



## 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-1.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.



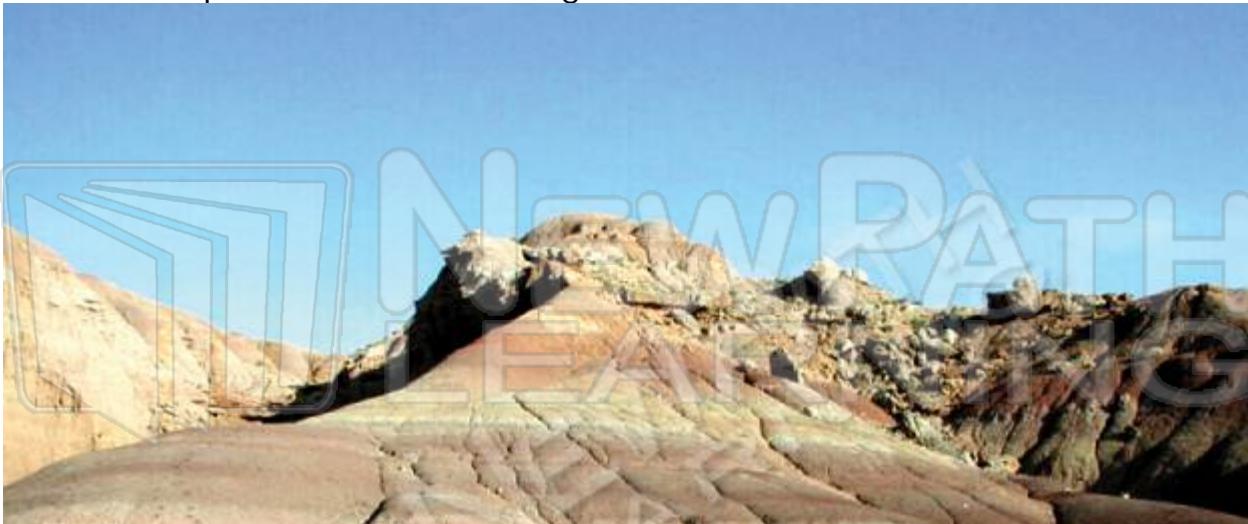
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### **Lesson Checkpoint:** **What is the difference between magma and lava?**

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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# Changes on Earth

Sci  
C

Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

## Inside the Earth

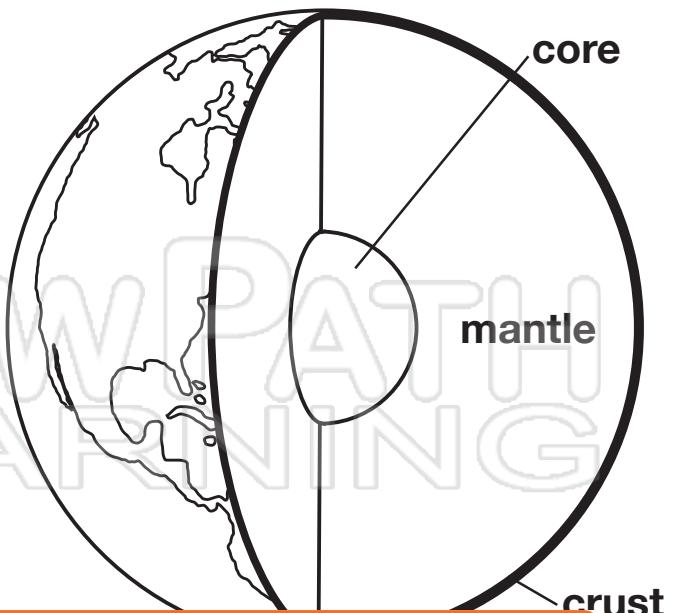
Earth is made up of **three main layers**.

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.

