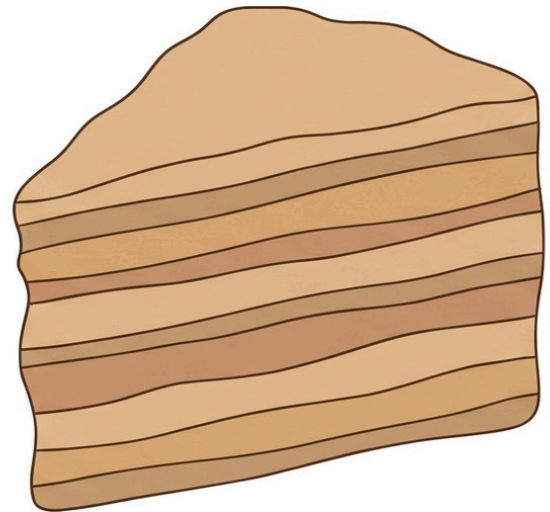
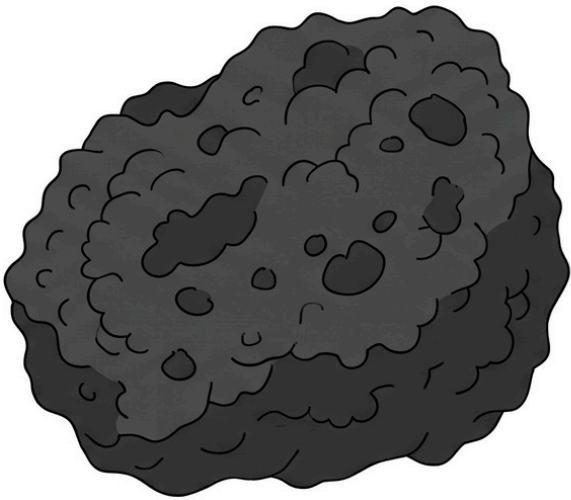


Rocks and the Rock Cycle

The three types of rock and how one changes into another



9

printable sheets

20

pages

All

answer keys included

Rocks and the Rock Cycle Teaching Pack

The three types of rock and how one changes into another

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

Rock Cycle Diagram	3
Types of Rocks Diagram	4

2. Label

Blank Rock Cycle	5
Blank Types of Rocks	6

3. Match

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5. Sort

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6. Review

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7. Check

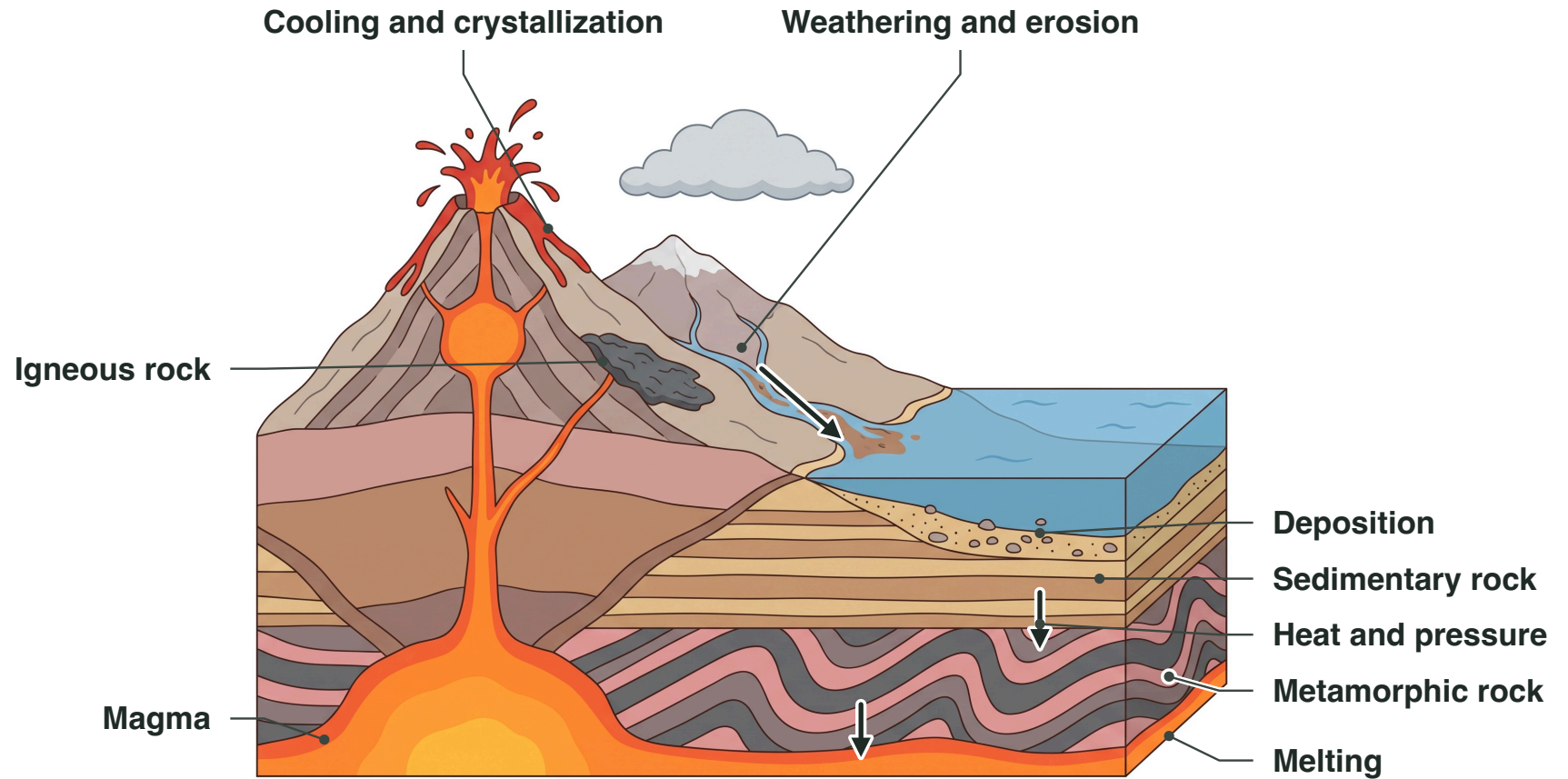
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Answer keys

