USA TEST PREP UNIT 2 Key

Grade 6 Science EOG Quiz Answer Key

Geology - (S6E5.b.) Composition Of Rock, (S6E5.c.) Classify Rocks

Student Name: _____ Date: _____

Teacher Name: BRITTANY DUDEK Score: _____

1) Rocks are composed of different kinds of

A) soils.
B) sands.
C) minerals.
D) water crystals.

Explanation:
Different **minerals** combine in many different ways to make up the variety of rocks on the earth.

2) For a science experiment, a student rubs a mineral against a porcelain plate. The students has just performed

A) an acid test.
B) a streak test.
C) a hardness test.
D) a fracture test.

Explanation:
A streak test shows the color of the mineral in its powdered form by rubbing the mineral against a porcelain plate.

3)

Mohs Scale of Mineral Hardness

Hardness	Mineral	Absolute Hardness
1	Talc	1
2	Gypsum	2
3	Calcite	9
4	Fluorite	21
5	Apatite	48
7	Quartz	100
8	Topaz	200

According to the Moh's Scale of Mineral Hardness, the sample mineral that will scratch gypsum but not apatite is MOST LIKELY

A) calcite.
B) quartz.
C) talc.
D) topaz.

Explanation:
calcite
Calcite is harder than gypsum and softer than apatite.

4) Muscovite breaks along a single plane to form flat sheets. This tendency to break along smooth planes parallel to weak zones of bonding is called

A) cleavage.
B) fracture.
C) hardness.
D) streak.

Explanation:
cleavage
Many minerals have inherent weak zones according to their molecular structure and will smoothly break in these places giving a characteristic shape.

5) Which type of rock typically has the largest formed crystals?

A) metamorphic
B) sedimentary
C) extrusive igneous
D) intrusive igneous

Explanation:
The slow cooling of **intrusive igneous** rock can cause large crystals to form. Crystals also form in metamorphic rock, but due the pressure, are often smaller.

6) Running a mineral across a porcelain plate to see the color it leaves behind on the plate may be described as testing for

A) color.
B) hardness.
C) luster.
D) streak.

Explanation:
Running a mineral across a porcelain plate to see the color it leaves behind on the plate may be described as testing for **streak**. This is the color of a powdered mineral. The other tests examine the appearance of a mineral in its whole form.

7) Which factor is MOST important in determining which minerals will form in a rock?

A) The size of the rock.
B) The weight of the rock.
C) The hardness of the rock.
D) The composition of the rock.

Explanation:
The most important factor in determining which minerals will form in a rock **is the composition of the rock.** Some minerals will only form when certain chemicals are in a rock. For example, calcite forms in limestone, a kind of rock that contains calcium carbonate.

8)

Common Minerals Found in the Earth's Rocks

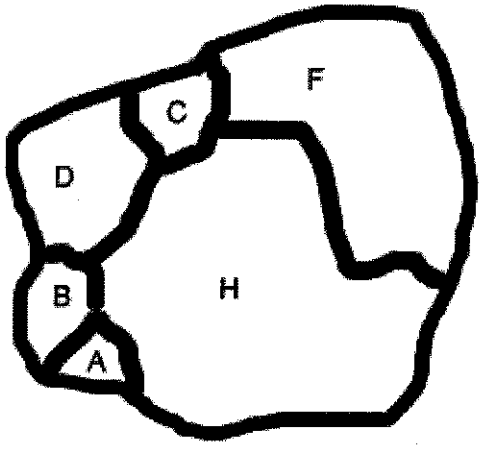
Mineral	Weight in Earth's Crust
Silicon	27.72
Potassium	2.59
Magnesium	2.09
Sodium	2.83
Iron	5.0

Based on the information in the table, which mineral is LEAST likely to be found in the Earth's rocks?

A) Aluminum.
B) Iron.
C) Magnesium.
D) Silicon.

Explanation:
According to the table, **magnesium** has a percentage weight in the Earth's crust of only 2.09. This makes it the least likely to be found in the Earth's rocks.

9)



Rock

This rock is composed of six different minerals. Each mineral is represented with a letter. Which mineral occurs with the GREATEST abundance in this sample?

A) A
B) D
C) F
D) H

Explanation:
Mineral **H** is shown having the greatest abundance.

