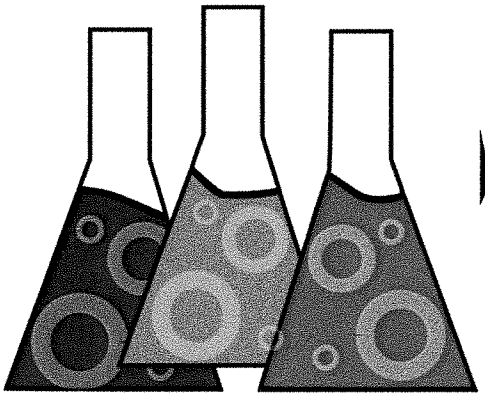


Science Spring Break Packet

(Milestone Review)

Will be graded for ACCURACY!

Pace: 87 total questions (10 questions a day)

Check off Daily to keep track below

Day	Sat	Sun	Mon	Tues	Wed	Thurs	Fri	Sat	Sun
Completed 10 questions									

GEOLOGY

1. Sedimentary rocks are not found on the Moon because
   A) there is no silicon on the Moon.
   B) lava flows are missing from the surface.
   C) the Moon's gravity is too weak.
   D) there is no weathering on the Moon

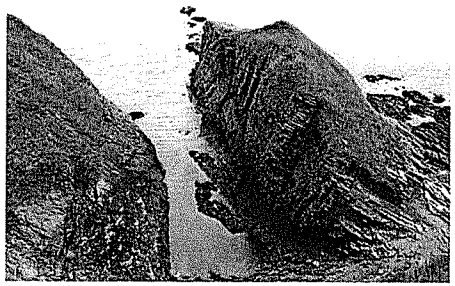
2. Rocks are affected by heat and pressure. One source of this pressure is
   A) energy from the Sun.
   B) burning of fossil fuels.
   C) the mass of overlying rocks.
   D) the decomposition of organic materials.

3. What is the primary cause of volcanoes and earthquakes?
   A) crustal plate movement
   B) Earth's gravitational force
   C) higher than usual tides
   D) solar magnetic storms

4. The major process that wears down whole mountain ranges is
   A) earthquakes.
   B) weathering.
   C) plate movement.
   D) silt deposition.

5. How do active volcanoes located on islands create more land area on these islands?
   A) Lava from volcanoes cools and hardens, forming more land.
   B) Lava from volcanoes melts through old rocks, exposing more land.
   C) Heat from volcanoes causes the ocean to evaporate, exposing more land.
   D) Heat from volcanoes causes minerals in seawater to condense, forming more land.

6. The surfaces of old concrete statues are often covered with small holes or pits. Which of these MOST LIKELY causes these holes or pits?
   A) Long exposure to sunlight causes the pits to form.
   B) The concrete is chemically weathered by acid rain.
   C) The concrete is chipped away by sand particles blown by strong winds.
   D) The concrete becomes pitted as water freezes in small cracks in the statue.



7. Over time, this rocky cliff will become many smaller rocks and eventually sand particles. This is due to which process?
   A) erosion
   B) deposition
   C) weathering
   D) evaporization

8. The formation of metamorphic rocks depends on all of the following **except**
   A) the composition of the parent rocks.
   B) Earth's magnetic field.
   C) temperature.
   D) pressure.

9. Footprints made by astronauts on the Moon years ago are still there. Which reason explains this?
   A) The Moon has no wind or rain.
   B) Time passes much slower on the Moon.
   C) The dust on the Moon hardened into stone.
   D) The heavy astronauts left very deep footprints in the Moon's dust.

10. A boundary where two tectonic plates come together, or collide, is called a
    A) divergent boundary.
    B) convergent boundary.
    C) transform boundary.
    D) transfer boundary.

11. Earth's core is mainly composed of
    A) iron and aluminum.
    B) silicon and hydrogen.
    C) iron and nickel.
    D) silicon and oxygen.

