



Lesson Plan: Rocks, Minerals, and Soil

Grade Level: 3

Subject: Earth Science

Duration: 45–60 min

Core Idea ESS: The composition of the Earth and its atmosphere and the natural and human processes occurring within them shape the Earth's surface and its climate.

Learning Objectives

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

- **Identify** the three main types of rocks: igneous, sedimentary, and metamorphic.
- **Describe** properties of minerals such as luster, streak, and hardness.
- **Explain** the composition of soil and name its three main layers: topsoil, subsoil, and bedrock.



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

- Study Guide - Rocks, Minerals, and Soil (<https://newpathworksheets.com/api/guide/study-guide-science-grade-3-rocks-minerals-and-soil.pdf>)
- Activity Lesson - Rock Cycle & Labeling (<https://newpathworksheets.com/api/activity-lesson/activity-lesson-science-grade-3-rocks-minerals-and-soil-rock-minerals-soil-4.pdf>)



- Worksheet - Properties of Rocks (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-rocks-minerals-and-soil-3.pdf>)
- Assessment Quiz (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-rocks-minerals-and-soil-0.pdf>)
- Vocabulary Worksheet Set 1 (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-rocks-minerals-and-soil-1.pdf>)

Lesson Procedure

Step 1: Introduction (5 minutes)

- Hook students by asking: 'What do you think the ground beneath our feet is made of?'
- Show images of different rocks and soil layers using the Study Guide to spark interest. (<https://newpathworksheets.com/api/guide/study-guide-science-grade-3-rocks-minerals-and-soil-2.pdf>)



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- Have students complete the Activity Lesson, where they draw and label rocks and complete the rock cycle diagram. (<https://newpathworksheets.com/api/activity-lesson/activity-lesson-science-grade-3-rocks-minerals-and-soil-rock-minerals-soil-4.pdf>)
- Alternatively, assign the fill-in-the-blank worksheet to reinforce rock properties. (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-rocks-minerals-and-soil-3.pdf>)

Step 5: Assessment (10 minutes)



- Administer the multiple-choice quiz to assess student understanding of rock types, mineral properties, and soil layers. (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-rocks-minerals-and-soil-0.pdf>)
- Collect the quizzes to evaluate individual progress and mastery of the lesson objectives.

Differentiation Strategies

For advanced learners:

- Ask students to research a specific mineral (e.g., diamond, quartz) and present its uses in everyday life.
- Have students compare and contrast two different rock types in a short paragraph.

For learners needing support:

- Provide a visual anchor chart with pictures of the three rock types to assist during the



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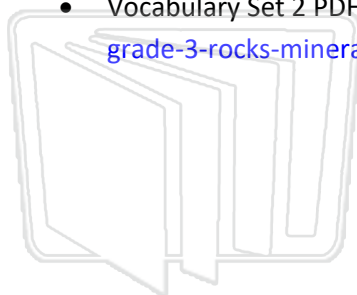
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[3/rocks-minerals-and-soil](https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-rocks-minerals-and-soil))

- Study Guide PDF (<https://newpathworksheets.com/api/guide/study-guide-science-grade-3-rocks-minerals-and-soil.pdf>)
- Activity Lesson PDF (<https://newpathworksheets.com/api/activity-lesson/activity-lesson-science-grade-3-rocks-minerals-and-soil-rock-minerals-soil-4.pdf>)
- Worksheet PDF (Quiz) (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-rocks-minerals-and-soil-0.pdf>)
- Worksheet PDF 1 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-rocks-minerals-and-soil-1.pdf>)



- Worksheet PDF 2 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-rocks-minerals-and-soil-2.pdf>)
- Worksheet PDF 3 (<https://newpathworksheets.com/api/worksheet/worksheet-science-grade-3-rocks-minerals-and-soil-3.pdf>)
- Vocabulary Set 1 PDF (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-rocks-minerals-and-soil-1.pdf>)
- Vocabulary Set 2 PDF (<https://newpathworksheets.com/api/vocabulary/vocabulary-science-grade-3-rocks-minerals-and-soil-2.pdf>)



NEW PATH LEARNING



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NEW PATH LEARNING

ROCKS, MINERALS AND SOIL

Rocks

Rocks are solid material found in nature made up of minerals. A **mineral** is a natural material usually found in the ground.

