



Lesson Plan: Changes on Earth

Grade Level: 3

Subject: Earth Science

Duration: 45–60 min

NGSS 3-ESS3-1: Make a claim about the merit of a design solution that reduces the impacts of a weather-related hazard.

Learning Objectives

By the end of this lesson, students will be able to:

- **Identify** the three main layers of the Earth: crust, mantle, and core.
- **Describe** how natural processes like weathering, erosion, volcanic eruptions, and earthquakes change the Earth's surface.



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Materials Needed: (all links are included in this PDF)

- Study Guide - Changes on Earth (<https://newpathworksheets.com/api/guide/study-guide-science-grade-3-changes-on-earth.pdf>)
- Activity Lesson - Inside the Earth (<https://newpathworksheets.com/api/activity-lesson/activity-lesson-science-grade-3-changes-on-earth-4.pdf>)
- Review Worksheet - Labeling Layers (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-changes-on-earth-3.pdf>)



- Assessment Worksheet - Quiz (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-changes-on-earth-2.pdf>)
- Vocabulary Worksheet - Definitions (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-changes-on-earth-3.pdf>)

Lesson Procedure

Step 1: Introduction (5 minutes)

- Engage students by asking: "What do you think is deep inside the Earth beneath the ground we stand on?"
- Show images of the Earth's layers and landforms using the visualizations in the Activity Lesson. (<https://newpathworksheets.com/api/activity-lesson/activity-lesson-science-grade-3-changes-on-earth-4.pdf>)



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- Have students complete the labeling worksheet where they identify the Earth's layers and match landform definitions. (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-changes-on-earth-3.pdf>)
- Circulate and assist students as they distinguish between weathering and erosion.

Step 5: Assessment (10 minutes)



- Administer the multiple-choice quiz to assess understanding of volcanoes, earthquakes, and Earth's layers. (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-changes-on-earth-2.pdf>)
- Collect worksheets to evaluate student mastery of the lesson objectives.

Differentiation Strategies

For advanced learners:

- Ask students to research a famous volcanic eruption (e.g., Mt. St. Helens) and list three facts about its impact.

For learners needing support:

- Provide a color-coded diagram of the Earth's layers to help students during the labeling activity.



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- Worksheet - Quiz 0 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-changes-on-earth-0.pdf>)
- Worksheet - Quiz 1 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-changes-on-earth-1.pdf>)
- Worksheet - Assessment 2 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-changes-on-earth-2.pdf>)
- Worksheet - Review 3 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-changes-on-earth-3.pdf>)



- Vocabulary Worksheet 1 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-changes-on-earth-1.pdf>)
- Vocabulary Worksheet 2 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-changes-on-earth-2.pdf>)
- Vocabulary Worksheet 3 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-changes-on-earth-3.pdf>)



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CHANGES ON EARTH

Layers of Earth

The Earth is made up of **three main layers: crust, mantle, and core.**



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The inside layer of the Earth is called the **core**.

The Earth's **core** is made of metal. The Earth's **core** is so very hot, hot enough to melt but the center of the core is packed together so tightly it is solid. The outer section of the Earth's **core** however is hot, thick liquid.

Lesson Checkpoint:
What types of rocks make up the Earth's mantle?

Earth's Landforms

Landforms are many different solid features formed on top of the Earth's crust. Some also involve bodies of water.



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saltwater. Oceans cover just about $\frac{3}{4}$ of the Earth's surface. A **river** is a natural flow of water that is larger than a brook or a creek. A **lake** is large body of still water surrounded by land. A **coast** is the land that is right next to the ocean that forms the coastline.

A **valley** is a low, narrow area that is formed by rivers and glaciers. A **plain** is a large, mostly flat area of land. A **plateau** is a plain that is up higher than all the land surrounding it. Sometimes you will find a plateau on a mountain.

A **hill** is an elevated land but it is not as tall as a **mountain**. A **mountain** is elevated land that reaches high above the Earth's surface and is larger than a hill.

Lesson Checkpoint: Which is taller, a hill or a mountain?