Use the chart below to answer this question.

mineral	hardness	way it breaks	luster	streak	color
Galena	2.5	cleavage	metallic	gray-black	silver, gray
Magnetite	6	fracture	metallic	black	black
Hematite	6	fracture	metallic-dull	red-brown	red-brown, silver, black

12. Susan wants to identify a dark, heavy mineral sample she found in the classroom collection. She notices there are three minerals in a chart in a reference book that might match her sample.
Susan next observes that her sample mineral has flat, reflective surfaces that break into boxlike steps. She infers the mineral may be galena. If she is correct, one more test will verify her inference. Which property would to best for her to observe next?
A) hardness
B) luster
C) streak
D) color

13. Granite is a kind of
A) energy.
B) fossil.
C) rock.
D) mineral.

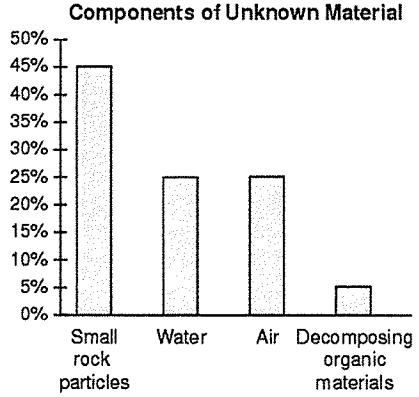
14. What type of rock results from the cooling of lava from a volcano?
A) sedimentary
B) bituminous
C) igneous
D) metamorphic

15. Which is **not** part of the definition of a mineral?
A) naturally occurring
B) definite composition
C) solid
D) organic

16. Igneous rocks are classified by where they are formed. Which type of igneous rock forms underground?
A) extrusive
B) intrusive
C) volcanic
D) ash

17. When magma reaches Earth's surface it becomes
A) gas.
B) steam.
C) energy.
D) lava.

Students in a science class examined an unknown material. They found that it was made of four main components. They recorded the percent of each component in the graph below.



18. Based on this evidence, what is the unknown substance?
A) soil
B) quartz
C) concrete
D) igneous rock

19. In December, 2004, an earthquake registering 9.0 on the Richter scale was recorded off the far off the coast of Sumatra. What is a common secondary effect of this type of earthquake?
A) a tsunami
B) a tornado
C) global warming
D) volcanic activity

20. In cold climates rocks are broken into pieces by the action of **water**. This process that breaks down rocks and helps form soil can best be explained as
A) leaching of minerals from the rock.
B) decomposition due to the action of ice crystals.
C) chemical weathering due to water reacting with calcite.
D) mechanical weathering due to alternate freezing and thawing.

21. Chemical weathering of rocks occurs and helps to form soils. Which of the following is an agent of chemical weathering?
A) acid rain
B) freezing and thawing
C) tree roots growing through rocks
D) rocks tumbling in a stream or river

22. Farmer Brown has cut down a stand of pine trees so he can plant corn in the spring. What would be a practical solution to help stop soil erosion during the fall and winter when the corn is not growing?
A) He could let cows graze in the field.
B) He could dig a pond next to the corn field.
C) He could surround the corn field with shrubs and a fence.
D) He could plow the corn under and then let the field lay dormant.

23. Which type of rock is most likely to be formed by the cooling of magma underground?
A) sandstone
B) limestone
C) granite
D) shale

24. Limestone is a sedimentary rock found in South Georgia and North Florida. Limestone is easily weathered and eroded because the main mineral found in limestone reacts acid rain and ground water. What type of mineral likely makes up limestone?
A) calcite
B) gypsum
C) quartz
D) silica

25. Cleavage of a mineral is related to a mineral's
A) chemical composition.
B) streak color.
C) luster.
D) crystalline structure.

26. Which kind of rock is formed when volcanic lava cools?
A) sedimentary
B) metamorphic
C) igneous
D) magma

27. Areas on Earth's surface that lie above the borders of tectonic plates are characterized by
A) frequent earthquake activity.
B) lengthy formations of sea arches.
C) stable temperate climate conditions.
D) a lack of plant and animal life.