A **rock** has physical properties like color and composition, or what exact minerals make up the rock.

Another property of a rock is its texture. The **texture** of a rock is determined by what the rock is made of. Texture is how something feels.



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Lesson Checkpoint: What is texture?

Three Main Groups of Rocks

Rocks can be classified, or grouped, into three main groups. Rocks placed into a certain groups according to how they were formed.

Igneous rock is one rock group that a rock can be classified into. Igneous rocks are formed underground and above ground. **Igneous rocks** are formed UNDERGROUND when melted rock deep below the Earth's surface becomes trapped in small areas underground. Melted rock found beneath the Earth's surface is called magma.



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Lesson Checkpoint: How are sedimentary rocks formed?

A third group of rock classification is **metamorphic rock**. **Metamorphic rocks** are rocks that have been changed by heat and pressure.

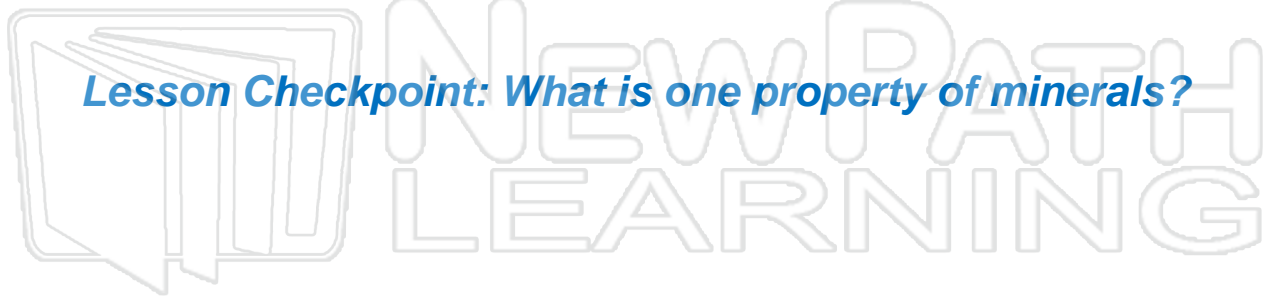


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is rubbed against another surface and its **hardness**. The hardest mineral of them all is a diamond.

Lesson Checkpoint: What is one property of minerals?



Gold and silver are very rare minerals. Copper, lead, fluorite, and iron are examples of other minerals.

We need minerals in our bodies to stay healthy. We eat mineral when we eat certain such as vegetables and fruit.

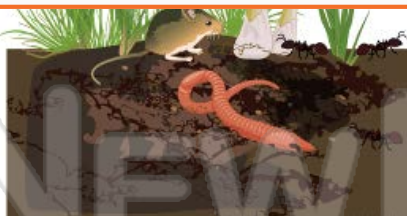


Lesson Checkpoint: Why do our bodies need minerals?