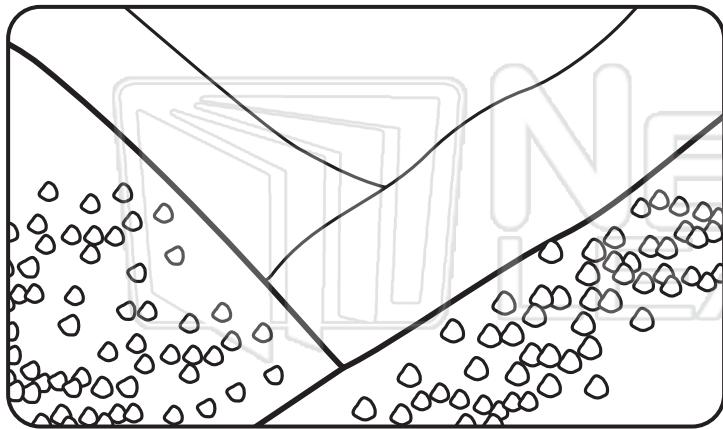


Land  
some

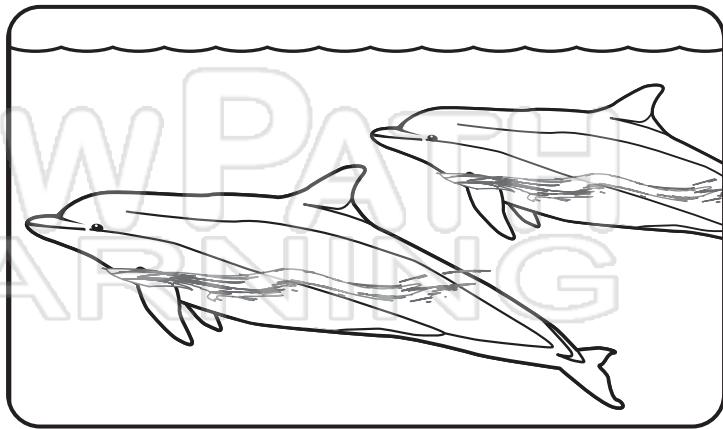


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hills & valley



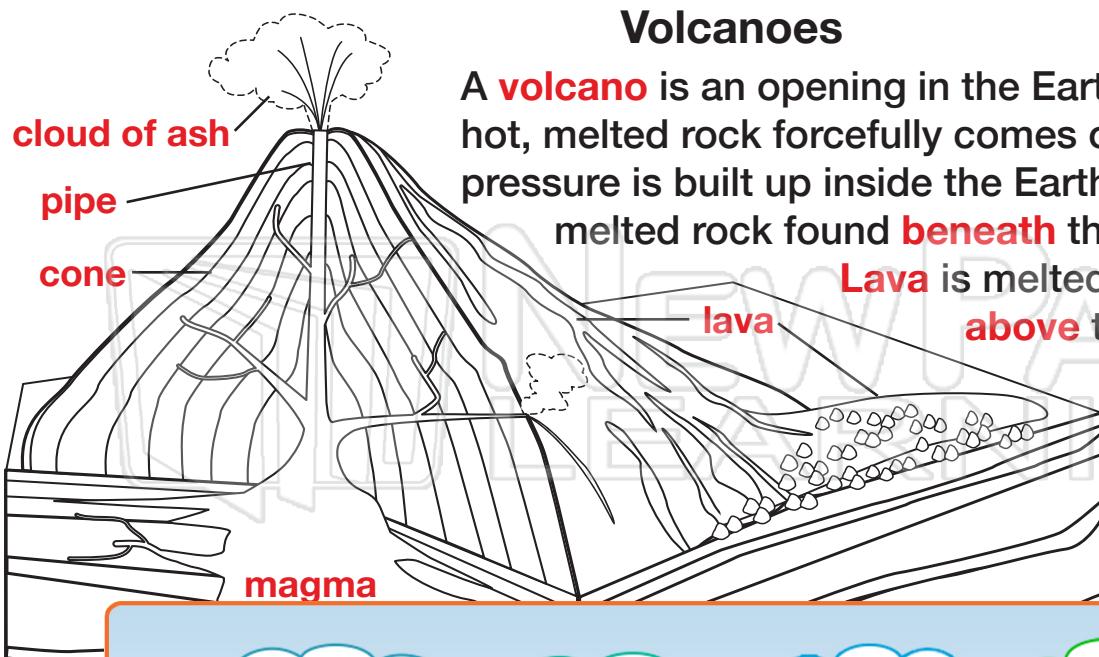
ocean



# Changes on Earth

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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.