10) Ms. Jones is teaching her class about rocks and minerals. She holds up a rainbow chocolate chip cookie and explains that the cookie is like a rock. Next, she points to the different colored chocolate chips. What do the chocolate chips represent?

A) fossils
B) gems
C) minerals

D) rocks

Explanation:
minerals
Rocks are made up of one or more minerals.

11) Which property is not commonly used to identify minerals?

A) luster
B) texture
C) hardness
D) crystal form

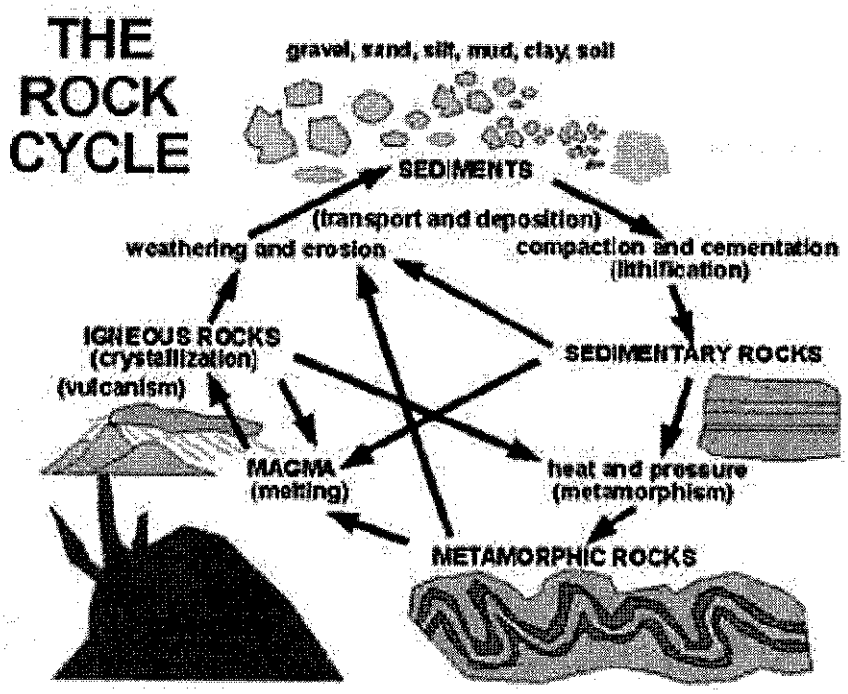
Explanation:
Texture is used in identifying rocks, but not to identify minerals.

12) Which statement about rocks is true?

A) Rocks usually contain several minerals.
B) Rocks usually contain several crystals.
C) Rocks have a specific chemical composition.
D) Rocks have a specific crystalline structure.

Explanation:
While some rocks contain only one mineral, **most rocks contain several minerals.** A rock, unlike a mineral, does not have a specific chemical composition.

13)



Which of these BEST describes the concept of the rock cycle?

A) sedimentary rocks may be remelted several times
B) rocks move in circles on the earth as the earth rotates
C) rocks can be moved from place to place on the earth without changing
D) rocks are continually changing, and any type of rock may be transformed into another type by appropriate processes

Explanation:
Simply put, the rock cycle explains that **rocks are continually changing, and any type of rock may be transformed into another type by appropriate processes**. IF the correct conditions are met, rocks can, and will, changes through history. Exposure to things like weathering, heat, and pressure can all lead to the changing of rocks.

14) Five hundred million years ago, basaltic lava flowed in an area now known as Monticello, the historic home of Thomas Jefferson. Some of this rock has since re-crystallized under intense heat and pressure and then has been eroded by wind and rain. The order of the rock cycle in this case is BEST described as

A) metamorphic, igneous, sedimentary.
B) igneous, sedimentary, metamorphic.
C) igneous, metamorphic, sedimentary.
D) metamorphic, sedimentary, igneous.