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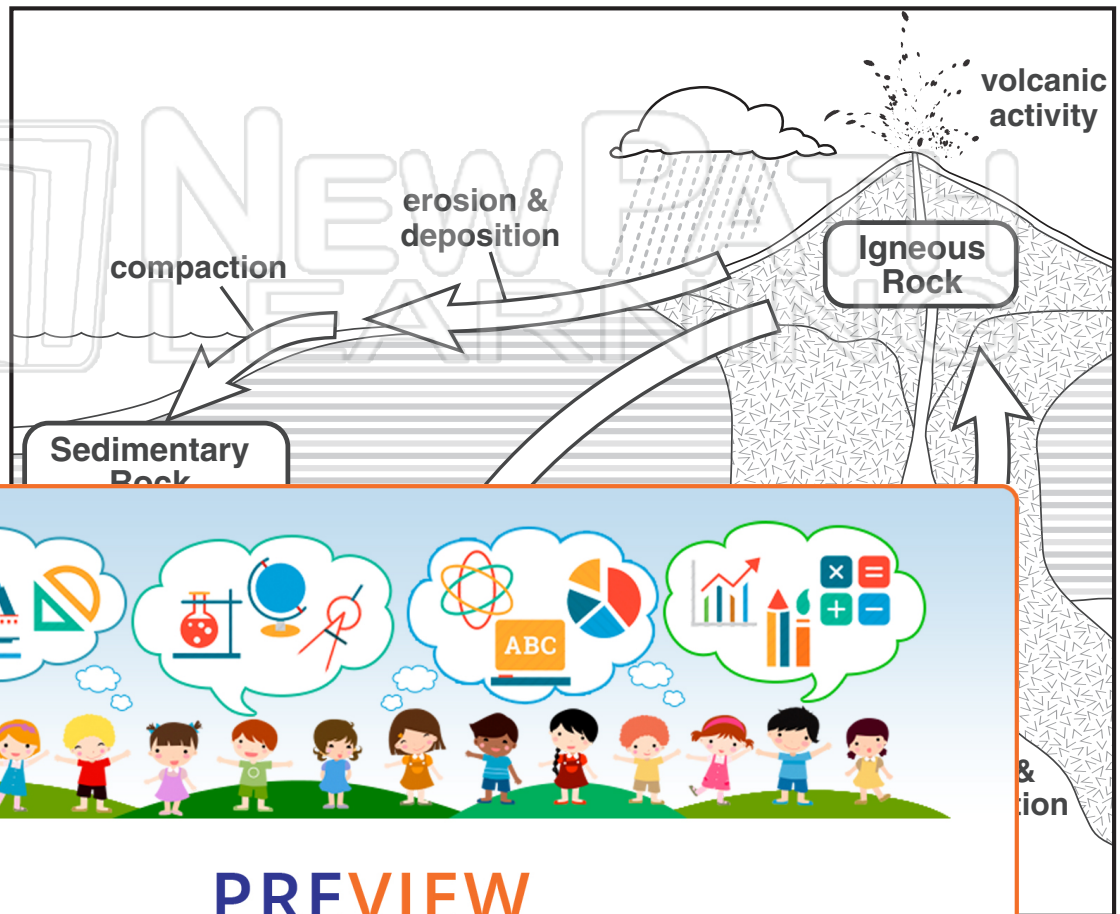
Lesson Checkpoint: What is soil?



Name _____ Class _____ Date _____

Rocks are solid materials found in nature made up of minerals. A **mineral** is a natural material usually found in the ground. Rocks can be classified into **three main groups** according to how they were formed.

Sedimentary rocks are formed when **sediment** piled up at the bottom of a body of water is



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over
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Sedim
rocks
in lay

Meta
rocks
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chan
appli

Igne
below

As the magma underground **cools**, igneous rocks are formed. igneous rocks are also formed above ground when **lava** erupts from a **volcano** and then cools forming igneous rocks above the Earth's surface.

Sedimentary Rocks		Metamorphic Rocks		Igneous Rocks	
sandstone	limestone	gneiss	quartz	pumice	obsidian



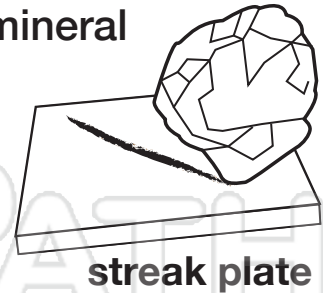
Name _____ Class _____ Date _____

Minerals have different **properties** that can be used to identify them:

Luster - shows how much light is reflected by a mineral

Streak color - color it leaves behind if rubbed against another surface

Hardness - The hardest mineral of all is a diamond.



Almost everything we use in everyday life is made of minerals or contains minerals. Even our bodies need minerals such as iron, calcium and sodium to stay healthy.

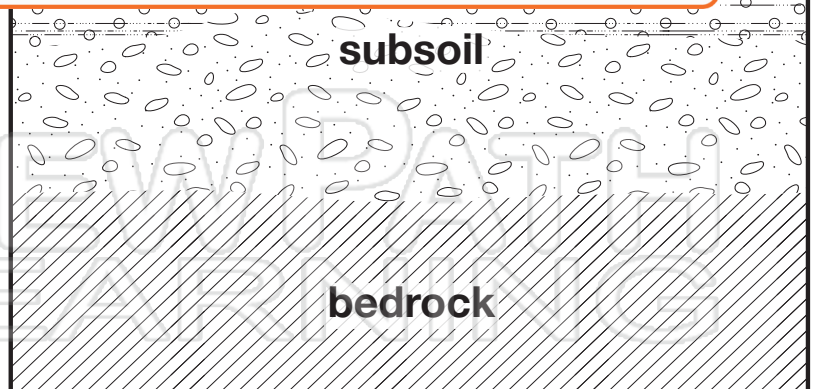


PREVIEW

Soil is the most important part of the Earth's surface. Please [Sign In](#) or [Sign Up](#) to download the printable version of this worksheet

main layers: topsoil, subsoil, and bedrock.

