UNIT 1 Key

Grade 6 Science EOG Quiz Answer Key

Geology - (S6E5.b.) Composition Of Rock, (S6E5.j.) Conserving Natural Resources, (S6E6.b.) Renewable And Nonrenewable Resources

Student Name: _____ Date: _____

Teacher Name: BRITTANY DUDEK Score: _____

1)

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.

2) 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.

3) 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.

4) How are rocks DIFFERENT from minerals?

A) Rocks are a pure substance and minerals are all mixtures.
B) Rocks have no physical or chemical properties similar to minerals.
C) Rocks are made up of at least two minerals, but minerals are not made up of rocks.
D) Minerals are made up of at least two rocks, but rocks are not made up of minerals.

Explanation:
Rocks are made up of at least two minerals, but minerals are not made up of rocks. A rock is an aggregate of a number of minerals, while a mineral is a pure substance that is the same throughout.

5)

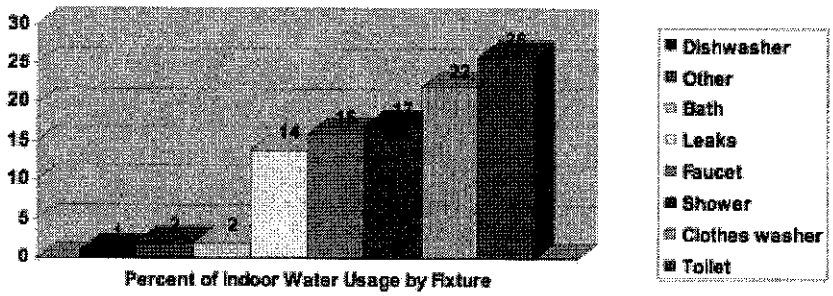
Mineral	Properties			
	Hardness (scratch test)	Color	Luster	Special Properties
Calcite	3 scratched by nail	White	Dull/Glassy	Bubbles with acid
Feldspar	6 scratches glass	Pink or white	Dull/Pearly	---
Mica	2 scratched by fingernail	Black/Gray	Shiny	Splits into thin sheets
Talc	1 easily scratched by fingernail	White	Dull	---
Gypsum	2 scratched by fingernail	White/Gray	Dull	---
Quartz	7 scratches glass	Various Colors	Glassy	Most common mineral
Fluorite	4	Various Colors		Can be banded or striped; multicolored

"Today you will use this chart to help you identify some common minerals," instructed Mr. Grant, Jimmy's teacher. Each group of students was given three mineral samples to identify. Jimmy and his partners were puzzled by one sample. It scratched glass, so it was pretty hard. One student thought it was feldspar; another thought it was quartz. What other properties could the group use to identify the mineral?

A) crystal shape
B) luster and color
C) bubbles with acid
D) color and hardness

Explanation:
They could use **luster and color** to help them identify the mineral. There are differences inn both columns. They have already used hardness when they figured out both minerals scratched glass.

6)



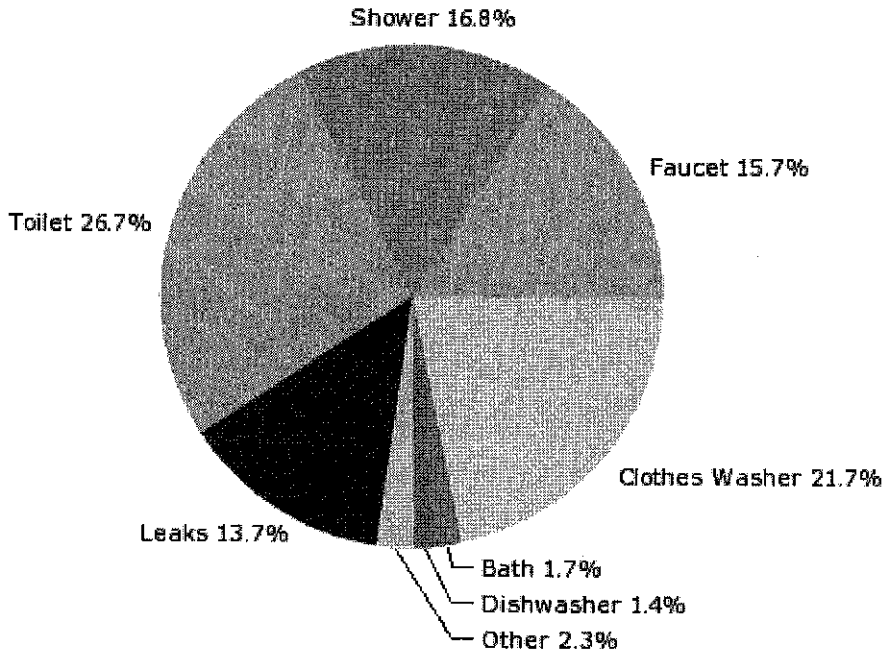
Jonathan is learning about water conservation. He learns that the average household in the United States uses 293 gallons of water per day. Jonathan makes a chart that shows the percent of water that each indoor fixture uses in the average U.S. household. He would like to use this chart to determine which indoor fixture uses the most water. Then, he can replace this fixture with a more efficient, water-saving fixture. According to the chart, which indoor fixture should Jonathan replace with a more efficient, water-saving fixture?