A **volcano** is an opening in the Earth's crust from which hot, melted rock forcefully comes out when pressure is built up inside the Earth. **Magma** is what we call the melted rock that is beneath the Earth's surface. When it bursts out of the volcano and flows on land we call that same molten rock **lava**.

Volcanoes erupt when magma is close to the Earth's surface and pressure builds up forcing the magma out of the Earth's crust.



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Lesson Checkpoint: What is the difference between magma and lava?

An **earthquake** is a sudden shift in the Earth's crust that causes the ground to shake and vibrate violently. Most **earthquakes** happen near faults. **Faults** are large cracks in the Earth's crust.

Weathering is the process of rocks being changed over time by conditions such as rain, snow, ice, pressure. Rocks can change shape, size, or break into smaller pieces from weathering.



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Name _____ Class _____ Date _____

Inside the Earth

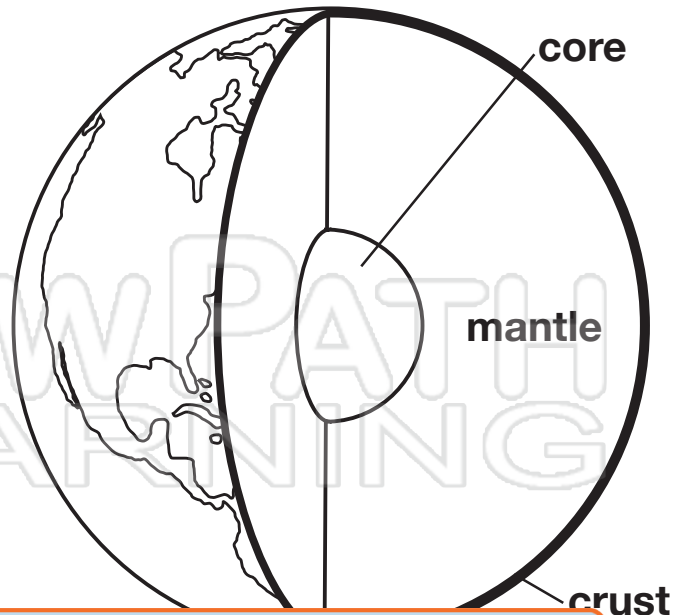
Earth is made up of **three main layers**.

The outer layer is called the **crust**.

Earth's **crust** is made up of many different rocks.

The layer beneath the Earth's crust is called the **mantle**. The **mantle** is made of igneous and metamorphic rocks.

The Earth's **core** is made of metal. The outer section of the **core** is hot, thick liquid. The center, however, is solid.

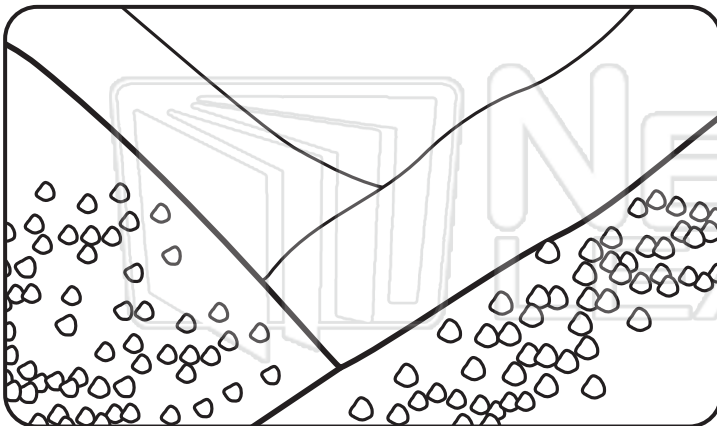


Land
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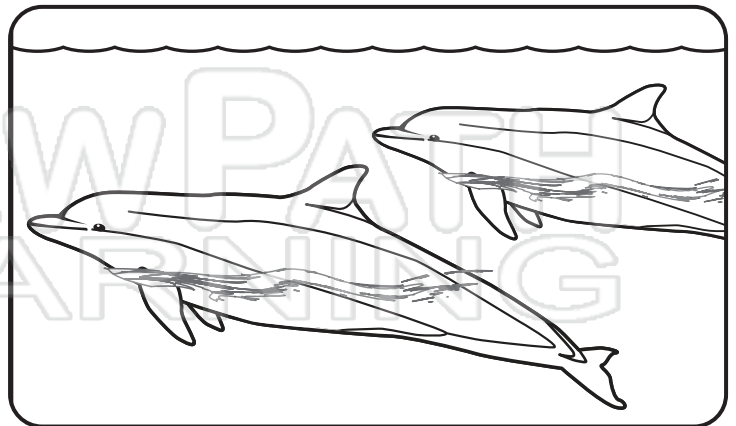


