Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_

8th grade - Chapter 1 Study Guide: Sun-Earth-Moon

1. Define the following terms:

\* axis – an imaginary line on which the Earth rotates

\* new Moon – 1st phase of the moon where the moon is barely visible

\*December solstice – days in the northern hemisphere are shortest and days in the southern hemisphere are longest (start of winter)

\* waxing – more of the moon’s lit side is visible at night.

\* revolution – the motion of one object around another.

\* rotation – a spinning motion

\* Moon phases – changing appearances of Moon from Earth.

\*equinox – a day when Earth’s rotation axis is leaning along Earth’s orbit (not towards or away from the Sun).

2. How are the March equinox and September equinox alike? There are about 12 hours of daylight and 12 hours of darkness everywhere on Earth.

3. The moon’s maria formed because of lava flowing up through the Moon’s crust.

4. Tides are the daily rises and falls in sea levels.

5. Describe what happens during a lunar eclipse.

Sun-Earth-Moon

6. Describe what happens during a solar eclipse.

Sun-Moon-Earth

7. Shade in the circles to represent the following phases of the moon:

Full moon New Moon Third quarter First quarter

8. During a total lunar eclipse, why can the Moon be seen from Earth’s umbra? A shadow is cast by the umbra which allows the Moon to be seen.

9. The seasons are caused by Earth’s position around the Sun and its tilted axis causes the seasons.

10. If a wide light source creates a shadow with two parts, from which part can the light sources be partially seen? Penumbra

11. Spring tides typically occur when the moon is in its full and New moon phases. They also have the highest high tides and lowest low tides.

12. When is the only time that a lunar eclipse happens (hint: It’s one of the moon’s phases)? Full moon

13. The Sun’s rays strike Earth at their southernmost and northernmost positions during March Equinox.

14. What is a solstice? A day when Earth’s rotation is the most towards or away from the Sun.

15. How long does one revolution of Earth around the Sun take? ~365 days (one year)

16. Neap tides typically occur when the moon is in its 3rd quarter and 1st quarter phases. They also have the lowest high tides and highest low tides.

17. Study this diagram. Pay attention to where the Moon is at the start of the month (#1) and the order of the phases (#1-8).

