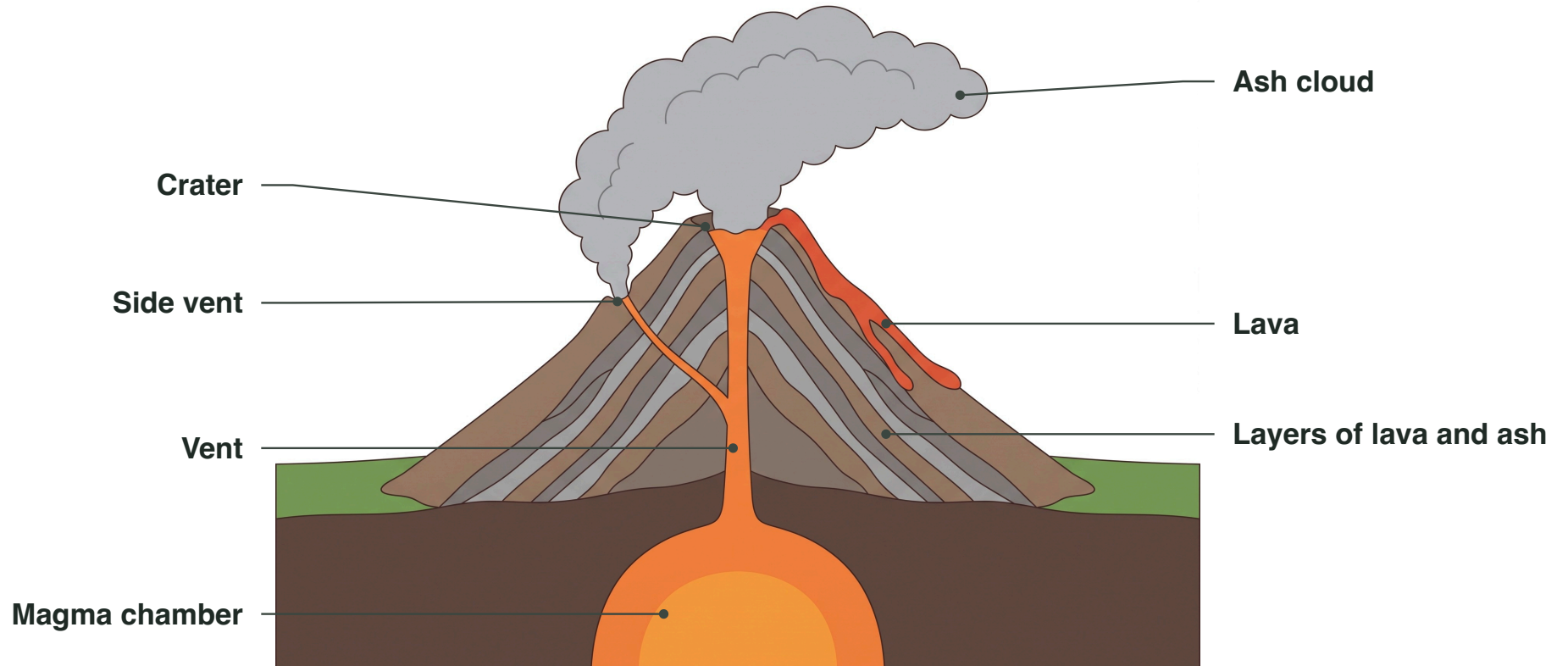
Answer Keys

In the same order as the sheets.

Layers of the Earth: Answer Key



Parts of a Volcano: Answer Key



Layers of the Earth: Key Words: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. Write the word or words that fit each description.

Word bank

Crust

Earthquake

Inner core

Magma

Mantle

Outer core

Tectonic plates

Volcano

1. The thickest layer. It is hot, solid rock that flows very slowly.

Mantle

2. A shaking of the ground that happens when rock underground suddenly breaks or slips.

Earthquake

3. A ball of solid iron and nickel at the very center of the Earth.

Inner core

4. Molten rock that is still under the ground.

Magma

5. The thin, solid outer layer of rock. It makes up the land and the ocean floor.

Crust

6. The huge, slowly moving pieces that the Earth's rocky outer shell is broken into.

Tectonic plates

7. A layer of liquid iron and nickel. Its movement creates the Earth's magnetic field.

Outer core

8. An opening in the Earth's surface where molten rock, ash and gases escape.

Volcano

Part B. Answer the questions.

1. Which two layers are made mostly of iron and nickel?

The outer core and the inner core.

2. Both the mantle and the outer core are very hot. How are they different?

The mantle is solid rock that flows very slowly. The outer core is liquid metal.

3. The inner core is even hotter than the outer core, but it is solid. Why?

The pressure at the center of the Earth is enormous. It squeezes the iron and nickel so hard that they stay solid.

Parts of a Volcano: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. Write the part that fits each description.

Word bank

Ash cloud

Crater

Lava

Layers of lava and ash

Magma chamber

Side vent

Vent

- | | |
|--|-------------------------------|
| 1. The bowl-shaped opening at the top of the volcano. | Crater |
| 2. The pool of molten rock deep underground. | Magma chamber |
| 3. Molten rock that has reached the surface and flows out. | Lava |
| 4. The central pipe that carries molten rock up to the surface. | Vent |
| 5. Gas and tiny bits of rock blasted high into the air during an eruption. | Ash cloud |
| 6. A smaller opening on the slope of the volcano, fed by a branch pipe. | Side vent |
| 7. Built up over many eruptions, they form the cone of the volcano. | Layers of lava and ash |

Part B. Answer the questions.