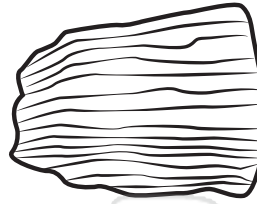
Soil is part of the ecosystem needed to support all life on Earth.



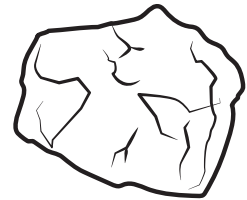


Name _____ Class _____ Date _____

Sedimentary rocks are _____



sandstone



limestone



halite

Draw & label a rock

Meta



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Igne



pumice



obsidian



granite

Draw & label a rock



Name _____ Class _____ Date _____

What is the Rock Cycle? _____

Complete the Rock Cycle



volcanic
activity



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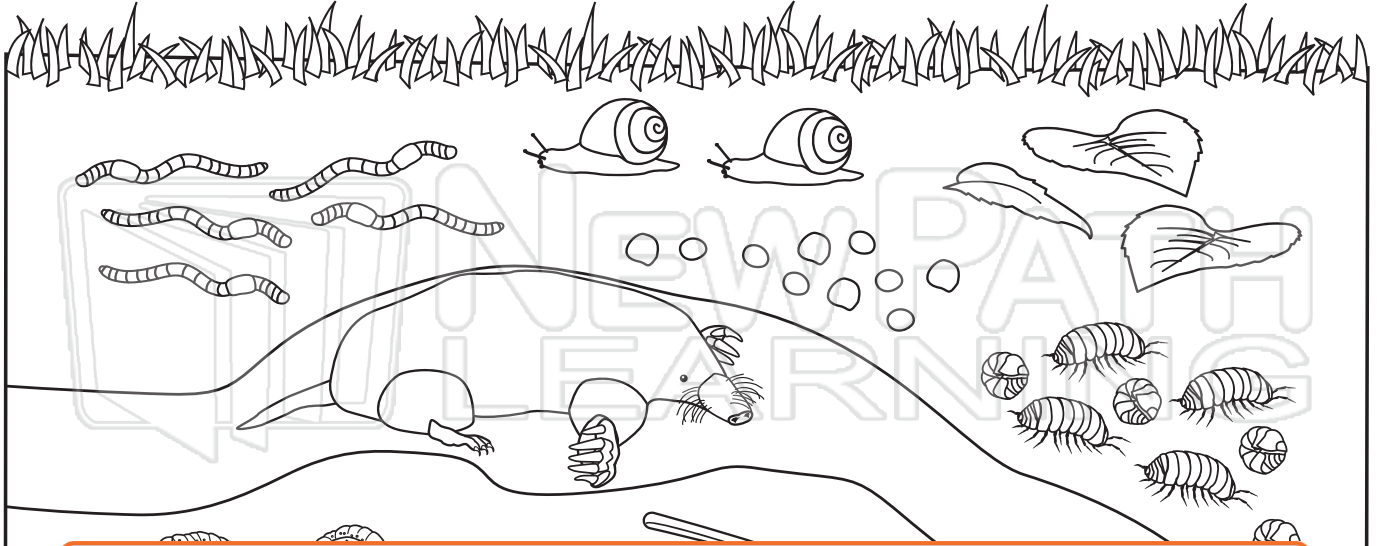
Metamorphic
Rock

magma



Name _____ Class _____ Date _____

Soil is part of the ecosystem needed to support all life on Earth.



