Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Pd: \_\_\_\_\_ Asnmt: \_\_\_\_\_

**Eclipses and Tides**

1. What are the two parts of a shadow? How are they different?
2. What phase is the Moon in when it passes between the Earth and the Sun?
3. What must occur in order for the Moon to cast a shadow on the Earth?
4. What is it called when the Moon casts a shadow on the Earth?
5. During a solar eclipse, describe what you would see of the Sun if you were in the umbra.
6. During a solar eclipse, describe what you would see of the Sun if you were in the penumbra.
7. During a solar eclipse, describe what you would see of the Sun if you were outside the penumbra.
8. Why don’t we see a solar eclipse during each new moon phase (every month)?
9. Draw a diagram explaining your answer to question #8.
10. What must occur in order for the Earth to cast a shadow on the Moon?
11. What phase is the Moon in when a lunar eclipse can occur?
12. How are lunar eclipses different from solar eclipses in terms of who can view them?
13. What part of Earth’s shadow does the moon move through during a total lunar eclipse?
14. Explain why you don’t totally lose sight of the Moon even when it is fully within the Earth’s umbra.
15. What color does “Earthshine” make the Moon appear during a lunar eclipse?
16. What is it called when only part of the Moon moves through the Earth’s umbra?
17. Why don’t lunar eclipses occur each month during the full moon phase?
18. What is a tide?
19. How many times does the sea level rise and fall each day?
20. What causes the tides?
21. Where are tidal bulges located relative to the Earth and the Moon?
22. Where do high tides occur? Where do low tides occur?
23. How strong is the Sun’s affect on tides relative to the Moon? Why is it weaker?
24. What causes spring tides? When do they occur (what phases of the Moon)?
25. What causes neap tides? When do they occur (what phases of the Moon)?