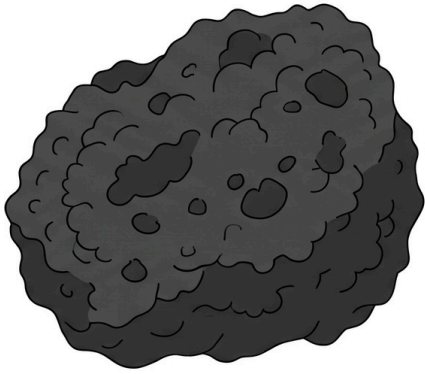
Every answer key, in the same order	15
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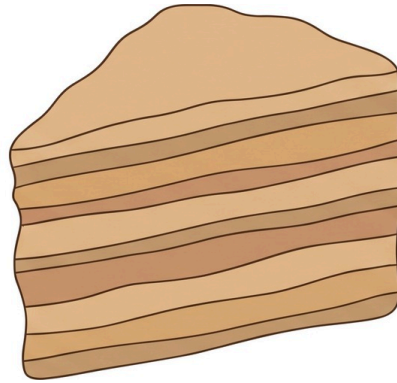
The Rock Cycle



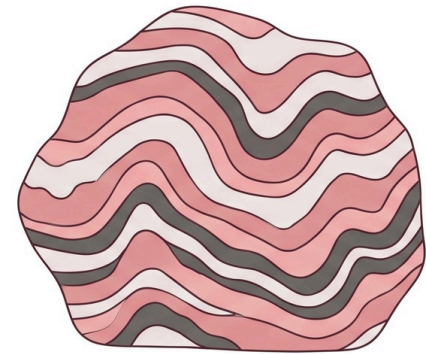
Types of Rocks



Igneous



Sedimentary

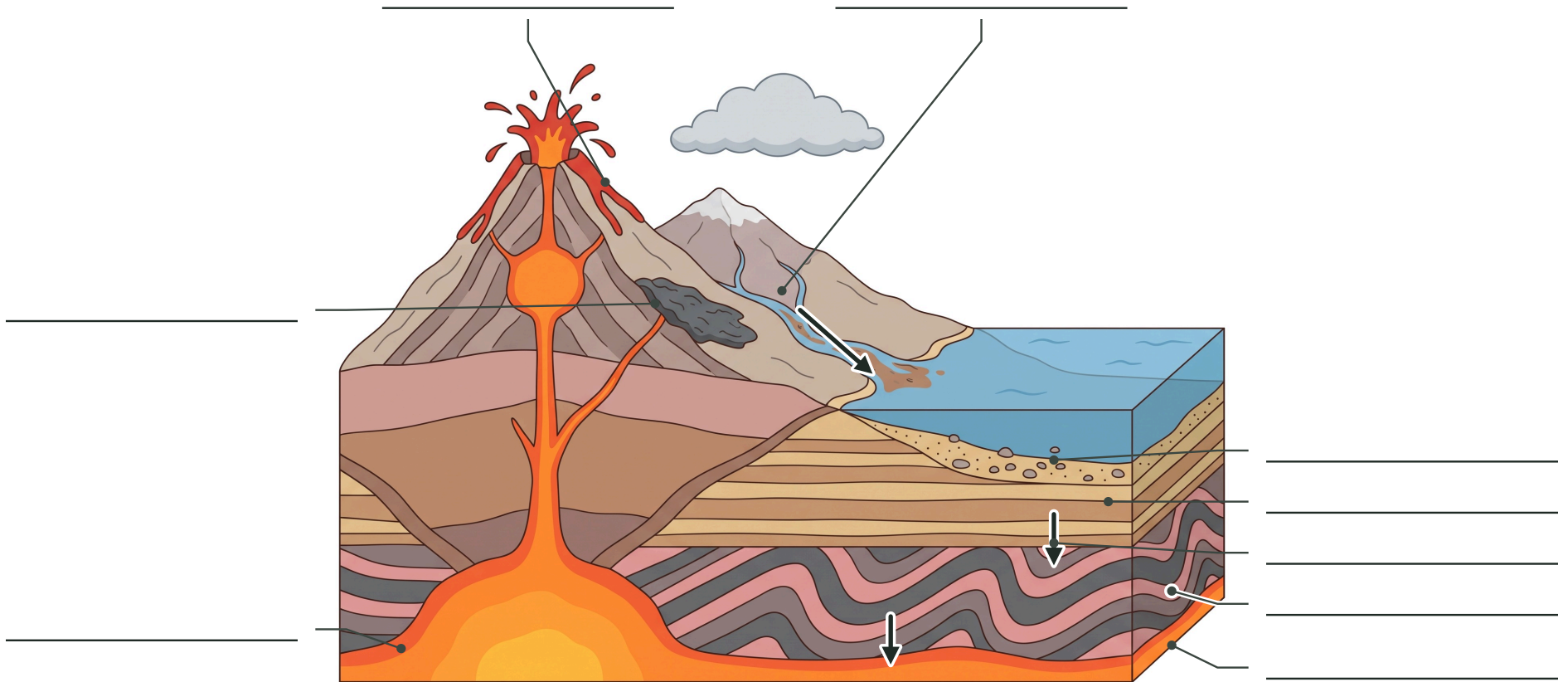


Metamorphic

The Rock Cycle

Name: _____

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



Word bank

Cooling and crystallization

Deposition

Heat and pressure

Igneous rock

Magma

Melting

Metamorphic rock

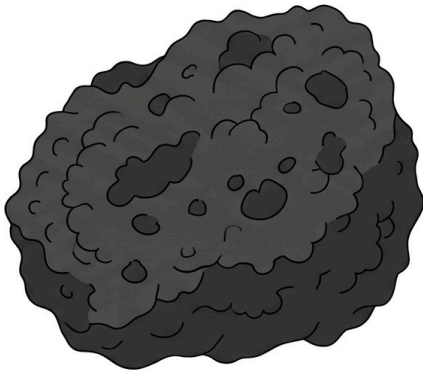
Sedimentary rock

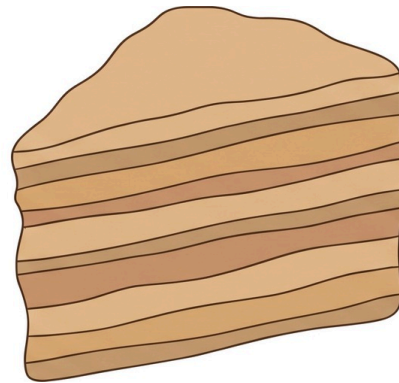
Weathering and erosion

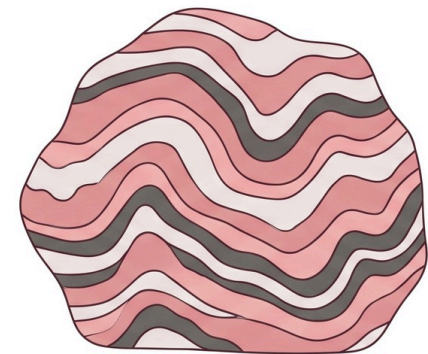
Types of Rocks

Name: _____

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







Word bank

Igneous

Metamorphic

Sedimentary

Rocks and Processes of the Rock Cycle

Use the labeled rock cycle diagram to help you.

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

Word bank

Cooling and crystallization

Deposition

Heat and pressure

Igneous rock

Magma

Melting

Metamorphic rock

Sedimentary rock

Weathering and erosion

1. Wind, water and ice break rock into small pieces and carry them away. _____
2. Molten rock beneath the Earth's surface. _____
3. Rock made of layers of sediment, pressed and cemented together. _____
4. Rock gets so hot that it turns into a liquid. _____
5. Rock that forms when molten rock cools and hardens. _____
6. Deep underground, these two things squeeze and bake rock until it changes. _____
7. Small pieces of rock settle and pile up in layers. _____
8. Rock that has been changed into a new form without melting. _____
9. Molten rock loses heat, forms crystals and becomes solid. _____

Part B. Answer the questions.