1. What is the difference between magma and lava?

Both are molten rock. It is called magma while it is underground and lava once it reaches the surface.

2. Name the two openings on the diagram where material can escape from the volcano.

The crater and the side vent.

3. A volcano like this one gets taller over time. Explain how.

Each eruption adds lava and ash to its sides. They cool and harden into a new layer, and the layers pile up to build the cone.

Under Your Feet: Answer Key

Answers are in green. Written answers will vary; these are examples.

1. What is this text mostly about?

- ☐ How to stay safe in an earthquake
- ☒ **What the Earth is like inside and how a volcano erupts**
- ☐ How scientists drill deep holes
- ☐ Why the Earth has oceans

2. How do scientists learn about the inside of the Earth?

They study how earthquake waves pass through it.

3. Which layer is the thickest?

- ☐ The crust
- ☒ **The mantle**
- ☐ The outer core
- ☐ The inner core

4. Number these layers 1, 2 and 3. Start at the surface and go down (paragraphs 2 and 3).

- 3** The outer core
- 1** The crust
- 2** The mantle

5. Which layer is liquid?

- ☐ The crust
- ☐ The mantle
- ☒ **The outer core**
- ☐ The inner core

6. Why is the inner core solid?

The pressure at the center is so great that the metal cannot melt.

7. What are tectonic plates?

- ☐ Layers of lava and ash
- ☐ Pools of molten rock
- ☒ **Huge pieces of the crust and the top of the mantle**
- ☐ Waves made by an earthquake

8. When is molten rock called magma, and when is it called lava?

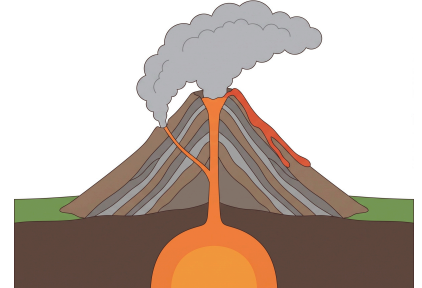
It is magma while it is under the ground. It is lava once it reaches the surface.

How a Volcano Erupts: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. Number the steps from 1 to 6.

- 1 Deep underground, some rock melts and becomes magma.
- 5 The volcano erupts. Lava pours out of the crater, and ash blasts into the air.
- 6 The lava and ash cool and harden into a new layer on the volcano.
- 3 More and more magma fills the chamber, and the pressure builds.
- 4 The pressure forces magma up the vent toward the top of the volcano.
- 2 The magma rises and collects in the magma chamber.



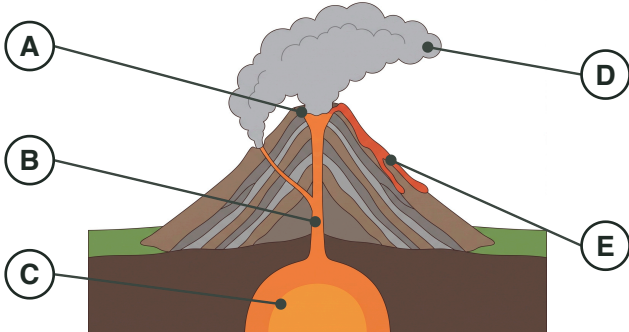
Part B. Answer the questions.

1. In which step does the molten rock stop being called magma and start being called lava? Why?
When the volcano erupts and it pours out of the crater. Molten rock is called lava once it reaches the surface.
2. What two things come out of the volcano in the eruption step?
Lava and ash.
3. What happens to the shape of the volcano after many eruptions?
New layers of lava and ash pile up, so the cone gets taller and wider.

Inside the Earth and Volcanoes Quiz: Answer Key

Answers are in green. Written answers will vary; these are examples.

Part A. This is a volcano, cut open. Write the name of each part.



A **Crater**

B **Vent**

C **Magma chamber**

D **Ash cloud**

E **Lava**

Ash cloud · Crater · Lava · Magma chamber · Vent

Part B. Choose the best answer.

1. Which layer of the Earth do we live on?

- ☒ **The crust**
- ☐ The mantle
- ☐ The outer core
- ☐ The inner core

2. Which layer is the thickest?

- ☐ The crust
- ☒ **The mantle**
- ☐ The outer core
- ☐ The inner core

3. Which layer is liquid?

- ☐ The crust
- ☐ The mantle
- ☒ **The outer core**
- ☐ The inner core

4. What is the core mostly made of?

- ☐ Lava and ash
- ☐ Solid rock
- ☐ Water and ice
- ☒ **Iron and nickel**

5. What are tectonic plates?

- ☒ **Huge, slowly moving pieces of the Earth's outer shell**
- ☐ Layers of lava and ash
- ☐ Pools of molten rock
- ☐ The two parts of the core

6. What is molten rock called once it reaches the surface?

- ☐ Magma
- ☐ Ash
- ☒ **Lava**
- ☐ Mantle

Part C. Write your answer.

7. Name the Earth's four layers in order. Start at the surface.

Crust, mantle, outer core, inner core.

8. How does a volcano like the one in the picture grow taller?

Each eruption adds a layer of lava and ash that cools and hardens. The layers pile up.