Benchmark Study guide!

**Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Core: \_\_\_\_\_\_\_\_\_**

\_\_\_\_ 1. How does sandy soil form?

a. by the accumulation of dead and decayed organic matter

b. by the disintegration and weathering of rocks such as limestone, granite, quartz and shale

c. by sedimentary deposits after rock is weathered, eroded and transported

d. by the suspension of sediment in water column of a body of water

\_\_\_\_ 2. Humans are making an impact on soil quality and erosion with all but one of the following. Which answer is not a way of improving soil quality?

a. Contour plowing

b. Crop rotation

c. Electromagnetic Studies

d. Conservative plowing

\_\_\_\_ 3. What is the basic component of soil?

a. Fungi

b. Debris

c. Weathered rock

d. Igneous rock

\_\_\_\_ 4. A class is conducting an experiment on how different types of soil can affect the growth of a plant. Which are the main factors the class should consider when designing the experiment?

a. The soil texture and the amount of water it can hold

b. The types and amounts of sugar found in the soil

c. The color of the container for the soil and the plant

d. The shape and color of the seeds planted in the soil

\_\_\_\_ 5. What causes the movement of the tectonic plates?

a. Gravitational pull between the Earth and the Moon

b. Convection occurring beneath the Earth’s crust

c. Energy produced by earthquakes within the Earth

d. Rotation of liquid rock found within the core

\_\_\_\_ 6. Why do we see the moon go through phases?

1. Because of the Earth’s shadow moving across the surface of the moon.
2. Because we can only see a portion of the lighted side as the moon makes its way around us in its orbit.
3. Because we see different parts of the moon as we go around the Sun.
4. Because our axis is tilted, allowing us to see the top or the bottom of the moon during different seasons.

\_\_\_\_ 7. During which moon phase would a solar eclipse occur?

1. Full Moon
2. New Moon
3. Waxing Gibbous
4. Waning Crescent

\_\_\_\_ 8. During which moon phase would a lunar eclipse occur?

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\_\_\_\_ 9. Why do we experience seasons?

1. During certain parts of our orbit, we are either closer or farther from the sun, making the Earth warmer or colder.
2. The Earth’s axis is tilted about 23.5 degrees, so at certain times of the year we will have more direct light from the sun, resulting in a warmer season. When we are tilted away from the sun, we receive indirect sunlight, resulting in a colder season.
3. Seasons are determined by how close or how far away from the equator a place is.

\_\_\_\_ 10. All of the following are reasons that the Earth was able to sustain life except:

1. The Earth was formed at the perfect time during the formation of the universe.
2. The Earth is in the habitable zone around our sun.
3. Earth’s gravity held the perfect amount of gases to it so that the atmosphere formed was not too thick or too thin.
4. The Earth rotation happens at just the right pace, giving us the perfect amount of daylight and nighttime.

\_\_\_\_ 11. What is the most useful purpose for the International Space Station?

a. To provide a vacation destination for wealthy Americans.

b. To enable long-term exploration of space.

c. To enable the designs of rockets to be tested.

d. To provide a home to humans when the Earth becomes too polluted.

\_\_\_\_ 12. What advantages do telescopes launched into orbit give us over those that are on the surface of Earth? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_ 13. Which layer of the Earth has the greatest density?

A Crust

B Mantle

C Outer Core

D Inner Core

\_\_\_\_ 14. Which of the following has the layers of the Earth in order from least dense to most dense?

A Crust, Asthenosphere, Mantle, Lithosphere, Outer Core, Inner Core

B Crust, Lithosphere, Asthenosphere, Mantle, Outer Core, Inner Core

C Lithosphere, Asthenosphere, Crust, Mantle, Outer Core, Inner Core

D Inner Core, Outer Core, Mantle, Asthenosphere, Lithosphere, Crust

\_\_\_\_ 15. What is the process called that split up the supercontinent Pangaea?