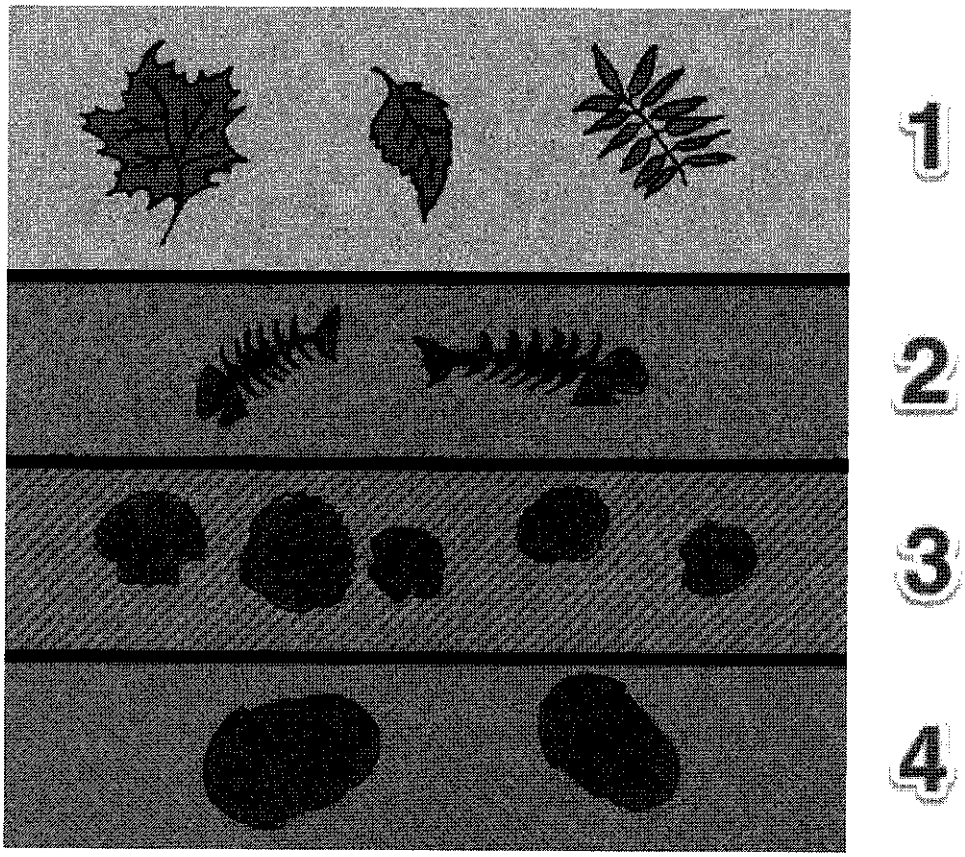
Explanation:
The order of the rock cycle in this case is best described as **igneous, metamorphic, sedimentary**. The lava flow would cool to form igneous rock which would, under immense heat and pressure, then form metamorphic rock and finally, eroded by wind and rain, compact to form sedimentary rock.

15) Marble is formed when intense heat and pressure is applied to limestone. What type of rock is marble?

A) metamorphic
B) sedimentary
C) extrusive igneous
D) intrusive igneous

Explanation:
Marble is a **metamorphic** rock. It is made up of calcite.

16)

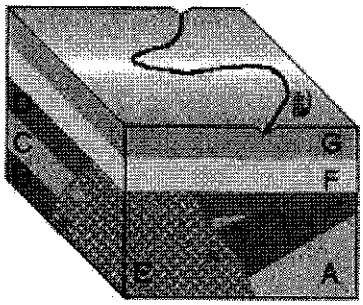


Layers of rock containing fossils, like the layers illustrated here, are MOST LIKELY composed of _____ rocks.

A) igneous
B) sedimentary
C) metamorphic
D) crystallized

Explanation:
sedimentary
Sedimentary rocks formed when sediments are deposited one layer on another. Compaction helps turn the sediment into rock. As the sediments are deposited, plants and animals are trapped and often can be seen as fossils.

17)



Once the magma found at location "E" cools and crystalizes, it will

A) turn into lava.
B) form igneous rocks.
C) sink back into Earth's deep interior.
D) form igneous, metamorphic, and sedimentary rocks.

Explanation:
The magma in area E will **form igneous rocks.** Different minerals cool at different rates but eventually ignesou rocks are formed. The

different rates of coling and crystalization give us rocks with different sized crystals.

18) More than a billion years ago, the continent of Africa hit North America, generating enormous pressure and heat while pushing up the Blue Ridge Mountains to a height of 30,000 feet. Most of these mountains have since been worn away by wind, rain, and the growth of living organisms. The order of the rock cycle in this case is BEST described as

A) igneous, sedimentary.
B) metamorphic, igneous.
C) igneous, metamorphic.
D) metamorphic, sedimentary.