1. What are the three types of rock?

2. What is sediment?

3. What happens to rock deep underground if it gets hot enough to melt?

Rocks and Processes of the Rock Cycle: 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

Cooling and crystallization

Deposition

Heat and pressure

Igneous rock

Magma

Melting

Metamorphic rock

Sedimentary rock

Weathering and erosion

- | | |
|---|------------------------------------|
| 1. Wind, water and ice break rock into small pieces and carry them away. | Weathering and erosion |
| 2. Molten rock beneath the Earth's surface. | Magma |
| 3. Rock made of layers of sediment, pressed and cemented together. | Sedimentary rock |
| 4. Rock gets so hot that it turns into a liquid. | Melting |
| 5. Rock that forms when molten rock cools and hardens. | Igneous rock |
| 6. Deep underground, these two things squeeze and bake rock until it changes. | Heat and pressure |
| 7. Small pieces of rock settle and pile up in layers. | Deposition |
| 8. Rock that has been changed into a new form without melting. | Metamorphic rock |
| 9. Molten rock loses heat, forms crystals and becomes solid. | Cooling and crystallization |

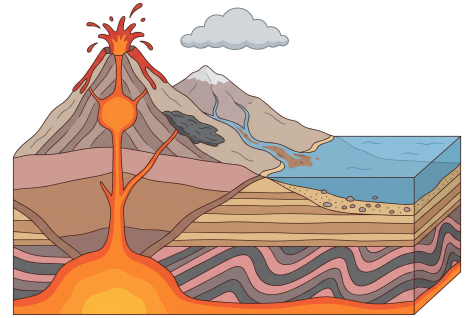
Part B. Answer the questions.

- | | |
|---|---|
| 1. What are the three types of rock? | Igneous rock, sedimentary rock and metamorphic rock. |
| 2. What is sediment? | Small pieces of rock that have been broken off and carried away. |
| 3. What happens to rock deep underground if it gets hot enough to melt? | It becomes magma. When the magma cools and hardens, it forms igneous rock. |

Rocks That Change

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

- 1 A rock looks like something that never changes. But over a very long time, a rock can turn into a different kind of rock. Scientists sort rocks into three types by how they formed: igneous, sedimentary and metamorphic.
- 2 **Igneous rock** forms when molten rock cools and hardens. Molten rock under the ground is called **magma**. At the surface it is called **lava**. Magma that cools slowly underground has time to grow large crystals. Granite formed this way. Lava cools quickly, so its crystals are tiny. Basalt formed this way.
- 3 At the surface, wind, water and ice break rock into small pieces. This is **weathering**. Carrying the pieces away is **erosion**. The pieces are called **sediment**. Rivers carry sediment to lakes and the sea, where it settles in layers. This is **deposition**. Over a long time, the layers are pressed and cemented together into **sedimentary rock**, such as sandstone. Most fossils are found in sedimentary rock.
- 4 Deep underground, rock is squeezed and heated. The **heat and pressure** can change it into a new kind of rock without melting it. The new rock is **metamorphic rock**. Limestone changes into marble this way, and shale changes into slate. Metamorphic rock often has wavy bands or stripes.
- 5 If rock gets hot enough, it melts into magma. Then it can cool into igneous rock again. All of these changes together are called the **rock cycle**. The rock cycle does not follow one fixed path. Any type of rock can become any other type. Igneous rock can be squeezed and heated into metamorphic rock. Metamorphic rock can be worn down into sediment. Most of these changes take thousands or millions of years.



Rock forms and changes at the surface and deep underground.



From left to right: igneous, sedimentary and metamorphic rock.

Rocks That Change: 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 start a rock collection
- ☐ Why volcanoes erupt
- ☐ How rocks form and change from one type to another
- ☐ Where fossils are found

2. How does igneous rock form?

- ☐ Layers of sediment are pressed together.
- ☐ Molten rock cools and hardens.
- ☐ Rock is squeezed and heated without melting.
- ☐ Wind and water break rock apart.

3. Why does granite have large crystals?

4. What is sediment?

- ☐ Molten rock under the ground
- ☐ Crystals inside a rock
- ☐ A layer of hardened lava
- ☐ Small pieces of broken rock

5. Number the steps 1, 2 and 3 to show how sedimentary rock forms (paragraph 3).

- ☐ The sediment settles in layers in a lake or the sea.
- ☐ The layers are pressed and cemented together.
- ☐ Wind, water and ice break rock into small pieces.

6. Which of these is a metamorphic rock?

- ☐ Granite
- ☐ Basalt
- ☐ Sandstone
- ☐ Marble

7. How does metamorphic rock form?

8. The rock cycle does not follow one fixed path. Give one example from paragraph 5.

Which Type of Rock?

Read how each rock formed. Write its type. Every type is used more than once.