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hills & valley

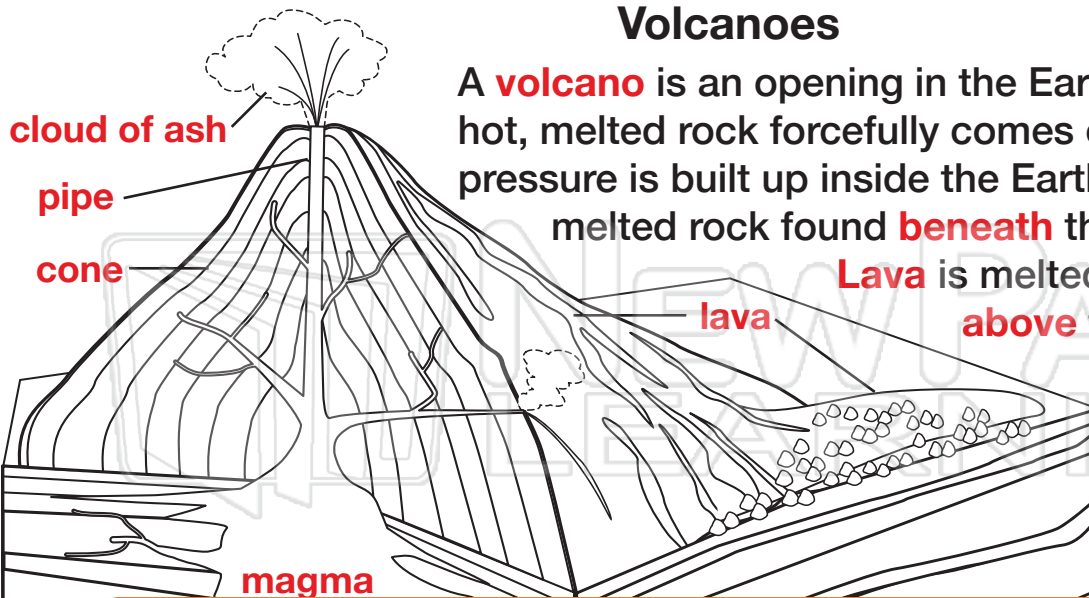


ocean



Name _____ Class _____ Date _____

Volcanoes



A **volcano** is an opening in the Earth's crust which hot, melted rock forcefully comes out of when pressure is built up inside the Earth. **Magma** is melted rock found **beneath** the Earth's surface. **Lava** is melted rock that comes **above** the Earth's surface.