Explanation:
The order of the rock cycle in this case is best described as **metamorphic, sedimentary**. The immense heat and pressure will form metamorphic rock and then, eroded by wind and rain, compact to form sedimentary rock.

19)

This example of sedimentary rock is formed when rock fragments, minerals, and the remains of plants and animals are deposited as sediments and are then

A) chemically weathered by water.
B) compacted and cemented together.
C) recrystalized under the weight of the layers.
D) melted due to increased temperature and pressure.

Explanation:
Sedimentary rocks are formed when sediments are deposited and then **compacted and cemented together.** Recrystalization is a chracteristic of metamorphic rock. Chemical weathering and the action of water can help produce and deposit sediments.

20)

What kind of rock would you MOST LIKELY find in the area shown in the picture?

A) elastic
B) igneous
C) metamorphic
D) sedimentary

Explanation:
The picture shows a volcano. **Igneous** rocks are most likely to be found in areas such as this, where rocks are crystallized from magma.

21) Most fossils are found in what type of rock?

A) igneous
B) lava
C) metamorphic
D) sedimentary

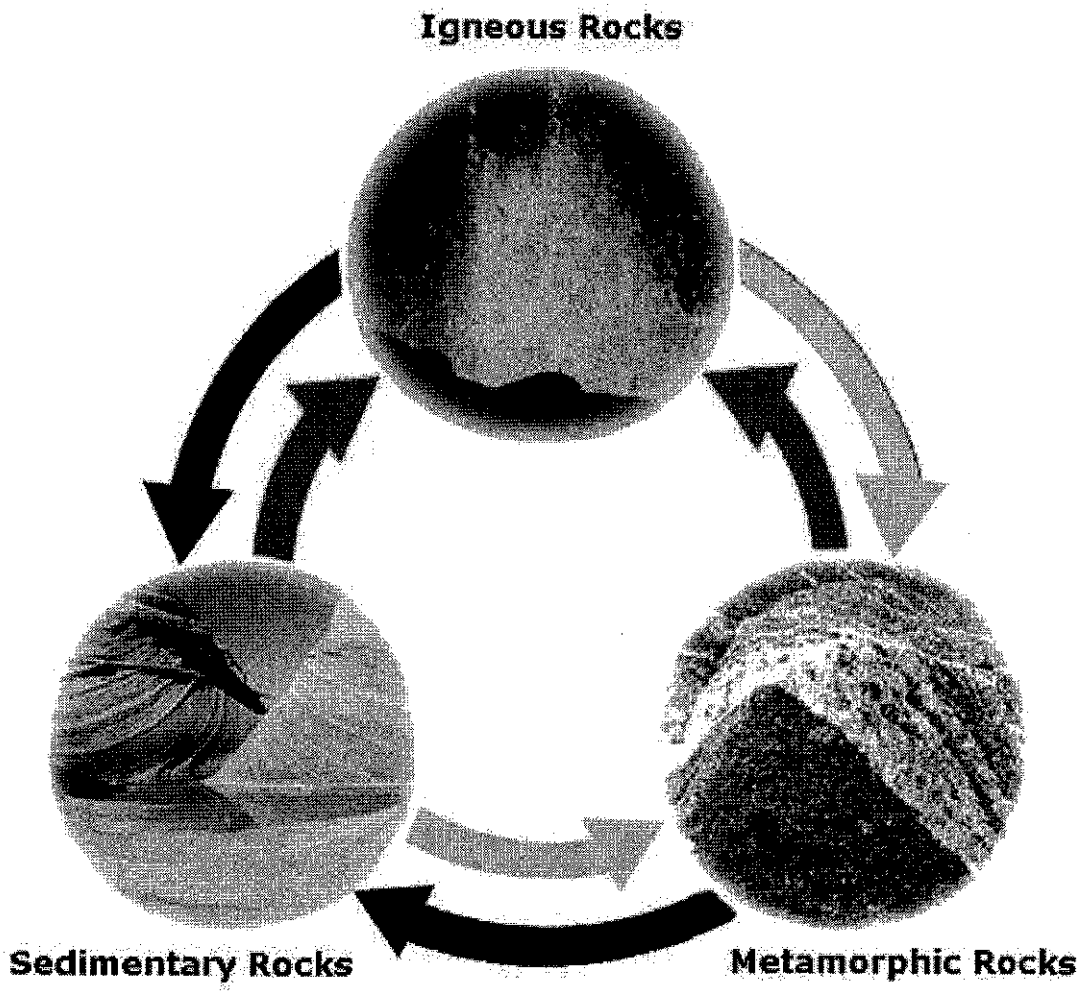
Explanation:
Most fossils are found in **sedimentary** rock. Since the rock is formed by particles being pressed together, fossils can easily form when an organism is caught between the sediment that will become a rock.