ROCK	HOW IT FORMED	TYPE OF ROCK
1. Granite	Magma cooled slowly deep underground. It has large crystals.	_____
2. Sandstone	Grains of sand were pressed and cemented together.	_____
3. Marble	Limestone was changed by heat and pressure.	_____
4. Basalt	Lava cooled quickly at the surface. Its crystals are tiny.	_____
5. Shale	Layers of mud were pressed together until they hardened.	_____
6. Obsidian	Lava cooled so fast that no crystals formed. It looks like black glass.	_____
7. Slate	Shale was changed by heat and pressure.	_____
8. Limestone	Shells and bits of shell piled up on the sea floor and were cemented together.	_____
9. Pumice	Lava full of gas bubbles cooled quickly. It is full of holes.	_____
10. Gneiss	Granite was changed by strong heat and pressure. It has bands.	_____

Word bank

Igneous

Metamorphic

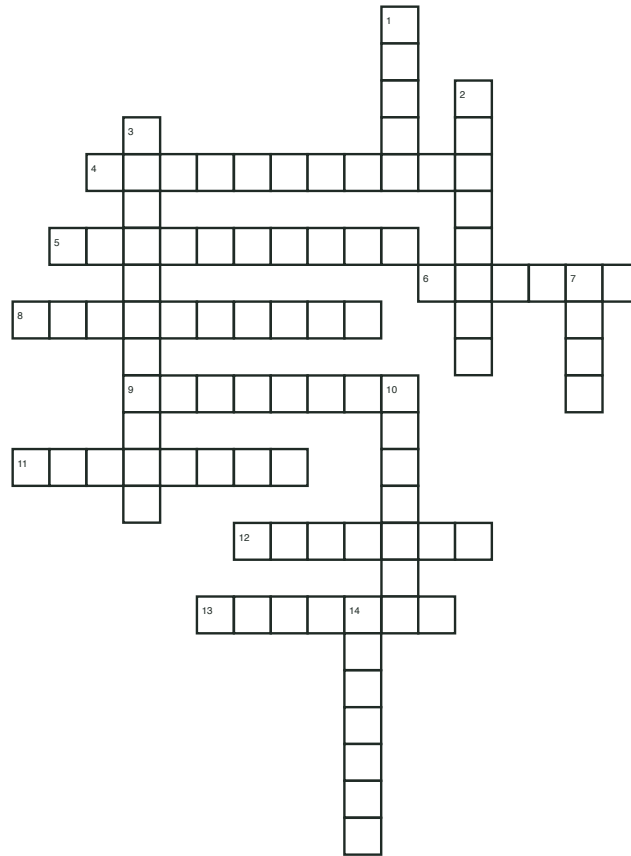
Sedimentary

Think about it

Marble started out as limestone. What had to happen to the limestone? Did it melt?

Rocks and the Rock Cycle Crossword

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



ACROSS

4. The type of rock made of layers pressed and cemented together.
5. Wind, water and ice break rock into small pieces.
6. A metamorphic rock that started out as limestone.
8. Small pieces of rock settle and pile up in layers.
9. Heat and ____ change rock deep underground.
11. The name for small pieces of broken rock.
12. An igneous rock with large crystals. It formed deep underground.
13. Rock gets so hot that it turns into a liquid.

DOWN

1. Molten rock beneath the Earth's surface.
2. These grow large when magma cools slowly.
3. The type of rock that has been changed by heat and pressure.
7. Molten rock at the Earth's surface.
10. Wind, water and ice carry small pieces of rock away.
14. The type of rock that forms when molten rock cools and hardens.

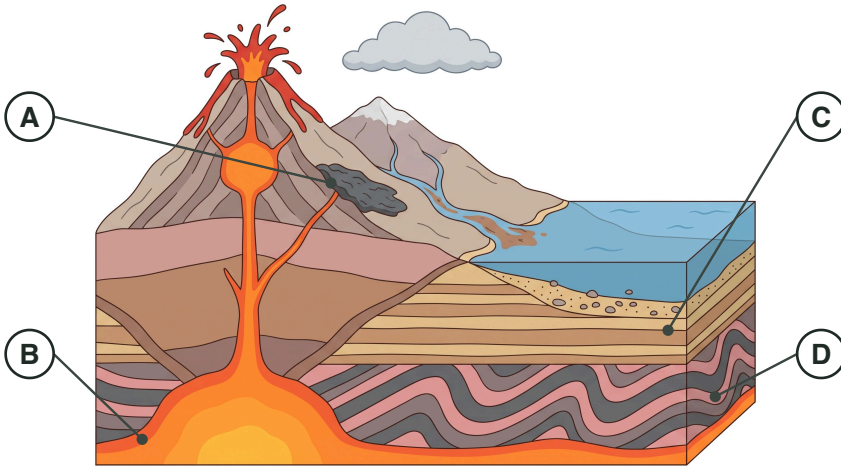
Word bank crystals deposition erosion granite igneous lava magma marble
melting metamorphic pressure sediment sedimentary weathering

Rocks and the Rock Cycle Quiz

Score _____ / 12

Show what you know about rocks and the rock cycle. In the picture, the dark patch on the volcano is hardened lava.

Part A. This is the rock cycle. Write the name of each part.



- A** _____
B _____
C _____
D _____

Igneous rock · Magma · Metamorphic rock ·
Sedimentary rock

Part B. Choose the best answer.