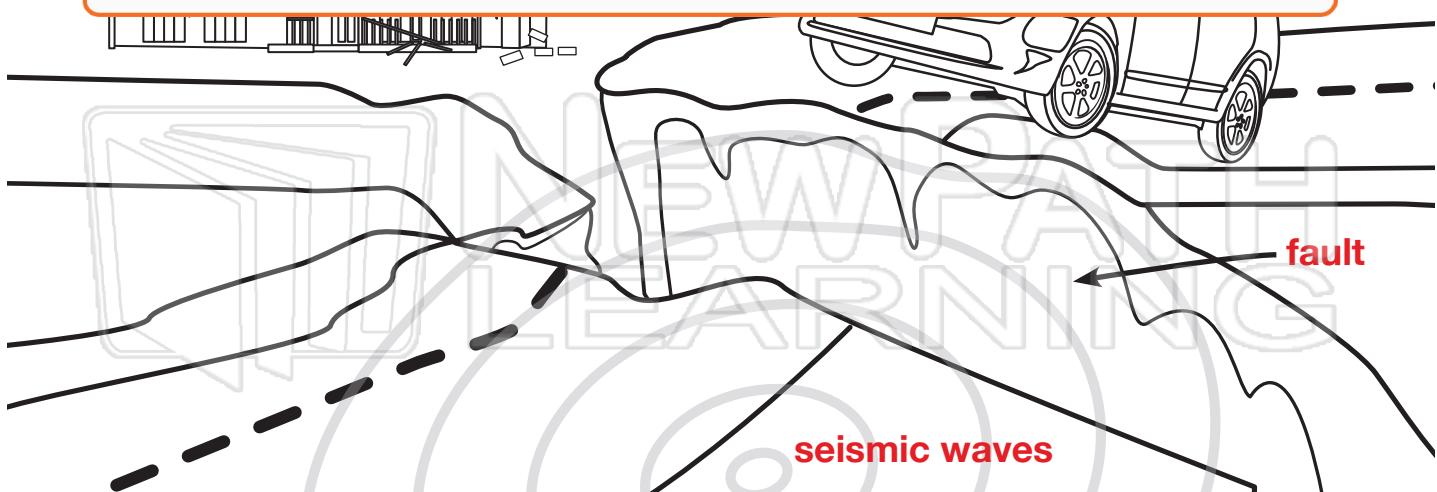


An **earthquake** is a shaking of the ground caused by a large

shock wave that passes through the Earth.

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Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

**Earth has 3 layers. Name them.**



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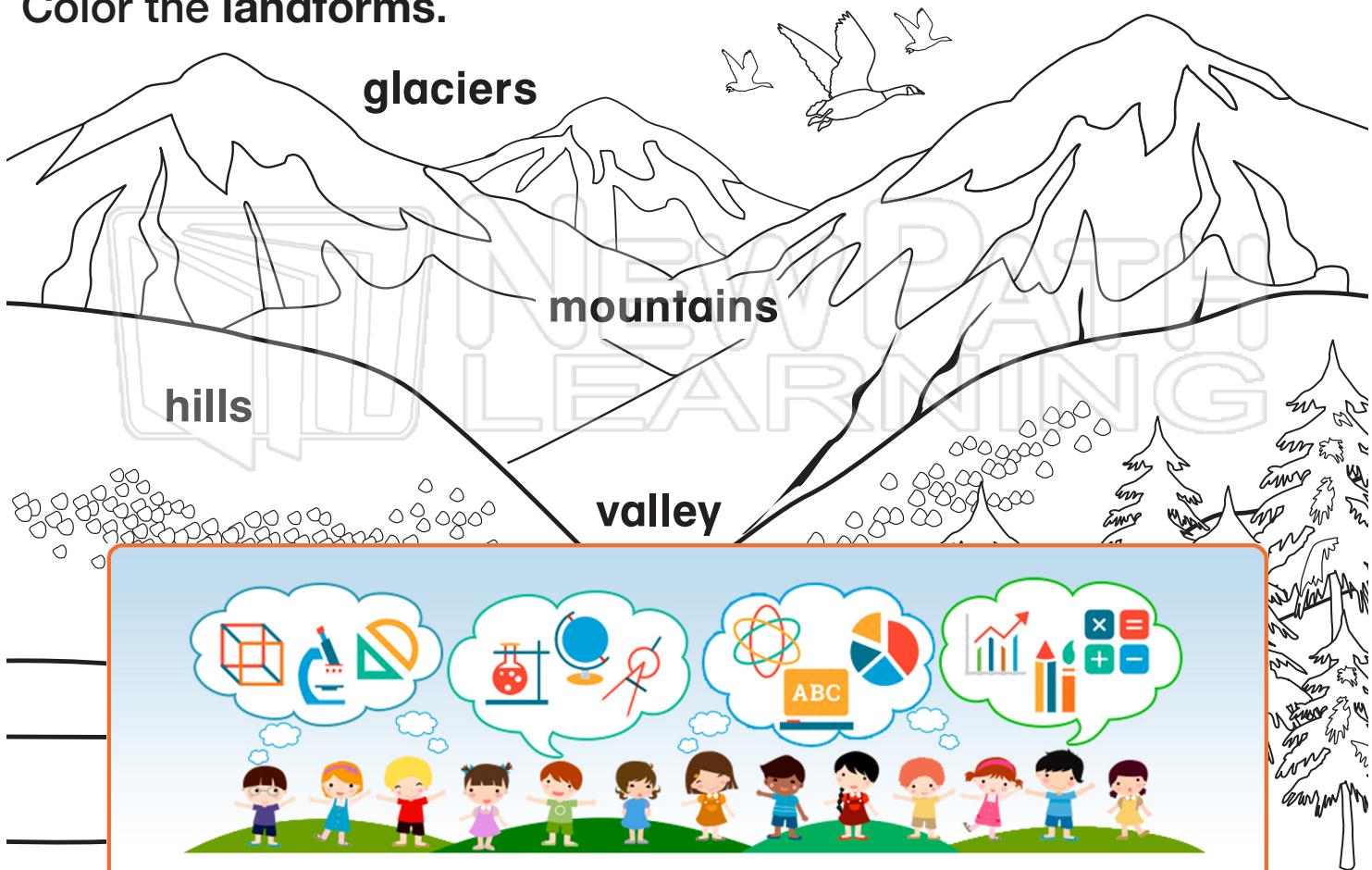