28. Rocks found on Earth are generally classified as sedimentary, metamorphic, or igneous. On which basis are these classifications made?
A) where the rocks are found
B) how the rocks were formed
C) the color and shape of the rocks
D) the chemical composition of the rocks

29. What type of rock is formed by volcanic activity?
A) sedimentary
B) igneous
C) coal
D) metamorphic

30. When rocks undergo weathering, they become
A) magma.
B) igneous rocks.
C) sediment.
D) volcanic cones.

31. Which of these statements about Earth's crust is true?
A) It is a layer of solid rock that remains the same throughout time.
B) It includes the continents, but not the ocean floor.
C) It is a changing, moving surface with the same thickness everywhere.
D) It is a system of large masses called plates that slowly move together or apart.

32. The salts in the sea come from
A) weathering and erosion of rocks.
B) acid rain.
C) particles falling from space.
D) organisms that live in the sea.

33. When limestone is exposed to enough heat and pressure, it goes through physical changes. These changes can turn limestone into a different kind of rock called marble. Which of these BEST describes marble?
A) It is an igneous rock.
B) It is a synthetic rock.
C) It is a sedimentary rock.
D) It is a metamorphic rock.

WATER

1. Which of these would MOST LIKELY occur if the rate of evaporation over the ocean were to decrease for an extended length of time?
   A) The sea level would fall dramatically.
   B) Ocean currents would reverse their directions.
   C) The amount of precipitation on land would decrease.
   D) Harmful chemicals would be formed in the atmosphere.

2. Which contains the greatest amount of Earth's **freshwater**?
   A) groundwater
   B) oceans and seas
   C) lakes and rivers
   D) glaciers and polar ice cap

3. Most modern cities obtain their drinking water from
   A) surface reservoirs.
   B) rivers and streams.
   C) underground reservoirs.
   D) desalinated ocean water.

4. Magma pushes up from the mantle in the middle of the Atlantic Ocean. As a result, the Atlantic Ocean is growing by several centimeters each year. How else has this magma affected the Atlantic Ocean?
   A) It has produced a flat, smooth ocean floor as the continents separate.
   B) It has created a long, large mountain range below the ocean's surface.
   C) It has produced volcanoes along the edges of the separated continents.
   D) It has made the Atlantic waters much warmer than the Pacific Ocean waters.

5. Many cities allow people to water their lawns only during the evening or early morning. Why do the cities prevent people from watering during the day?
   A) to reduce erosion
   B) to conserve water supplies
   C) to prevent damage to the soil
   D) to ensure the grass gets enough water

6. Only 3% of the water on Earth is freshwater. About 60% of that water is not available for man's use. Why is this?
   A) it is frozen
   B) it is polluted
   C) it is too salty
   D) it is in aquifers

7. When ice forms in the oceans, what happens to the water found directly underneath the newly formed ice?
   A) it becomes colder
   B) it becomes warmer
   C) it becomes denser
   D) it becomes more salty

8. Tropical seas have a high rate of evaporation. **Because of this**, the water in tropical seas will have higher:
   A) wave crests.
   B) amounts of algae.
   C) daily temperatures.
   D) salt concentrations.

9. What is the main cause of ocean tides?
   A) energy from the sun
   B) rotation of the earth
   C) change in water temperature
   D) gravitational pull of the moon

10. On most ocean shorelines, the water rises slowly and covers the land twice a day. Then it slowly falls back. What is this movement called?
    A) current B) wave C) tide D) drift

11. Ocean water differs from freshwater in that it has
    A) a higher temperature.
    B) a lower temperature.
    C) a higher concentration of sodium chloride.
    D) a higher concentration of silicon dioxide.

