**Planets of the Solar System Review (Ch.27) - Answers**

\_\_\_\_ 1. Describe the early oceans and explain how they became salty.

dissolved solids were carried from land into the oceans

\_\_\_\_ 2. Explain how the solar system formed and tell which part of it contains most of the matter from the formation.

The solar system formed from the debris of a solar nebula. Of that matter (debris), about 99% of it now exists in the sun.

\_\_\_\_ 3. What is a planet? Why is Pluto no longer considered to be one?

A planet is a celestial body that orbits the sun, is round because of its own gravity, and has cleared the neighborhood around its orbital path.

\_\_\_\_ 4. What is the difference between a planet and a moon?

Small bodies that orbit planets as they orbit the sun are called moons.

\_\_\_\_ 5. What gases from Earth’s early atmosphere were lost and tell why?

Hydrogen and helium because of a lack of gravity and because of solar winds blowing them away.

\_\_\_\_ 6. Explain the difference between the heliocentric and geocentric models of the solar system.

The heliocentric model of the universe puts everything revolving around the sun and the geocentric model puts everything revolving the earth.

\_\_\_\_ 7. Why are Mars’s volcanoes larger than those of Earth?

It has no moving tectonic plates.

\_\_\_\_ 8. Describe what an impact crater is and tell what causes them.

Collisions with objects in space.

\_\_\_\_ 9. What is a runaway greenhouse effect and which planet is most affected by this phenomenon?

The buildup of atmospheric gases that act as a blanket to trap heat in and the planet continues to get hotter and hotter- Venus.

\_\_\_\_ 10. Where is the Kuiper Belt and what kind of objects would you find in it?

A region of the solar system that starts just beyond Neptune’s orbit, which contains dwarf planets and other small bodies made mostly of ice.

\_\_\_\_ 11. What does Neptune’s Great Dark Spot and Jupiter’s Great Red Spot have in common?

They are both storms on the planets.

\_\_\_\_ 12. Density relates a substances mass to its volume. Which planet is the least dense of all (it could float in the ocean)? Saturn

\_\_\_\_ 13. What are the special conditions that make it right for life on Earth to exist?

The right combination of temperature, water, and oxygen.

\_\_\_\_ 14. Explain how the young Earth formed its core, mantle, and crust.

Heavier, more dense objects sank while less dense objects moved to the surface in a process called differentiation.

\_\_\_\_ 15. Compare the inner planets in terms of size, mass, and density.

Venus and earth in these ways.

\_\_\_\_ 16. Of all the planets which one (ones) still has volcanic regions that may still be active?

Venus, earth and mars.

\_\_\_\_ 17. Describe/compare the ring systems of the outer planets?

They all have rings. Saturn has the most complex (and famous).

\_\_\_\_ 18. Explain how the early atmosphere developed and tell what the name of that process is.

The early atmosphere developed when many volcanic eruptions released large amounts of gases in a process called outgassing.

\_\_\_\_ 19. Compare the location and the kinds of material in Asteroid Belt with that of the Kuiper Belt.

It’s between the inner and outer planets and contains rocky objects.

\_\_\_\_ 20. Explain the nebular hypothesis and relate that to a solar nebula.

A rotating cloud of gas and dust from which Earth’s solar system formed

\_\_\_\_ 21. What is Jupiter’s Great Red Spot and how long is it believed to have been active?

Jupiter’s Great Red Spot is a raging storm that is believed to have been active for several thousand years.

\_\_\_\_ 22. What elements make up the majority of the outer planets?

Hydrogen and helium

\_\_\_\_ 23. Describe how Uranus’s axis of rotation is unique from all the other planets.

It is almost parallel to its plane of orbit (on its side).

\_\_\_\_ 24. What is the name given to objects that circle stars other than Earth’s sun, and are outside of the solar system?

exoplanets

\_\_\_\_ 25. What are the primary (major) bodies that orbit the sun called? planets

\_\_\_\_ 26. Define and give an example of inertia.

The tendency of an object to remain in motion unless an outside force acts upon it.