A) shower
B) faucet
C) toilet
D) clothes washer

Explanation:
Jonathan made this chart based on what percent of 293 gallons of water per day each indoor fixture uses in the average household. He wants to replace the fixture that uses the most water with a more efficient, water-saving fixture. To find this, you should look at the percent amounts above each bar. The toilet has the largest bar, and the percent of water it uses is the largest. Therefore, Jonathan should replace the **toilet** with a more efficient, water-saving fixture to save water.

7)

Household Water Use



According to the diagram, the LEAST amount of water is used in households when people

A) wash clothes.
B) take showers.
C) flush the toilet.
D) run the dishwasher.

Explanation:
Only 1.4% of the water used in most households is used when people **run the dishwasher.** This is the lowest percentage among the answer choices.

8) Limiting the amount of human waste and chemicals in run-off will decrease

A) air pollution.
B) soil pollution.
C) water pollution.
D) sound pollution.

Explanation:
Water pollution will decrease if humans limit the amount of waste and chemicals that are present in run-off. This run-off water flows into larger bodies of water causing high amounts of pollution.

9) One way to limit deforestation is by

A) practicing crop rotation.
B) increased soil fertilization.
C) increased use of wood products.
D) using wood from trees grown on tree farms.

Explanation:
We can decrease deforestation by **using wood from trees grown on tree farms**. Tree farms are privately owned companies designed to quickly grow trees for timber production. Use of tree farms protects forests, water resources and wildlife habitats elsewhere.

10) Which method would save the MOST water?

A) Turn off the water while brushing your teeth.
B) Remove plants and other vegetation from your yard.
C) Wash cars with a hose rather than a bucket of water.
D) Run only full loads in the washing machine and dishwasher.

Explanation:
Running only full loads in the washing machine and dishwasher can save 300 to 800 gallons of water per month.

11) The development of nuclear power has provided electricity for less money, but at a cost. What may be considered a "cost" of nuclear power?

A) Large amounts of energy are produced very cheaply.
B) It takes a lot of energy to run a nuclear power plant.
C) Nuclear power plants provide new jobs for a community.
D) The radioactive waste is unsafe and hard to store safely.

Explanation:
The radioactive waste is unsafe and hard to store safely is the correct answer. The long half-life of the waste created by nuclear power plants is a problem, the waste must be stored in specially created storage containers and if it leaks can cause a great deal of environmental damage.

12) Fossil fuels are the compressed remains of ancient organisms like plants or dinosaurs. They cannot be recycled. Once they are used, they are gone. Which of these is a fossil fuel?

A) corn
B) coal
C) timber
D) sunshine

Explanation:
Fossil fuels are **coal**, natural gas, and oil—all non-renewable resources. Unlike timber, they do not grow back again.

13) When deforestation occurs in an area, what immediate effect does this have on the water cycle?

A) More water is returned to the atmosphere.
B) There is less runoff water, but more transpiration.
C) More precipitation is formed, because there is more evaporation.
D) More runoff water is created, and less is returned to the atmosphere.