- Which type of rock forms when molten rock cools and hardens?
☐ Igneous
☐ Sedimentary
☐ Metamorphic
☐ Sediment
- What is sediment?
☐ Molten rock
☐ Small pieces of broken rock
☐ Crystals in a rock
☐ Hardened lava
- What changes a rock into metamorphic rock?
☐ Weathering and erosion
☐ Deposition
☐ Heat and pressure
☐ Cooling and crystallization
- Which process breaks rock into small pieces?
☐ Melting
☐ Deposition
☐ Crystallization
☐ Weathering
- Which of these is a sedimentary rock?
☐ Granite
☐ Sandstone
☐ Marble
☐ Basalt
- What is molten rock under the ground called?
☐ Lava
☐ Sediment
☐ Magma
☐ Slate

Part C. Write your answer.

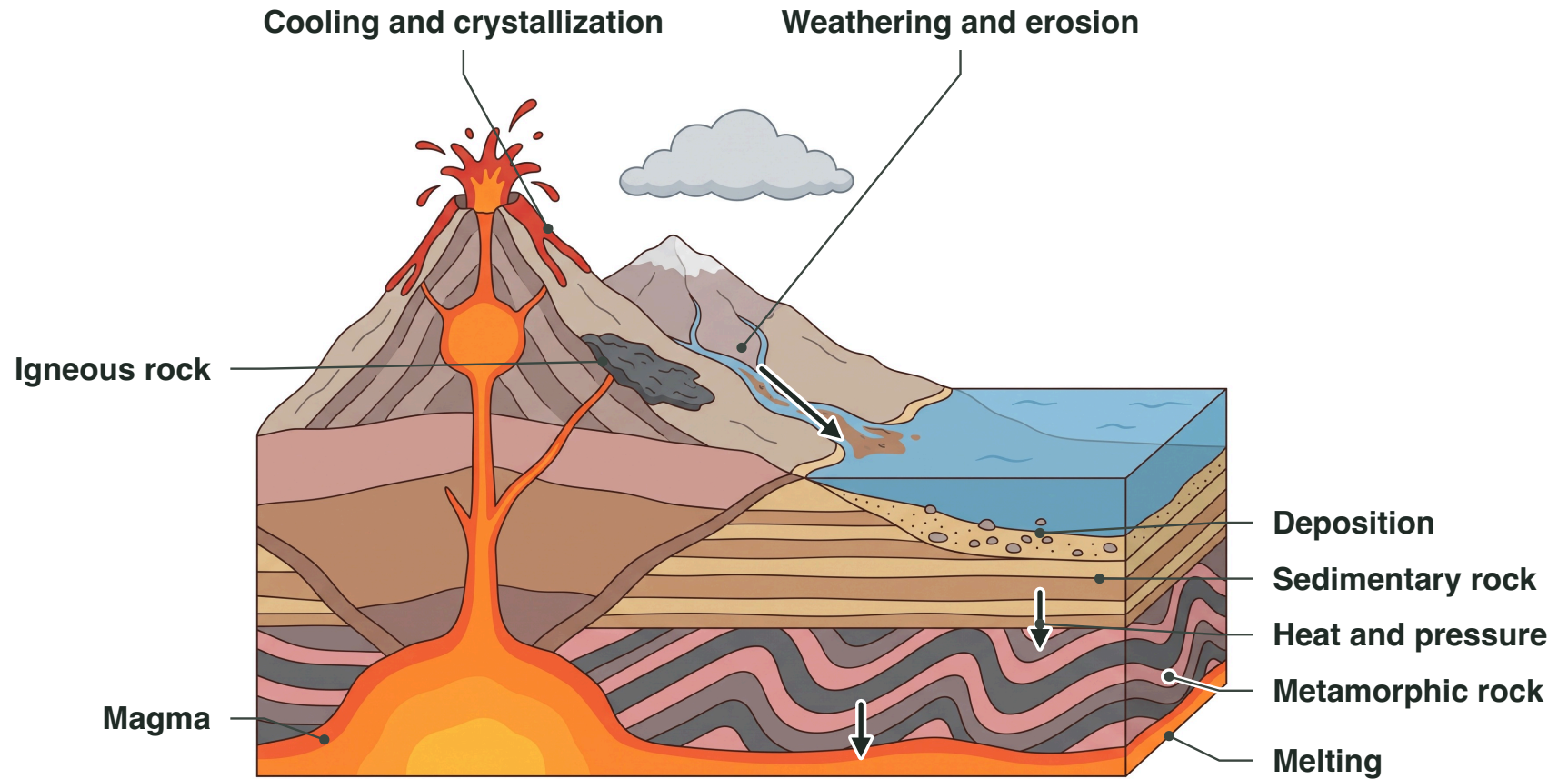
7. How does sedimentary rock form?