22) Granite is a coarse or medium-grained rock that is rich in quartz and feldspar. It is formed when bodies of magma cool and harden deep below the earth. What type of rock is granite?

A) metamorphic
B) sedimentary
C) extrusive igneous
D) intrusive igneous

Explanation:
Granite is the most common type of **intrusive igneous** rock.

23)

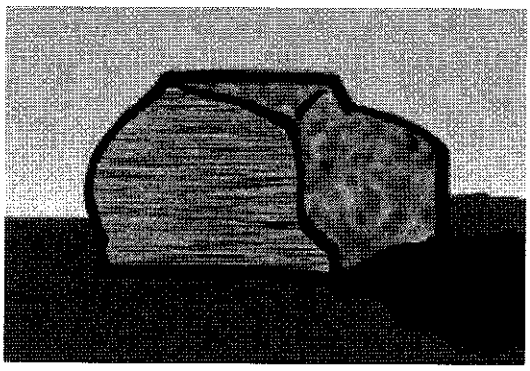


"Metamorphosis" means to change form. Metamorphic rocks directly form from

A) igneous rocks.
B) magma deep within the Earth.
C) igneous, sedimentary, and metamorphic rock.
D) sediments that are compacted and then cemented.

Explanation:
Metamorphic rocks form from **igneous, sedimentary, and metamorphic rock.** The agents that change pre-existing rocks are heat, pressure, and chemical activity. Sediments form sedimentary rocks; magma forms igneous rocks.

24)



The rock in this picture shows foliation. Foliation can develop in a rock as a response to intense heat and pressure. This rock should be classified as

A) banded.
B) igneous.
C) metamorphic.
D) sedimentary.

Explanation:
Foliation is a characteristic of some **metamorphic** rocks. See how there seems to be lines of different minerals in the rock? That is foliation.

25) Under normal temperature and pressure conditions, what type of rock could be formed from the weathering and erosion of metamorphic rock?

A) lunar rock
B) igneous rock
C) sedimentary rock
D) metamorphic rock

Explanation:
The type of rock formed by the erosion and weathering of any tpe of rock is **sedimentary rock.** The smaller pieces broken off, or "sediments", come together to form the new, sedimentary rock.

26)

This rock appears to have formed in materials deposited in water. It is most likely a/an _____ rock.

A) igneous
B) metamorphic
C) pyroclastic
D) sedimentary

Explanation:
This picture shows two types **sedimentary** rock, limestone and shale. Sediment deposits in water.

27) Under what conditions can igneous rock be transformed into metamorphic rock?

A) if it is forced deep into Earth, where it melts into magma
B) if it is heated and put under pressure for long periods of time
C) if layers of sand accumulate over it and harden over a period of time
D) if it is exposed at the surface and is weathered over a period of time

Explanation:
An igneous or sedimentary rock would be transformed into a metamorphic rock **if it is heated and put under pressure for long periods of time**.

28) Shale is formed from clay, silt or mud particles that have been compacted together by pressure. What type of rock is shale?

A) metamorphic
B) sedimentary
C) extrusive igneous
D) intrusive igneous

Explanation:
Shale is a common **sedimentary** rock. Shale is often used to make bricks.

29) Slate is a fine grained rock composed of tightly packed layers. Most slate was originally some type of shale. What process formed slate?

A) erosion
B) metamorphism
C) sedimentation
D) volcanism

Explanation:
The tightly packed layers of slate are formed through the process of **metamorphism**. Shale metamorphoses into slate.

30) Pumice is a type of rock formed when gas bubbles are trapped inside of cooling lava. Pumice is most often formed when volcanoes erupt violently. What type of rock is pumice?

A) extrusive igneous
B) intrusive igneous
C) contact metamorphic
D) foliated metamorphic

Explanation:
Pumice is an **extrusive igneous** rock. Pumice can float on water.