12. During the water cycle, when water vapor changes to liquid water, it is called
    A) evaporation. B) condensation. C) freezing. D) boiling

13. Which two physical changes are essential processes in the water cycle?
    A) oxidation and reduction
    B) evaporation and condensation
    C) mixing and separating
    D) ebbing and flowing

14. Which of these BEST describes the cause of waves in the ocean?
    A) high and low tides
    B) evaporation of water
    C) wind blowing across the surface of the ocean
    D) ridges and trenches on the bottom of the ocean

METEOROLOGY

1. Cold air masses that form at high latitudes are called
   A) polar air masses.
   B) continental air masses.
   C) warm air masses.
   D) maritime air masses.

2. Nearly 100 years ago, a large volcano erupted in the South Pacific. The following year, some northeastern cities in the United States recorded measurable snowfall every month of the year. Most of the Northern Hemisphere experienced a cold summer. Which explains how these events were related?
   A) The eruption temporarily intensified the greenhouse effect.
   B) Thermal energy released during the eruption caused a decrease in Earth's total heat energy.
   C) The eruption damaged the ozone layer, causing a decrease in the amount of solar energy reaching Earth.
   D) Atmospheric dust from the eruption caused a decrease in the amount of solar energy reaching Earth.

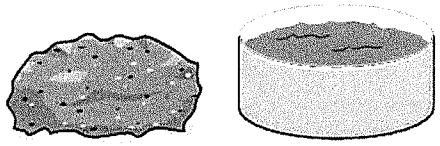
3. Life on Earth is protected from the Sun's ultraviolet radiation by
   A) the cloud cover.
   B) dust particles.
   C) water vapor.
   D) the ozone layer.

4. What are the two dominant elements in Earth's atmosphere?
   A) oxygen and carbon dioxide
   B) hydrogen and helium
   C) nitrogen and oxygen
   D) silicon and hydrogen

5. Why does the ocean cover different amounts of the beach at different times of the day?
   A) because the Moon's gravity pulls the ocean, causing it to rise and fall
   B) because Earth wobbles as it rotates, causing the ocean to rise and fall
   C) because ocean currents change, adding sand to and removing sand from the beach
   D) because the sand is able to absorb more water as the temperature increases, lowering the ocean level

6. Meteorologists often look at differences in air pressure when they are trying to predict the weather. Why do these differences occur?
   A) The Sun heats different places at different rates.
   B) The Moon's gravity has a different strength at different places.
   C) Earth's rotation makes different places move at different speeds.
   D) Volcanoes add different amounts of heat and gas to the air in different places.

7. The picture below shows a large rock and a container of water. The rock and the water have the same mass and temperature.



   What will MOST LIKELY happen when the rock and the water receive the same amount of heat energy?
   A) The water will transfer heat to the rock.
   B) The rock will transfer heat to the water.
   C) The temperature of the rock will rise faster.
   D) The temperature of the water will rise faster.

8. At the start of a hurricane, strong winds blew over the ocean causing more water to evaporate. How did this effect the hurricane?
   A) The hurricane lost heat.
   B) The hurricane lost pressure.
   C) The hurricane became weaker.
   D) The hurricane became stronger.

9. Jennifer measured the temperature difference between two areas located next to each other. She did this at four locations. Which location is MOST LIKELY to have the strongest winds?
   A) lake and river
   B) forest and field
   C) pond and stream
   D) ocean and beach

10. An air mass forms over the Gulf of Mexico and moves northeast across Georgia. What weather conditions are likely to prevail in Georgia?
A) cool and dry
B) cool and humid
C) warm and dry
D) warm and humid

11. In some years there are more hurricanes than usual. This is probably because
A) the ocean is warmer than usual.
B) the ozone layer is very thin.
C) there are more windy days than usual.
D) the gravitational pull of the Moon is stronger.

12. The ozone layer in Earth's upper atmosphere is important to living organisms because it

A) absorbs harmful ultraviolet radiation from the Sun.
B) breaks down harmful pollutants into normal atmospheric gases.
C) supplies the oxygen living organisms require to carry on respiration.
D) traps heat close to Earth's surface to maintain temperatures necessary for life.