8. How can a metamorphic rock become an igneous rock?

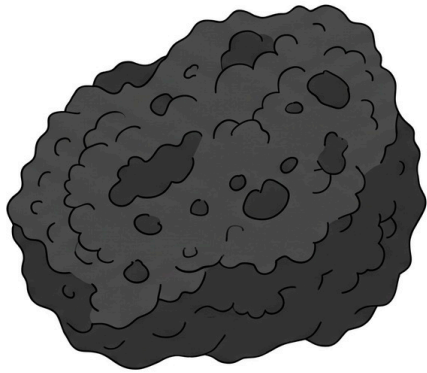
Answer Keys

In the same order as the sheets.

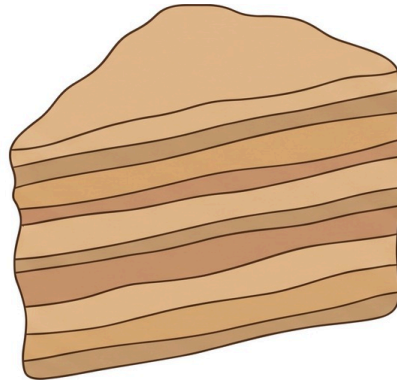
The Rock Cycle: Answer Key



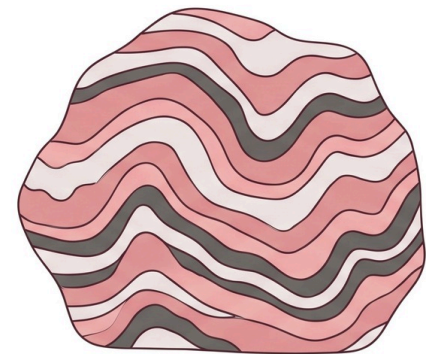
Types of Rocks: Answer Key



Igneous



Sedimentary



Metamorphic

Rocks That Change: Answer Key

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

1. What is this text mostly about?

- ☐ How to start a rock collection
- ☐ Why volcanoes erupt
- ☒ **How rocks form and change from one type to another**
- ☐ Where fossils are found

2. How does igneous rock form?

- ☐ Layers of sediment are pressed together.
- ☒ **Molten rock cools and hardens.**
- ☐ Rock is squeezed and heated without melting.
- ☐ Wind and water break rock apart.

3. Why does granite have large crystals?

It formed from magma that cooled slowly underground, so the crystals had time to grow.

4. What is sediment?

- ☐ Molten rock under the ground
- ☐ Crystals inside a rock
- ☐ A layer of hardened lava
- ☒ **Small pieces of broken rock**

5. Number the steps 1, 2 and 3 to show how sedimentary rock forms (paragraph 3).

- 2** The sediment settles in layers in a lake or the sea.
- 3** The layers are pressed and cemented together.
- 1** Wind, water and ice break rock into small pieces.

6. Which of these is a metamorphic rock?

- ☐ Granite
- ☐ Basalt
- ☐ Sandstone
- ☒ **Marble**

7. How does metamorphic rock form?

Heat and pressure deep underground change a rock into a new kind of rock without melting it.

8. The rock cycle does not follow one fixed path. Give one example from paragraph 5.

Igneous rock can become metamorphic rock. (Or: metamorphic rock can be worn down into sediment.)

Which Type of Rock?: Answer Key

Answers are in green. The last answer will vary; one example is given.

ROCK	HOW IT FORMED	TYPE OF ROCK
1. Granite	Magma cooled slowly deep underground. It has large crystals.	Igneous
2. Sandstone	Grains of sand were pressed and cemented together.	Sedimentary
3. Marble	Limestone was changed by heat and pressure.	Metamorphic
4. Basalt	Lava cooled quickly at the surface. Its crystals are tiny.	Igneous
5. Shale	Layers of mud were pressed together until they hardened.	Sedimentary
6. Obsidian	Lava cooled so fast that no crystals formed. It looks like black glass.	Igneous
7. Slate	Shale was changed by heat and pressure.	Metamorphic
8. Limestone	Shells and bits of shell piled up on the sea floor and were cemented together.	Sedimentary
9. Pumice	Lava full of gas bubbles cooled quickly. It is full of holes.	Igneous
10. Gneiss	Granite was changed by strong heat and pressure. It has bands.	Metamorphic
Word bank Igneous Metamorphic Sedimentary		