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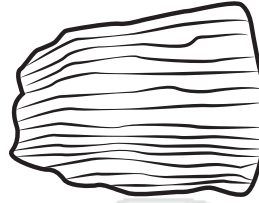
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leaves									
snails									
grubs									
pebbles									
worms									
moles									

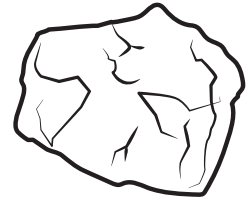


Answer Key

What are rocks? Made from
minerals above and under ground.



sandstone



limestone

Sedimentary rocks are _____
formed by layers of eroded
materials compressed together.



halite

Draw & label a rock

Meta
new
pre
the



PREVIEW

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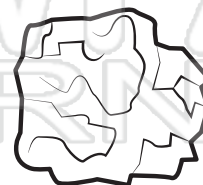
Igneous rocks are _____
rocks made from lava from
volcanoes. They are different
based on temperature and where
they were formed.



pumice



obsidian



granite

Draw & label a rock



Answer Key

What is the Rock Cycle? _____

The rock cycle is the recycling of old rocks into new rocks. It's caused by heat, pressure, weathering and erosion.

Complete the Rock Cycle



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Metamorphic
Rock

melting

magma



Name _____ Class _____ Date _____

- 1 _____ are **solid material** found in nature that are **made up of minerals**. They are usually found in the ground.



- 2 **Rocks** can be **classified**, or grouped, into _____ **main groups**. Name them.

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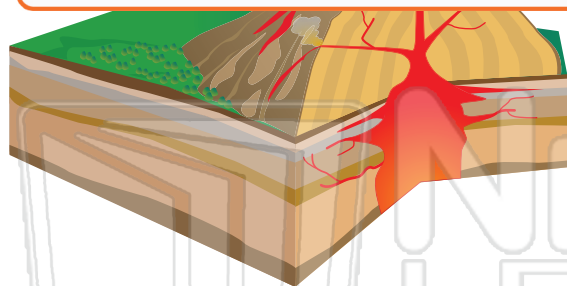
4 M
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d



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- 5 _____ rocks are formed above ground when **lava erupts** from a volcano and **then cools**.



- 6 _____ rocks are formed when **sediment** piled up at the bottom of a body of water is **pressed together** over thousands of years

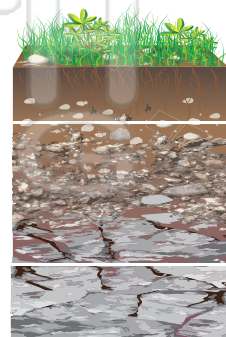
- 7 What kind of rock can igneous and sedimentary rocks **change into**?



SEDIMENTARY

another surface.

- 10 **Soil** is made up of three main layers: **topsoil**, **subsoil**, and _____





Rocks, Minerals & Soil - Answer Key

Sci
C

Name _____ Class _____ Date _____

- 1 Rocks are **solid material** found in nature that are **made up of minerals**. They are usually found in the ground.



- 2 Rocks can be **classified**, or grouped, into 3 **main groups**. Name them.

sedimentary, igneous, metamorphic

3

S
V

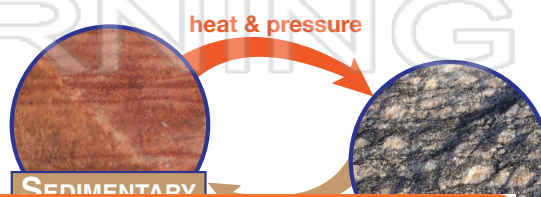
4

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- 6 Sedimentary rocks are formed when **sediment** piled up at the bottom of a body of water is **pressed together** over thousands of years

- 7 What kind of rock can igneous and sedimentary rocks **change into**?

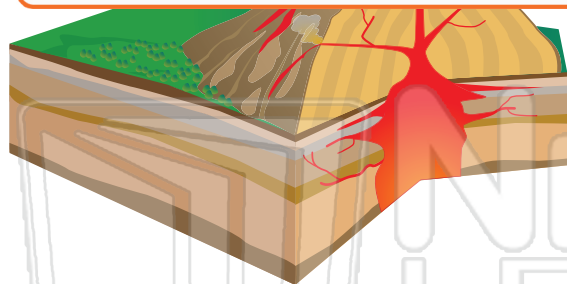
Metamorphic



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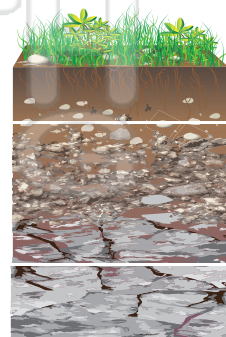
- 5 Igneous rocks are formed above ground when **lava erupts** from a volcano and **then cools**.



another surface.



