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

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

1. Define the following terms: axis, New moon, December solstice, waxing, revolution, rotation, Moon phases and equinox.

2. How are the March equinox and September equinox alike? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. The moon’s maria formed because of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

4. Tides are the daily rises and \_\_\_\_\_\_\_\_\_\_\_\_ in sea levels.

5. Describe what happens during a lunar eclipse. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Describe what happens during a solar eclipse. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

9. The seasons are caused by \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

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

11. Spring tides typically occur when the moon is in its \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_ phases. They also have the \_\_\_\_\_\_\_\_\_\_\_\_ high tides and \_\_\_\_\_\_\_\_\_\_\_\_ low tides.

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

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

14. What is a solstice? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

15. How long does one revolution of Earth around the Sun take? \_\_\_\_\_\_\_\_\_\_\_\_

16. Neap tides typically occur when the moon is in its \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_ phases. They also have the \_\_\_\_\_\_\_\_\_\_\_ high tides and \_\_\_\_\_\_\_\_\_\_\_\_ 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).