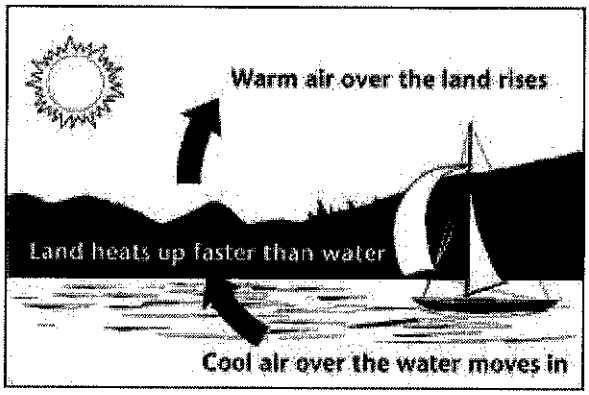
Explanation:
More runoff water is created, and less is returned to the atmosphere. Water that would have been returned to the atmosphere by transpiration, runs off into water bodies.

14) The deforestation of rainforest ecosystems for logging and for farming has had what direct effect on those areas?

A) desertification of the areas
B) a decrease in the average annual temperature
C) the loss of large amounts of highly fertile topsoil
D) production of a sustainable area of fertile farmland

Explanation:
Desertification of large areas as rainforests do not easily regenerate. Rainforest soil is nutrient poor, as most of the nutrients in a rainforest are in the trees. Rainforest soil makes poor farmland, and trees can take hundreds of years to re-establish the jungle.

15)



As shown in the diagram, winds are formed from the sun's uneven heating of the earth's atmosphere. The wind patterns are altered by bodies of water, different landforms, and plant cover. Because of this, the wind is considered a form of

A) solar power.
B) nuclear power.
C) chemical energy.
D) potential energy.

Explanation:
The answer is **solar power** because the sun's energy heats the atmosphere. The winds are formed when the land masses, bodies of water and vegetation cause uneven heating.

16) Coal, oil, and natural gas

A) are renewable natural resources.
B) are in very short supply for consumers.
C) release carbon dioxide when they are burned.
D) are clean fuels that contribute little to pollution.

Explanation:
Coal, oil, and natural gas **release carbon dioxide when they are burned** and definitely contribute to air pollution.

17) Wind energy is used to rotate the sails of a windmill. The rotating sails have

A) heat energy.
B) kinetic energy.
C) potential energy.
D) electromagnetic energy.

Explanation:
The rotating sails have **kinetic energy** since they are in motion. Kinetic energy from the moving air or wind is transferred to the sails.

18) Advancements in nuclear science have led to technological advances which are both harmful and beneficial. Which would be considered a beneficial result of nuclear science?

A) nuclear weapons
B) nuclear testing
C) magnetic resonance imaging (MRI)
D) nuclear waste from nuclear power plants

Explanation:
Magnetic resonance imaging; is the correct answer. Magnetic resonance imaging or MRI is very useful in medicine, the remaining choices are negative aspects of nuclear science.

19) There are many positive and negative aspects associated with nuclear power. What is a positive aspect associated with nuclear power?

A) There is a high ratio of energy to cost.
B) There is a risk of possible meltdown, a tragedy on a global scale.
C) Exposure to radiation can lead to disease or genetic abnormalities.
D) The waste that is produced is toxic to the environment and to the general population.

Explanation:
The high ratio of energy to cost. This is the correct answer. The others are possible negatives associated with nuclear power.

20) One of the negative aspects of using nuclear power as an alternative energy source is

A) it pollutes the air.
B) finding a fuel source.
C) the disposal of byproducts.
D) it does not produce much energy.

