STUDY GUIDE: SPACE TEST Name: \_\_\_\_\_\_\_\_\_\_\_\_Due Date: \_\_\_\_\_\_\_\_\_ Per: \_\_\_

***Respond to the following on a separate sheet of paper!***

1. *Why do we have seasons? The Earth’s tilt and different parts of the Earth receiving sun’s rays at different angles.*
2. *Why is it summer in North Carolina in June? (Use hemisphere in your answer) We live in the Northern Hemisphere and we are tilted toward the sun in the summer and receive the sun’s rays more directly.*
3. *What is a satellite? an object that orbits another object*
4. *List several celestial bodies that orbits another (for example the moon orbits the Earth).The planets and Earth orbit the Sun, the moon orbits the Earth*
5. *List these celestial bodies and their periods of revolution (time) Earth: 365.25 days Moon: approx. 29 days*
6. *What is an orbit? The path an object takes around another object.*
7. *What vocabulary term describes the shape of this orbit? Moon: elliptical*
8. *What holds the moon in orbit around our earth? gravity*
9. *What is gravity? The attraction that objects have for each other because they have mass and occupy space.*
10. *What determines the amount of gravity in an object? The mass of the object*
11. *What is an equinox?”equal night” – when day and night are equally 12 hours*
12. *Where does sunlight hit more directly during March Equinox? At the equator*
13. *What is a solstice?”sun stop or sun standing still”- the sun appears to stand still for a while as the Earth continues its orbit- summer solstice- longest day of the year winter solstice- shortest day of the year (least amount of hours of daylight)*
14. *Where does sunlight hit more directly during December Solstice? At the poles- Southern Hemisphere*
15. *Why do we have tides? The gravitational pull of the moon*
16. *How many tidal changes are there are in 12 hours? In 24 hours? 2 and 4*
17. *What is the difference between rotation and revolution? A rotation is the spinning of an object on its own axis and a revolution is the orbit an object takes around another object.*
18. *How long does it take specific celestial bodies to make one complete rotation on the axis. Earth- 24 hours Moon: approx.. 27 days*
19. *Why can we see the moon? Where does the moon’s light come from? Moon is facing Earth and revolves around Earth. Reflection of light from the sun. The moon’s period of rotation is the same as its period of revolution so the same side of the moon always faces Earth.*
20. *Why do we have moon phases? The same side of the moon always faces Earth and the angle of the moon in relation to the sun.*
21. *What is an eclipse? The partial or total blocking of light from one celestial body as it passes behind or through the shadow of another celestial body*
22. *Why don’t we have an eclipse at least once per month? The Earth will not always be in the right place in its orbit around the Sun.-the moon is tilted.*
23. *Draw a diagram to show the order of the Earth, Moon, and Sun for both Lunar and Solar Eclipses. In a solar eclipse the moon is in between the sun and the Earth in a straight line. In a lunar eclipse the Earth is blocking the sunlight from reaching the moon- the moon is in the Earth’s shadow.*
24. *Compare and contrast the inner and outer planets. Inner planets: Mercury, Venus, Earth, Mars Outer Planets: Jupiter, Saturn, Uranus and Neptune*
25. *Inner: rocky, made of metals and minerals, dense mantles Outer: colder, farther from the Sun, composed of gases, larger*
26. *List the planets in order beginning with those closest to the sun. Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune*
27. *How does the sun’s energy reach the Earth? EM waves- radiation*

 Moon A Moon C

Sun                    Moon B



1. What moon phase would you observe for moon **A**, moon B, and moon C? A: waning crescent B: waxing gibbous C: waning gibbous

 **B**

 **A**



1. Draw the moon in figure A above in the location that would give you the lowest low tides?
2. Draw the moon in figure B above in the location that would give you the greatest high tides.

**Constructive Response:**

29. ***Scientists study space in a variety of ways including telescopes, manned, and unmanned spacecraft.***

- In your opinion, which one method of space exploration is the most likely to make new discoveries in space?

- Provide specific examples of how this method of space exploration has been used in the past, and predictions

 of how it may be used in the future.

30. **Name and explain one spin-off that was developed by N.A.S.A. for the space program.**

- How was this spin-off beneficial to astronauts or the space program?

- In what ways has this spin-off benefited people in their daily lives?