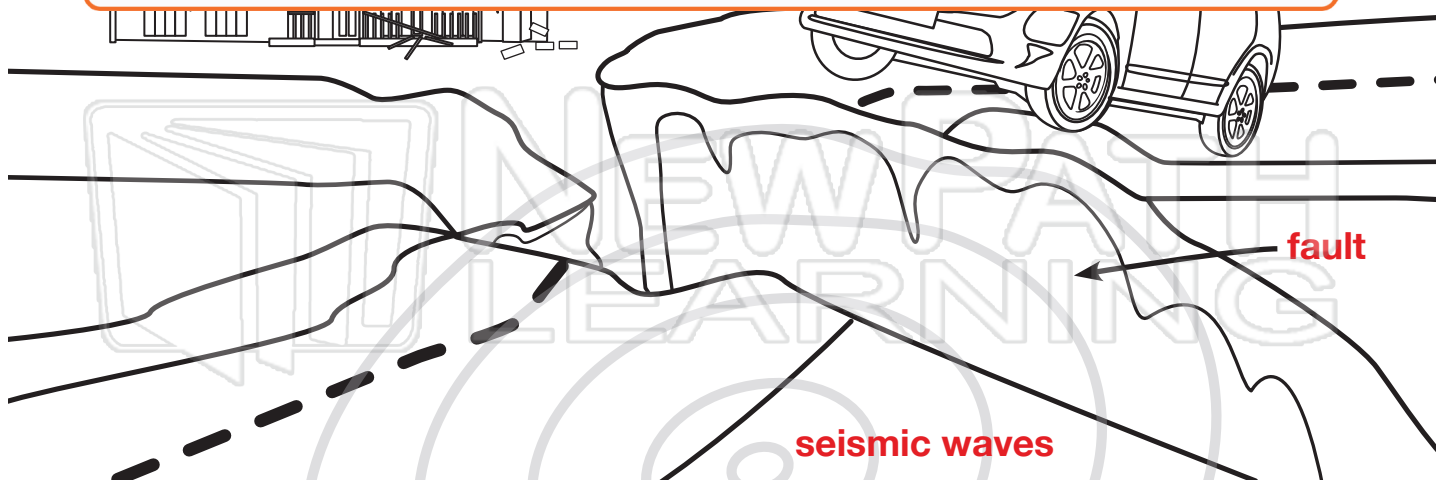


An ea
shake
large

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Name _____ Class _____ Date _____

Earth has 3 layers. Name them.



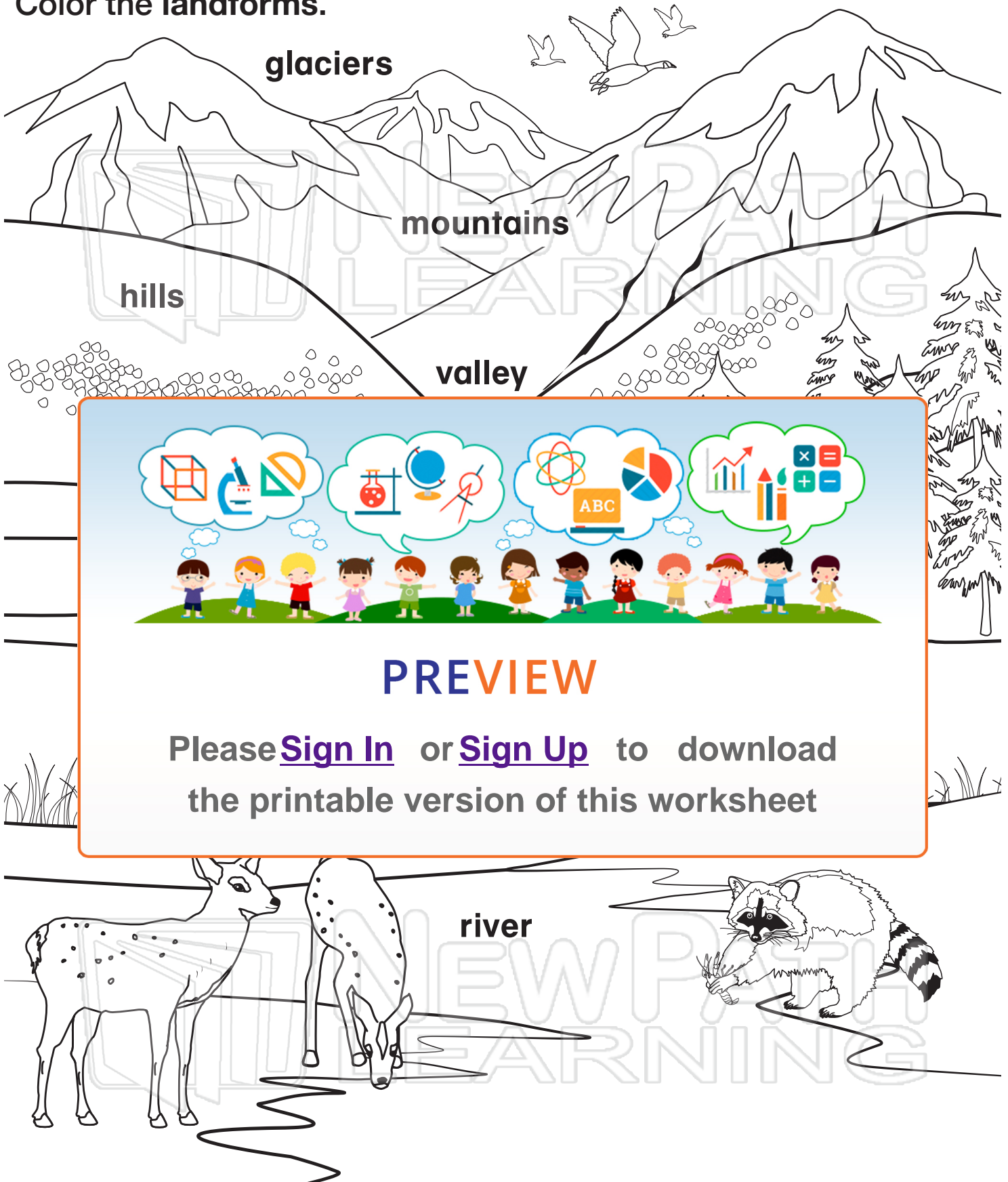
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Name _____ Class _____ Date _____