# Changes on Earth

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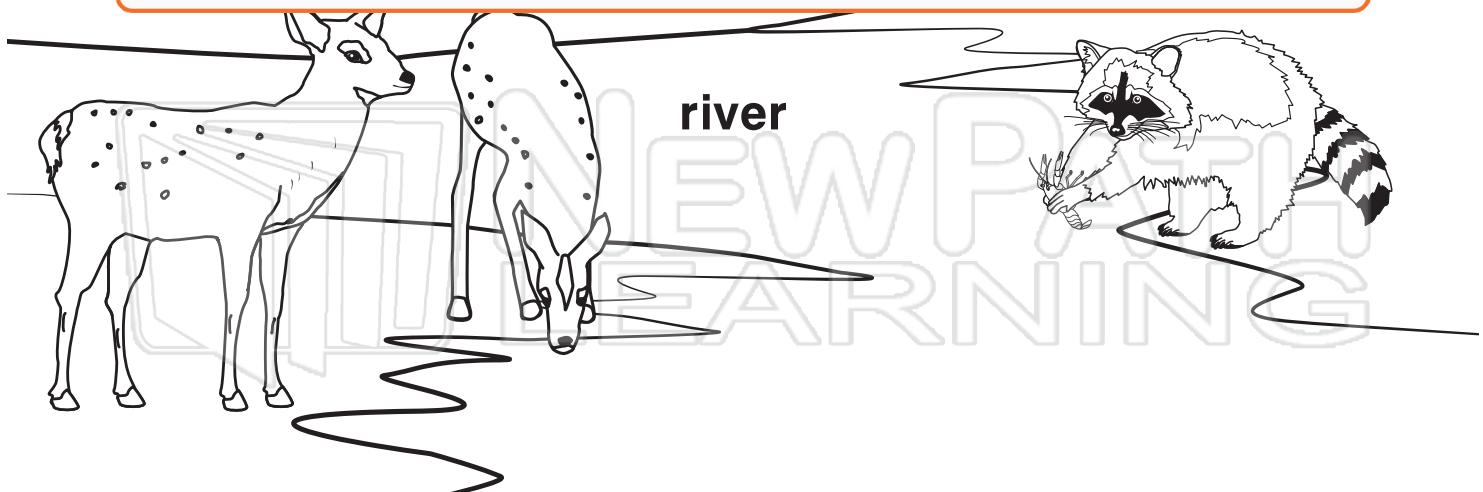
Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

Color the landforms.



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# Changes on Earth

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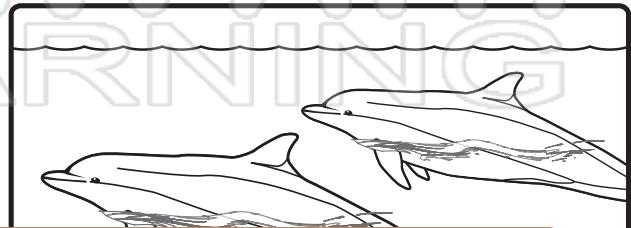
Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

Match each landform to a picture.

**ocean**



**valley**



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**lake**





## Answer Key

Earth has 3 layers. Name them.