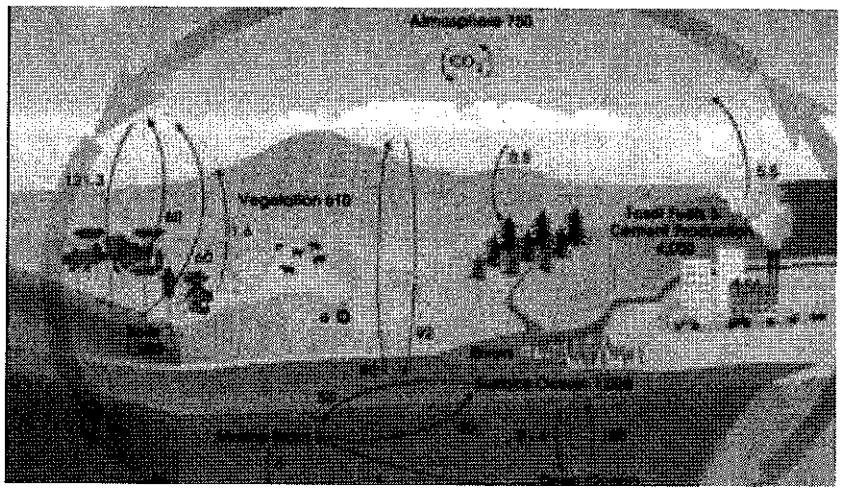
Explanation:
Disposal of byproducts is a negative aspect of nuclear power because the waste products can remain radioactive for thousands of years.

21) Oil, natural gas, and coal are considered to be nonrenewable resources. Why are these fuels considered to be nonrenewable?

A) The burning of these fuels does not allow the waste products to be recycled.
B) These fuels are available in a limited supply--when the fuel is used it is no longer available.
C) The amount of pollution released from the use of these fuels is much higher than with renewable sources.
D) The technology used to geneate energy by the use of these fuels is much older and less efficient than current technology.

Explanation:
These fuels are available in a limited supply--when the fuel is used it is no longer available. Non-renewable means that the resource cannot be renewed or made larger over time.

22)



Scientists previously referred to the long-ago deposited plant and animal remains, now buried, compacted, and transformed into coal and oil, as the *dead-end* of the carbon cycle. Since the Industrial Revolution, that would be an inaccurate statement. Why?

A) The carbon found in coal and oil is released back into the atmosphere as carbon dioxide.
B) Factories burning coal and oil deposit industrial wastes that add carbon back into the environment.
C) The carbon stored in the coal and oil combines with water in the atmosphere and falls back to Earth.
D) The combustion of coal and oil releases nitrogen by-products into the environment to be used again by man.

Explanation:
The carbon found in coal and oil is released back into the atmosphere as carbon dioxide. A by-product of the combustion of carbon-based fuels is carbon dioxide. This gas is released into the atmosphere when the fuels are used for energy.

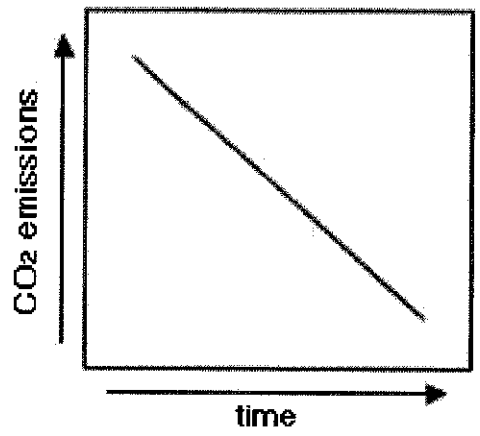
23) The burning of fossil fuels contributes to

A) global warming.
B) continental drift.
C) ice cap formation.
D) sea levels dropping.

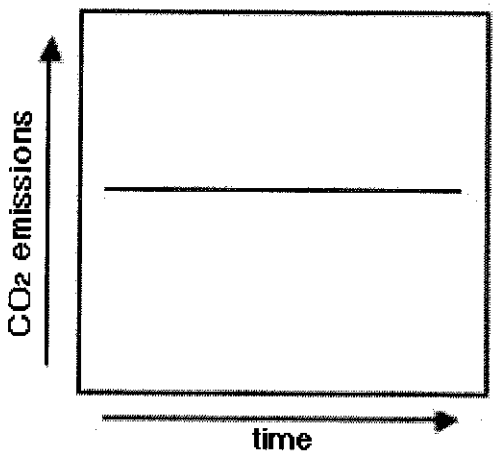
Explanation:
Burning fossil fuels releases carbon dioxide into the atmosphere, trapping heat inside and warming the planet in a process called **global warming**.