- 10 Soil is made up of three main layers: **topsoil**, **subsoil**, and **bedrock**





Name _____ Class _____ Date _____

1

Rocks are solid material found in nature which are made up of _____.

- A** dirt
- B** water
- C** minerals
- D** vitamins

**2**

What is a **mineral**?

- A** soil
- B** a type of fish
- C** an energy drink
- D** a natural material usually found in the ground

**3**

The **physical properties of a rock** include **shape**, **color** and what _____ it is made of.

- A** minerals
- B** sand

**4**

One property of a rock is its **texture**. The texture of a rock is determined by what minerals the rock is made up of. What is **texture**?

- A** how hard something is
- B** how something feels

**5**

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7

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- C** in trees
- D** underground or above ground



- D** red water

**9**

As the **magma** in small areas underground cools, what kind of **rocks** are formed?

- A** metamorphic rocks
- B** molten rocks
- C** sedimentary rocks
- D** igneous rocks

**10**

Igneous rocks are formed **above ground** when _____ erupts from a volcano and then cools.

- A** soil
- B** lava
- C** water
- D** minerals





Name _____ Class _____ Date _____

- 1 **Rocks** are solid material found in nature which are made up of _____.

A dirt
B water
C minerals
D vitamins



(C)

- 2 What is a **mineral**?

A soil
B a type of fish
C an energy drink
D a natural material usually found in the ground



(D)

- 3 The **physical properties of a rock** include **shape**, **color** and what _____ it is made of.

A minerals
B sand



(A)

- 4 One property of a rock is its **texture**. The texture of a rock is determined by what minerals the rock is made up of. What is **texture**?

A how hard something is
B how something feels



(B)

5



(C)

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(A)

- C in trees
D underground or above ground



- D red water



- 9 As the **magma** in small areas underground cools, what kind of **rocks** are formed?

A metamorphic rocks
B molten rocks
C sedimentary rocks
D igneous rocks



(D)

- 10 **Igneous rocks** are formed **above ground** when _____ erupts from a volcano and then cools.

A soil
B lava
C water
D minerals



(B)



Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Texture

Sediment

Mineral

Igneous rock

Metamorphic rock

Sedimentary rock

Lava

Rock

1. _____ - how something feels when you touch it

2. _____ - rocks that are formed underground when melted rock, called magma, deep below the Earth's surface, becomes trapped in small areas underground; they are formed above ground when lava erupts from a volcano and then cools

3. _____
surface
surface

4. _____
and pr
heated
squeeze

5. _____
that is
from t

6. _____
mineral

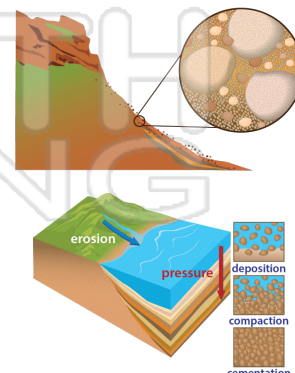
7. _____ - a mixture of soil, rock, clay and sand

8. _____ - rock formed by the processes of weathering and erosion, transportation, deposition and cementation



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Name _____ Class _____ Date _____

Match each of the following terms to its definition:

Texture

Sediment

Mineral

Igneous rock

Metamorphic rock

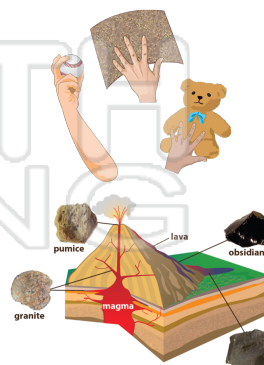
Sedimentary rock

Lava

Rock

1. **texture** - how something feels when you touch it

2. **igneous rock** - rocks that are formed underground when melted rock, called magma, deep below the Earth's surface, becomes trapped in small areas underground; they are formed above ground when lava erupts from a volcano and then cools



3. **lava** - molten rock that has erupted from the Earth's surface

4. **metamorphic rock** - rock formed by the processes of heat and pressure changing the texture and composition of an existing rock

5. **mineral** - a naturally occurring inorganic solid with a definite chemical composition and crystalline structure

6. **rock** - a naturally occurring solid aggregate of one or more minerals or mineral grains



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7. **sediment** - a mixture of soil, rock, clay and sand

8. **sedimentary rock** - rock formed by the processes of weathering and erosion, transportation, deposition and cementation