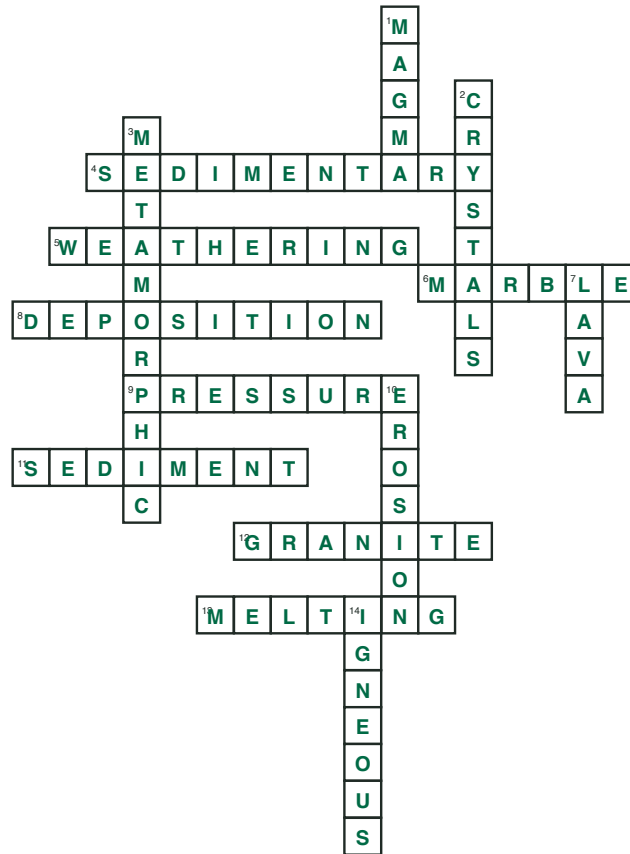
Think about it

Marble started out as limestone. What had to happen to the limestone? Did it melt?

It was buried deep underground, where heat and pressure changed it into marble. It did not melt.

Rocks and the Rock Cycle Crossword: Answer Key

Answers are in green.



ACROSS

4. The type of rock made of layers pressed and cemented together.
5. Wind, water and ice break rock into small pieces.
6. A metamorphic rock that started out as limestone.
8. Small pieces of rock settle and pile up in layers.
9. Heat and ____ change rock deep underground.
11. The name for small pieces of broken rock.
12. An igneous rock with large crystals. It formed deep underground.
13. Rock gets so hot that it turns into a liquid.

DOWN

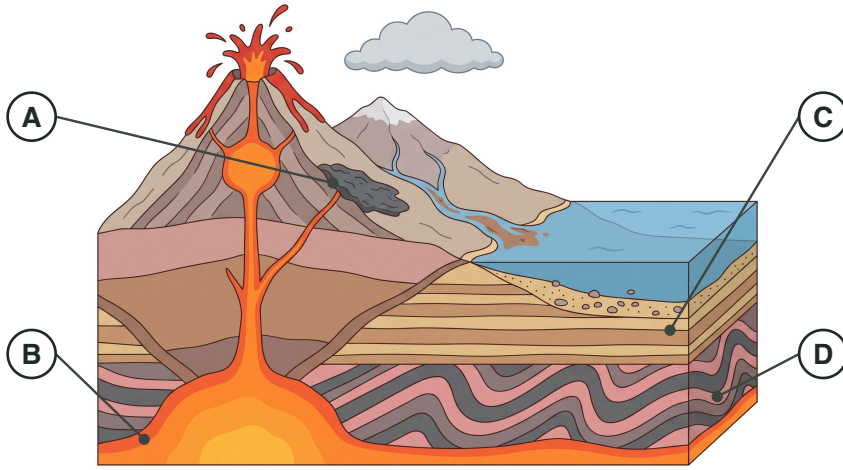
1. Molten rock beneath the Earth's surface.
2. These grow large when magma cools slowly.
3. The type of rock that has been changed by heat and pressure.
7. Molten rock at the Earth's surface.
10. Wind, water and ice carry small pieces of rock away.
14. The type of rock that forms when molten rock cools and hardens.

Word bank crystals deposition erosion granite igneous lava magma marble
melting metamorphic pressure sediment sedimentary weathering

Rocks and the Rock Cycle Quiz: Answer Key

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

Part A. This is the rock cycle. Write the name of each part.



A **Igneous rock**

B **Magma**

C **Sedimentary rock**

D **Metamorphic rock**

Igneous rock · Magma · Metamorphic rock ·
Sedimentary rock

Part B. Choose the best answer.

1. Which type of rock forms when molten rock cools and hardens?

- ☒ **Igneous**
- ☐ Sedimentary
- ☐ Metamorphic
- ☐ Sediment

2. What is sediment?

- ☐ Molten rock
- ☒ **Small pieces of broken rock**
- ☐ Crystals in a rock
- ☐ Hardened lava

3. What changes a rock into metamorphic rock?

- ☐ Weathering and erosion
- ☐ Deposition
- ☒ **Heat and pressure**
- ☐ Cooling and crystallization

4. Which process breaks rock into small pieces?

- ☐ Melting
- ☐ Deposition
- ☐ Crystallization
- ☒ **Weathering**

5. Which of these is a sedimentary rock?

- ☐ Granite
- ☒ **Sandstone**
- ☐ Marble
- ☐ Basalt

6. What is molten rock under the ground called?

- ☐ Lava
- ☐ Sediment
- ☒ **Magma**
- ☐ Slate

Part C. Write your answer.

7. How does sedimentary rock form?

Sediment settles in layers. Over a long time the layers are pressed and cemented together.

8. How can a metamorphic rock become an igneous rock?

It gets hot enough to melt into magma. Then the magma cools and hardens.