24) The Industrial Revolution marked a time of great growth. One important fuel during that time was coal. Which graph BEST represents what happened during that time?

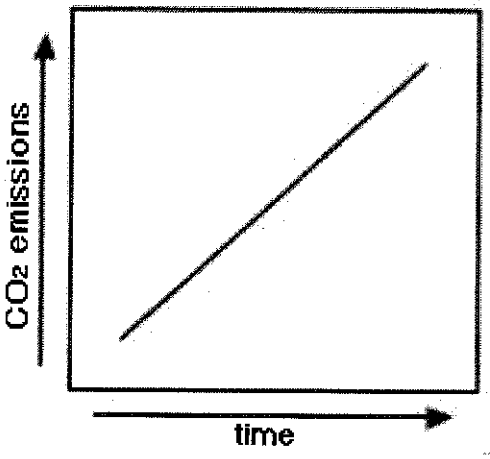
A)



B)



C)



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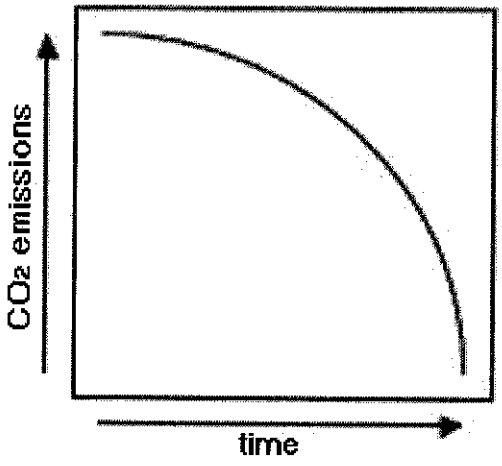

Explanation:
Burning fossil fuels, such as coal, emits carbon dioxide as is shown in **graph C**.

25) Which of these is a renewable resource?

A) coal
B) geothermal
C) petroleum
D) potash

Explanation:
The answer is **geothermal** energy. Renewable resources can be replaced by natural processes with the passage of time.

26) Which of these BEST describes how humans obtain fossil fuels, such as oil and coal?

A) They are developed in factories.

B) Fossil fuels are produced in the atmosphere.

C) We harvest fossil fuels from living plants in the rain forest

D) The pressure of the Earth on organic materials transforms them.

Explanation:

Fossil fuels are created when **the pressure of the Earth on organic materials transforms them.** Humans have found a way to mine or collect them, but nature formed them through pressure and time.

27) Which of these is an example of conserving a non-renewable resource?

A) **Using electricity to fuel cars, instead of gasoline.**
B) Disposing wastes in landfills, instead of burning them.
C) Traveling in individual cars instead of taking the bus.
D) Getting rid of old aluminum cans instead of recycling them.

Explanation:
Non-renewable resources can be conserved by developing alternatives or substitutes for the original material. **Using electricity to fuel cars, instead of gasoline** is an example of conserving a non-renewable resource.

28) New technology, such as renewable energy sources, has many positive aspects such as

A) using nonrenewable resources.
B) reducing the emissions of carbon dioxide.
C) increasing the annual average temperature.
D) increasing the cost of energy sources such as fuel.

Explanation:
Reduces the emissions of carbon dioxide (lowering the possibility of the greenhouse effect) is the correct answer. New renewable energy resources are cleaner and reduce the emission of carbon dioxide because the new fuels burn cleaner.

29) What is an advantage of recycling?

A) It is the only way to get rid of waste.
B) It improves the quality of the material.
C) It is a good way to conserve some metals.
D) It is a good way to save gasoline and other fuels.

Explanation:
Recycling is possible only with materials that are not completely, or almost completely, used up. So, it is not possible to recycle gasoline or other fuels. Recycled materials often lose quality with every round of recycling. **Recycling is a good way to conserve some metals**.

30) Which is NOT a negative consequence of acid rain?

A) damages plants and trees
B) kills fish and amphibians
C) gives soil a better pH for growing crops
D) chemical erosion of buildings and concrete

Explanation:
gives soil a better pH for growing crops Acid rain does not help any part of the environment.