Color the landforms.





Changes on Earth

Sci
C

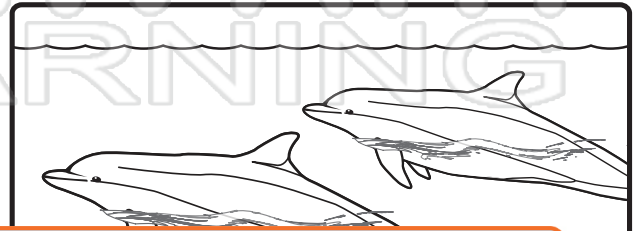
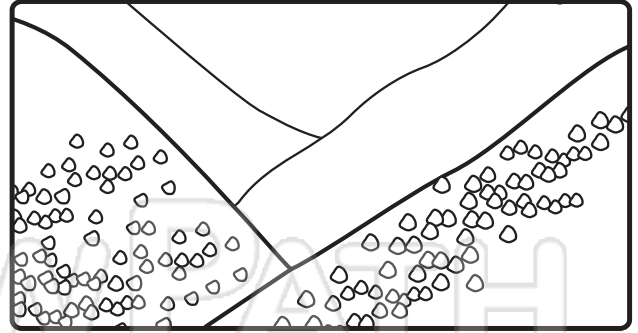
Name _____ Class _____ Date _____

Match each landform to a picture.

ocean



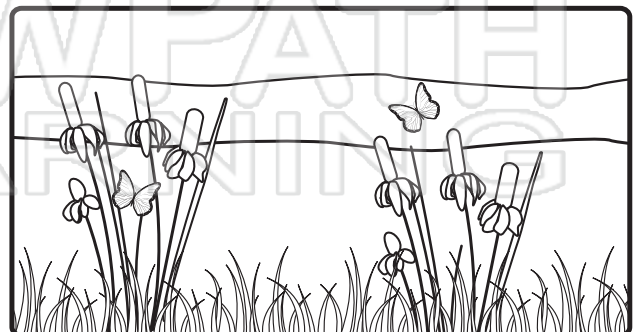
valley



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lake





Answer Key

Earth has 3 layers. Name them.



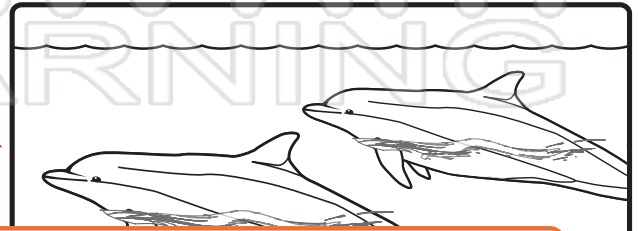
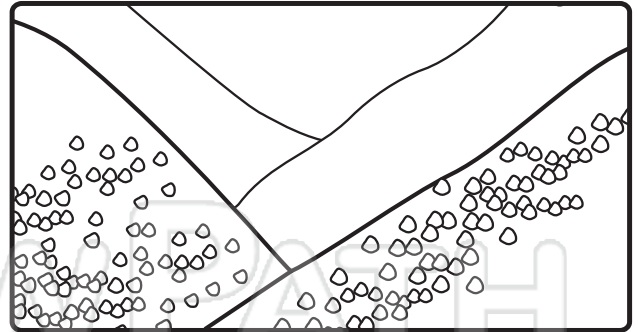