13. On a summer day which clouds are most likely to bring rain?
A) thin, fluffy clouds
B) red clouds at sunset
C) thick, dark-gray clouds
D) clouds that look like white sheep

ASTRONOMY

1. Which planet is closest to the Sun?
A) Jupiter
B) Mars
C) Venus
D) Mercury

2. Venus is completely enveloped in clouds that hide its surface from view on Earth. Which statement is also true about these clouds?
A) They keep the surface cool.
B) They produce sulfuric acid rain.
C) They are mostly made of water.
D) They are caused by volcanoes.

3. How does the gravity on the Moon compare to the gravity on Earth?
A) Gravity is the same wherever you are.
B) There is less gravity on the Moon.
C) There is more gravity on the Moon.
D) Gravity depends on each person.

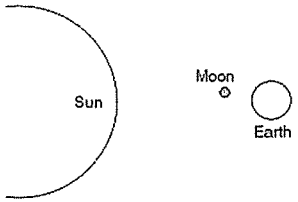
4. Objects in an orbiting space shuttle float because
A) the space shuttle slows down when it reaches orbit.
B) Earth's gravity has less effect on objects as they get farther away from Earth.
C) the mass of the object is less in space.
D) the space shuttle's engines cause too much vibration for objects to remain still.

5. Earth is made of solid materials. Jupiter, Saturn, Uranus, and Neptune are all made of gas. Which is true about the density of these planets?
A) They are more dense than Earth.
B) They have no density.
C) They are less dense than Earth.
D) They have the same density as Earth.

6. A hurricane-type cloud known as the Great Red Spot can be found on which planet?
A) Saturn
B) Mars
C) Uranus
D) Jupiter

7. The atmosphere of Venus consists of thick yellow clouds formed mostly from
A) helium.
B) sulfur.
C) hydrogen.
D) carbon.

Use the diagram below to answer this question.



8. When the Sun, the Moon, and Earth are in the same line as shown, which of the following could occur?
A) an eclipse of the Sun
B) an eclipse of the Moon
C) The Moon could be pulled closer to Earth.
D) The spin of Earth could be increased.

9. Why does the amount of daylight change during the course of a year?
A) The amount of light and heat radiated by the Sun changes at different times of the year.
B) The distance between the Sun and Earth changes from summer to winter.
C) The North Pole points more toward the Sun at one time of the year than another.
D) Earth rotates at different speeds at different times of the year.

10. Kate is building a model of the solar system. She chooses a basketball to represent Earth. She wants her model to represent the relative sizes of all the planets and the Moon accurately.
Which of the following should Kate use to represent the Moon?
A) a marble
B) a Ping-Pong ball
C) a softball
D) a soccer ball

11. NASA scientists recently discovered evidence of liquid water on
A) Venus.
B) Mars.
C) Jupiter.
D) the Moon.

12. Imagine you are an astronomer who just observed a huge burst of light from an exploding star. What did you most likely observe?
A) a pulsar B) a black hole C) a supernova D) a meteor

13. Which planet has gases, land masses, and large amounts of surface water?
A) Earth B) Mars C) Pluto D)Saturn

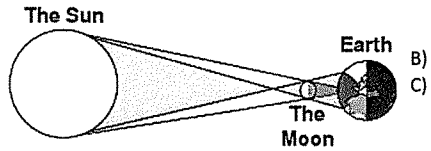
14. There are about 24 hours in a day. What would happen to the length of a day if the rotation of Earth sped up?
A) The length of a day would be shorter.
B) The length of a day would be longer.
C) The length of a day would remain the same.
D) The length of a day would be unpredictable.

15. Daylight in the Northern Hemisphere lasts longer in summer than in winter, and the change in the length of day happens in a predictable pattern. Which statement correctly explains this condition of Earth's environment?
A) The Sun moves closer to Earth in summer and farther away in winter.
B) Earth, with its tilted axis, moves around the Sun in a predictable way.
C) There is a predictable change in the amount of heat and light given off by the Sun.
D) Earth turns slower in summer than it does in winter.