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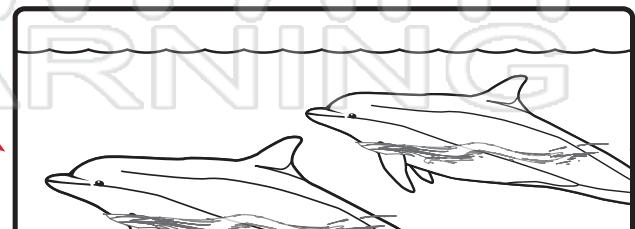
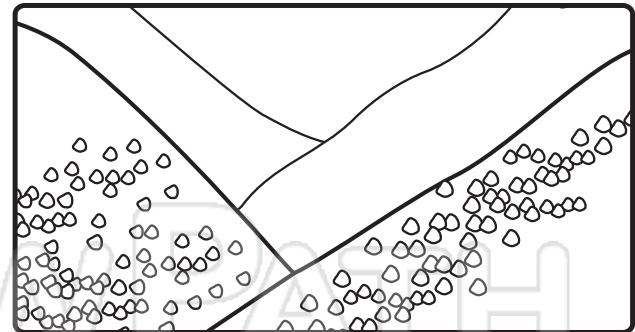


## Answer Key

Match each landform to a picture.

**ocean**

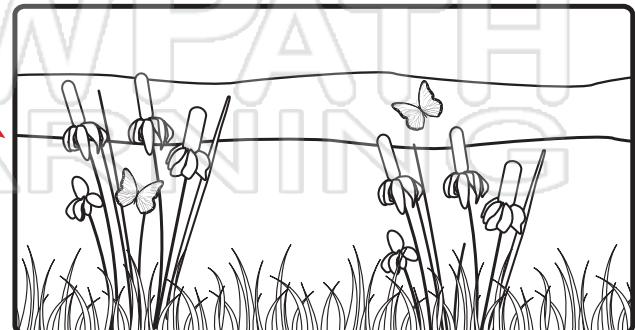
**valley**



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**lake**



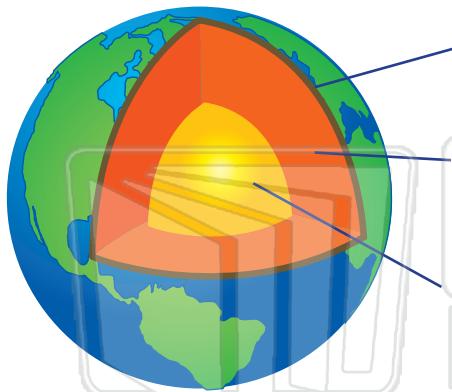


# Changes on Earth

Sci  
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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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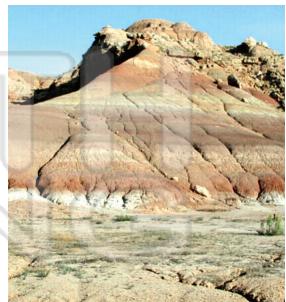
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5

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.



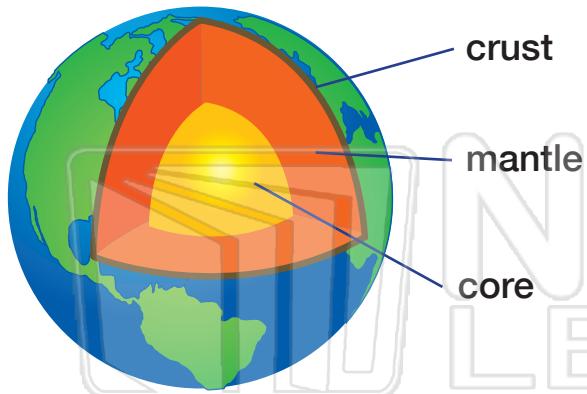


# Changes on Earth - Answer Key

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



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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



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



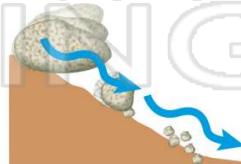
9 What do we call the **process** in which land that has been **weathered, moved and shifts** over time?

- 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.

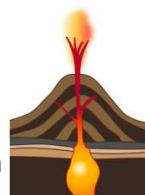
A volcano  
B magma  
C lava pit  
D mountain



A

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

**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

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C weathering  
D faulting



B Cold weather  
C Water  
D Dirt



C

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

\_\_\_\_\_ 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

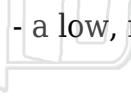
Earth's core

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  
4. for  
5. mount  
6. Earth'



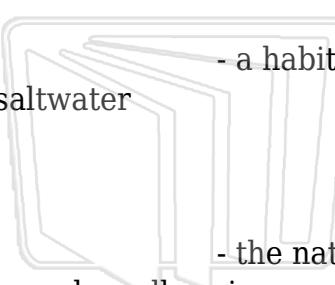
4.

5. differ  
6. ence

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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





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**  
forceful  
that fo



**4. Earth**

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**6. Earth**  
igneou



**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