Answer Key

Match each landform to a picture.

ocean

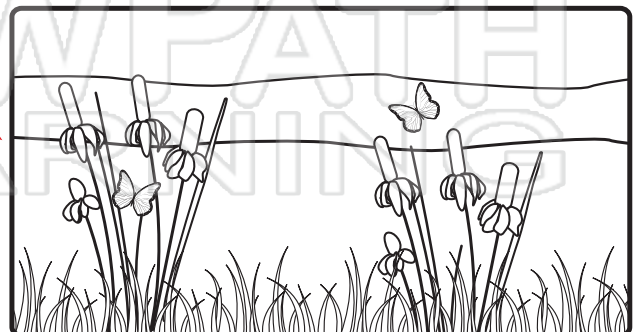
valley



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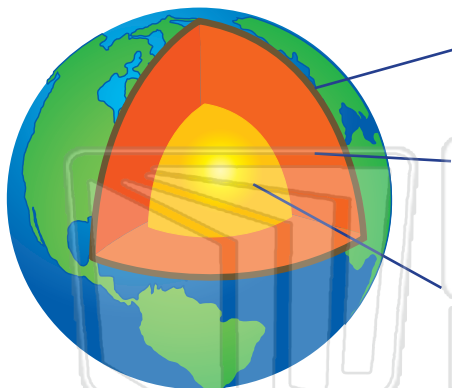
lake





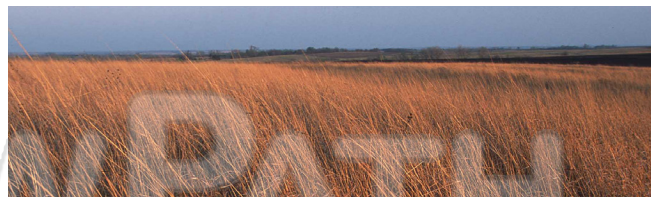
Name _____ Class _____ Date _____

- 1 Label the three **main layers** of the Earth.



- 2 What two kinds of **rock** is the **Earth's mantle** made of? Circle them.

- 6 A _____ is a **large, mostly flat area of land**.



- 7 A _____ is a natural **body of flowing water** that is larger than a brook or a creek.



3 T



4

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- 5 A _____ is a **slow-moving, large body of ice**.



- 10 What do we call the **process** in which land that has been **weathered, moves and shifts over time**? It can be caused by water, wind, gravity, and glaciers.



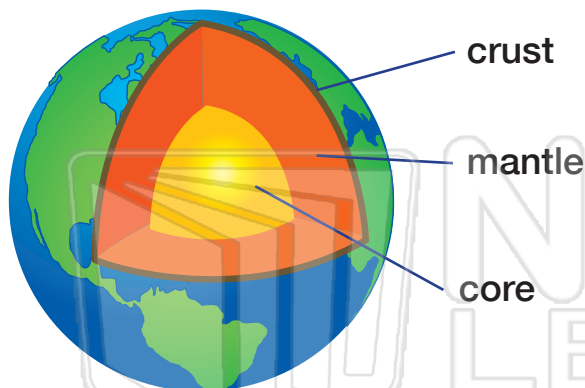


Changes on Earth - Answer Key

Sci
C

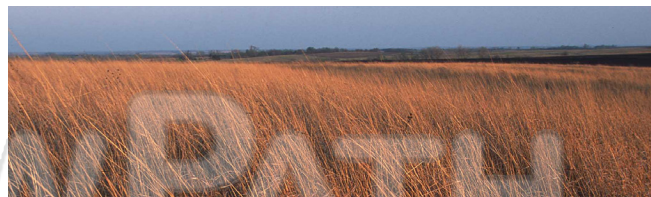
Name _____ Class _____ Date _____

- 1 Label the three **main layers** of the Earth.