16. Which planet is characterized by polar ice caps, a pink sky, a rust-colored surface, large volcanoes, and surface channels?
A) Uranus B) Pluto C) Mars D) Saturn

17. Which is the largest planet?
A) Mars B) Uranus C) Jupiter D) Saturn

Look at the picture to the right.
18. What event does the picture show?
A) full moon
solar eclipse
lunar eclipse
D) quarter moon



19. How is Saturn different from Earth?
A) Saturn is smaller than Earth.
B) Saturn is closer to the Sun than Earth.
C) Earth has a moon, while Saturn does not have any moons.
D) Earth is made mostly of rock, while Saturn is made mostly of gas.

20. Which force pulls the planets of the solar system towards the sun?
A) nuclear
B) centripetal
C) gravitational
D) electromagnetic

21. Which statement describes why the Earth has seasons?
A) Its axis is tilted as it revolves around the sun.
B) The distance changes as it revolves around the sun.
C) The moon revolves around it.
D) The sun's axis is tilted.

	Mercury	Venus	Earth	Mars	Jupiter	Saturn	Uranus	Neptune
Mean Distance from Sun (AU)	0.387	0.723	1.000	1.524	5.203	9.537	19.191	30.069
Orbital period (yrs)	0.24	0.62	1.00	1.85	11.86	29.45	84.02	164.79
Orbital Eccentricity	0.206	0.007	0.017	0.093	0.048	0.054	0.047	0.009
Mass (Earth=1.0)	0.055	0.815	1.000	0.107	318	95.2	14.5	17.1
Equatorial radius (km)	2439	6052	6371	3390	69,911	58,232	25,362	24,624
Density (kg/m^3)	5430	5200	5520	3930	1330	690	1320	1640
Surface gravity (Earth=1)	0.38	0.91	1.00	0.38	2.36	0.92	0.89	1.12
Most Abundant Atmospheric Gases	None	CO_2	N_2,O_2	CO_2	H_2,He	H_2,He	H_2,He	H_2,He

22. Which lists these planets in order of INCREASING mass?
Mercury
Venus
Earth
Mars

A) Earth, Mars, Mercury, Venus
B) Mars, Earth, Mercury, Venus
C) Mars, Venus, Mercury, Earth
D) Venus, Mercury, Mars, Earth

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23. Saturn is a very massive planet (95.2 Earth masses), yet it has a calculated surface gravity (0.92) less than that of Earth. Which is a possible explanation?
A) Saturn has a GREATER orbital period.
B) Saturn has a GREATER mean distance from the Sun.
C) Saturn has the MOST prominent rings in the solar system.
D) Saturn's MOST abundant elements are the very light H_2 and He.

24. A robotic space probe malfunctions and is lost for several years. It then lands and sends the data listed here back to the Earth.
Most Atmospheric Gas(es): CO_2
Surface gravity: Less than the Earth
Mean Distance from the Sun (AU): Greater than the Earth

Where did the probe land?

A) Mars
B) Jupiter
C) Saturn
D) Venus

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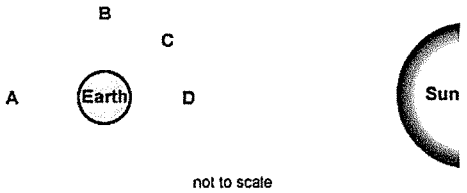
Most Abundant Atmospheric Gases	None	CO_2	N_2, O_2	CO_2	H_2,He	H_2,He	H_2,He	H_2,He

25. As you INCREASE the mean distance from the Sun, you also INCREASE the
A) mass.
B) density.
C) orbital period.
D) surface gravity.

26. Gravity is the force that governs the planets' motion around which celestial body?
A) the sun
B) the earth
C) the galaxy
D) the galaxy



27. Predict the location of the Moon during a solar eclipse.
A) A
B) B
C) C
D) D