A Earthquakes

B Convection Currents

C Tsunamis

D Continental Drift

\_\_\_\_ 16. This is what happens when two tectonic plates pull apart from one another in a divergent boundary.

A Mid-ocean ridges (aka Rift Valleys) form

B Mountain ranges are formed.

C Volcanoes erupt.

D There is no effect created by a divergent boundary.

\_\_\_\_ 17. The amount of time that it takes for Earth to complete one rotation is:

A 12 hours

B 24 hours

C one month

D 365 days

\_\_\_\_ 18. What causes the tides?

A Wind currents

B The pull from the moon's gravity.

C Minor earthquakes deep below the ocean

D The pull from the sun's gravity.

\_\_\_\_ 19. What would happen if we didn't have leap year?

A Eventually the seasons wouldn't match our calendar.

B There would be no noticeable change.

C We would have to add an extra year every five years to our calendar.

D The days and nights would end up switched.

\_\_\_\_ 20. How does our calendar year differ from our solar year?

A The solar year is actually a little longer than the calendar.

B The calendar is actually a little longer than the solar year.

C The months are longer in a solar year.

D The days are shorter in a solar year.

\_\_\_\_ 21. About how much is Earth's axis tilted?

A 25.3 degrees

B 5 degrees

C 23.5 degrees

D 15.3 degrees

\_\_\_\_ 22. The Habitable Zone refers to:

A The area of Earth where it is easiest for life to form.

B The distance from the sun where water can exist in its liquid form.

C Where an organism forms their habitat on Earth.

D The distance from the sun where a suitable atmosphere can form.

\_\_\_\_ 23. List and EXPLAIN three different reasons why Earth can be compared to the Goldilocks story.

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\_\_\_\_ 24. After sediment is moved by erosion, the process where the sediment is placed back down in a new location is called:

A Deposition

B Weathering

C Leaching

D Cementation

\_\_\_\_ 25. The process in which weathered particles are picked up and moved is…

A Cementation

B Leaching

C Erosion

D Weathering

\_\_\_\_ 26. The process where natural forces break down soil and rocks is called…

A Vibrating

B Weathering

C Metamorphing

D Erosion

\_\_\_\_ 27. The three main types of rocks are igneous, sedimentary, and metamorphic.

A True

B False

\_\_\_\_ 28. This is a naturally formed solid made up of one or more minerals.

A Asthenosphere

B Tectonic Plate

C Mineral

D Rock

\_\_\_\_ 29. Which of the following is NOT an example of mechanical weathering?

A Ice Wedging

B Rusting

C Root Growth

D Abrasion

\_\_\_\_ 30. This is the name of the organic material that allows life to grow and causes the dark color of soil.

A Litter

B Humus

C Rocks

D Minerals

\_\_\_\_ 31. Which of the following is NOT a property of soil?

A Smell

B Texture

C Color

D Pore Space

E Chemistry

\_\_\_\_ 32. Which soil horizon contains the most humus?

A) the A Horizon

B) the B Horizon

C) the C Horizon

D) the D Horizon

\_\_\_\_ 33. Which type of soil has the smallest particle size?

A Sand

B Clay

C Silt

\_\_\_\_ 34. If soil is darker in color, that means that it contains more humus, or organic material.

A True

B False

35. If you were going to start a colony on Mars, what are some things you might need? List at least three things and explain your reasoning for each. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

36. What is a spin-off? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

37. What do you think are the three most important spin-offs created? Explain your reasoning for each. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

38. Harvard students explained that we see phases of the moon because of the Earth’s shadow falling in the surface of the moon. First, correct the flaw in their explanation (why do we really see the phases?). Then, put explain the term that they were actually describing. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

term: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Land beneath our Feet

39. List the layers of the earth from the surface to the interior and the composition of each layer\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

40. What happens in temperature as you move toward the center of the earth?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

41. ¾ the of the earth’s surface is covered by a thin layer of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and the rest of the surface is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

42. What type of heating happens in the mantle of our earth? What does this cause?\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_