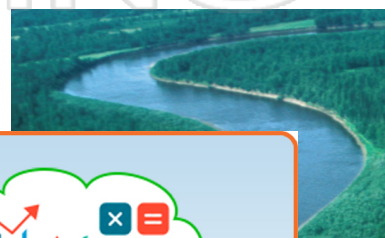


- 2 What two kinds of **rock** is the **Earth's mantle** made of? Circle them.

- 6 A **plain** is a **large, mostly flat area of land**.



- 7 A **river** is a natural **body of flowing water** that is larger than a brook or a creek.



3 T

4



PREVIEW

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- 5 A **glacier** is a **slow-moving, large body of ice**.



- 10 What do we call the **process** in which land that has been **weathered, moves and shifts over time**? It can be caused by water, wind, gravity, and glaciers.



erosion



Name _____ Class _____ Date _____

1

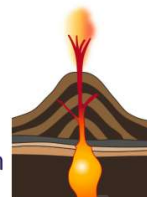
A _____ is an **opening in the earth's crust** from which hot, melted rock forcefully flows when pressure builds inside the earth.

- A volcano
- B magma
- C lava pit
- D mountain

**2**

What is **magma**?

- A a hot rock
- B melted rock above the earth's surface
- C melted rock beneath the earth's surface
- D rock that has cooled above the earth's surface

**3**

Lava is **melted rock** that flows _____ the earth's surface.

- A above
- B under
- C below

**4**

Volcanoes happen when _____ builds up beneath the earth's surface and pressure forces the magma out of the earth's crust.

- A rocks
- B magma

**5**

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- C weathering
- D faulting



- B Cold weather
- C Water
- D Dirt

**9**

What do we call the **process** in which land that has been **weathered, moved and shifts** over time?

- A earthquake
- B weathering
- C water flow
- D erosion

**10**

_____ is **caused** by water, wind, gravity, and glaciers.

- A A waterfall
- B A glacier
- C Erosion
- D A lake





Name _____ Class _____ Date _____

1

A _____ is an **opening in the earth's crust** from which hot, melted rock forcefully flows when pressure builds inside the earth.

- A volcano
- B magma
- C lava pit
- D mountain

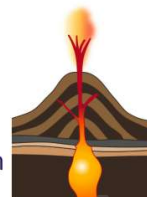


A

2

What is **magma**?

- A a hot rock
- B melted rock above the earth's surface
- C melted rock beneath the earth's surface
- D rock that has cooled above the earth's surface



C

3

Lava is **melted rock** that flows _____ the earth's surface.

- A above
- B under
- C below



A

4

Volcanoes happen when _____ builds up beneath the earth's surface and pressure forces the magma out of the earth's crust.

- A rocks
- B magma



B

5



C

PREVIEW

7

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C

- C weathering
- D faulting



- B Cold weather
- C Water
- D Dirt



9

What do we call the **process** in which land that has been **weathered, moved and shifts** over time?

- A earthquake
- B weathering
- C water flow
- D erosion



D

10

_____ is **caused** by water, wind, gravity, and glaciers.

- A A waterfall
- B A glacier
- C Erosion
- D A lake



C



Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Volcano	Earth's mantle	Ocean	Weathering
Earth's crust	Valley	Earth's core	River

1. - moving bodies of freshwater that flow into the ocean



2. - a low, narrow geographic area that is formed by rivers and glaciers

3. rock from
mountains
Earth's

4.



5. different

6. igneous

7. - a habitat that covers much of the Earth and is made up of saltwater



8. - the natural processes that break large rock into smaller and smaller pieces



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Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Volcano

Earth's mantle

Ocean

Weathering

Earth's crust

Valley

Earth's core

River

1. **river** - moving bodies of freshwater that flow into the ocean



2. **valley** - a low, narrow geographic area that is formed by rivers and glaciers

3. **volcano** - a force that erupts from the Earth's crust

4. **Earth's crust** - the outermost layer of the Earth

5. **Earth's mantle** - the layer of the Earth between the crust and the core

6. **Earth's core** - the innermost layer of the Earth, made of iron and nickel



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7. **ocean** - a habitat that covers much of the Earth and is made up of saltwater



8. **weathering** - the natural processes that break large rock into smaller and smaller pieces

