Astronomy 2 Unit Study Guide

1. Draw a diagram showing the location of the earth, sun, and moon during a full moon. Describe the appearance of the moon. (S6E2a)

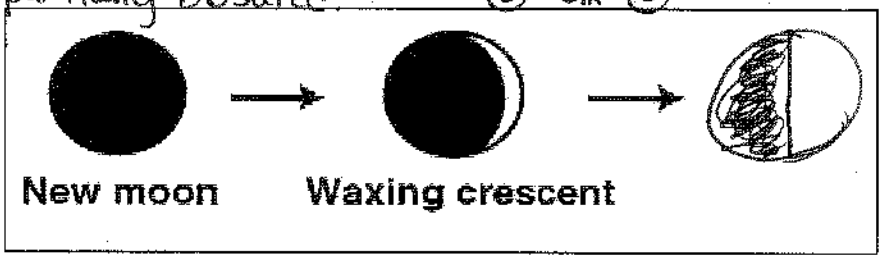
When the moon is on the opposite side of the Earth from the Sun its Earth-facing side is fully illuminated producing a full moon.

2. Which phase of the moon comes before a new moon? (S6E2a)

waning crescent

669 3. Describe the location of the Earth, Sun, and Moon during a solar eclipse. (S6E2b) A solar eclipse occurs when the moon passes between the Sun and the Earth so that the Sun is wholly or partially obscured. S On E

4. Draw a picture in the box to the right showing the next moon phase that will occur. (S6E2a) 668

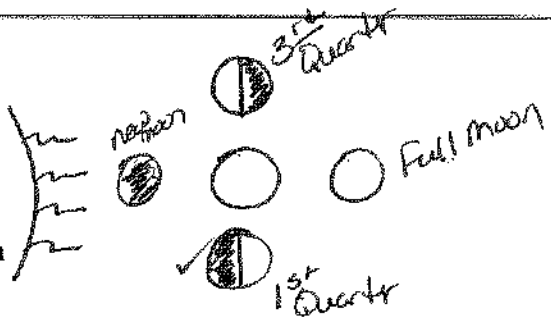


5. Draw a diagram illustrating the placement of the sun, Earth, and moon during a lunar eclipse. Explain what causes a lunar eclipse (S6E2b) (670)

Occurs when Earth's shadow falls on the moon.

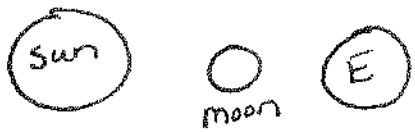
First quarter

6. Based on the observed phase of the moon above, draw a diagram predicting the location of the Moon in its orbit around the Earth. (S6E2a)



667 7. Why are different phases of the Moon visible from Earth? (S6E2a) The phases depend on the relative positions of the moon, Earth, and the Sun

8. Draw a diagram illustrating the location of the Earth, Sun, and Moon during a solar eclipse. (S6E2b)



9. Define axis. (S6E2b) an imaginary vertical line that cuts through the center of the Earth and around which Earth spins.

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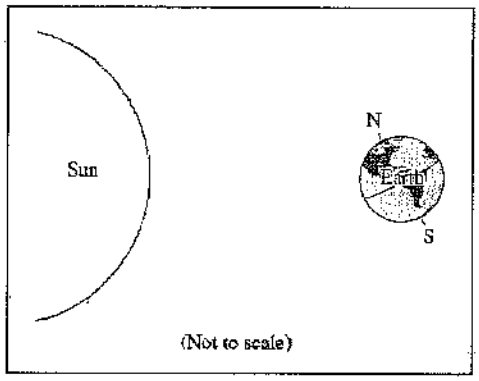
10. Define revolution. (S6E2c) Earth's yearlong elliptical orbit around the Sun.

11. Why does ocean water near the equator absorb more heat throughout the year than ocean water near the North Pole? (S6E2c) the equator, due to its tropical region, get the most direct sunlight throughout the year.

12. Describe what would happen if the tilt of the Earth's axis was 0°. (S6E2c)
There would be no seasons - a constant season for each region

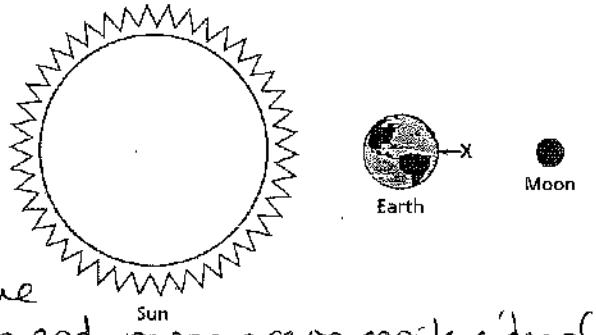
13. Look at the diagram to the right. Identify which season the Southern Hemisphere would experience when the Earth and the Sun are in the positions in the diagram to the right. (S6E2c) Explain your answer.



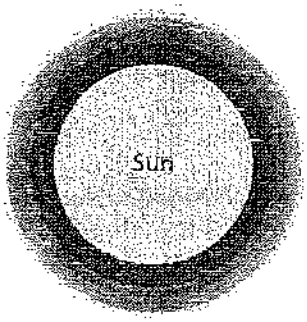
Season - winter - the Southern Hemisphere is tilted away from the sun resulting in indirect sunlight. (shorter days + longer nights)

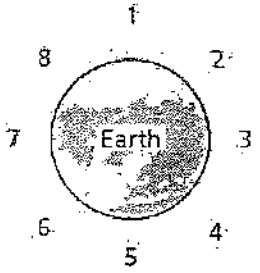
530

14. When the sun, Earth, and the moon are aligned in the positions shown in the diagram, what type of ocean tide occurs at location X? Explain your answer. (S6E3d) Spring tide - happens when the sun and the moon are on the same side of the Earth (new moon) or when the sun and moon are on oppite sides of Earth (Full moon)



15. The numbers in the diagram to the right represent the location of the moon. Which number(s) in the diagram above will produce the lowest high tide? (S6E3d) Which number(s) in the diagram above will produce the highest high tide?





Lowest - 1 & 5
Highest - 3 & 7

Review from Astronomy 1 Test

16. Why can't the shape of the Milky Way Galaxy be seen from the Earth? (S6E1b) (741)
Because we are located with in one of the spiral arms of the Milky Way

17. Explain the Geocentric Model of the Solar System. (S6E1a) (690) the planets, the Sun, and the moon were fixed in seperate spheres that rotated around the Earth

18. Describe the location of the Sun in our Milky Way Galaxy. (S6E1a) (740)
The Sun is about 26,000 light years from the center. The Sun and the rest of the Solar System are located near the outer edge of the Milky Way Galaxy

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19. Explain the Big Bang Theory. (S6E1a) (745) Approximately 13.7 billion years ago, the universe began with an enormous explosion. The entire universe began to expand every where at the same time.

20. Why do objects appear to move across the sky? (S6E1d) (725) Objects appear to move across the sky because the Earth is in motion

21. Identify the Inner Planets and describe how they are different from the outer planets in our solar system. (S6E1c) (692)

Mercury, Venus, Earth, Mars > rocky planets with iron core

Outer: Jupiter, Saturn, Uranus, Neptune > large planet composed of mostly gases like helium, methane, & ammonia

22. Compare the characteristics of a meteor and a meteoroid. (S6E1f)

meteoroids - small pieces of a comets nucleus spread out into a loose group within the original orbit of comet. When these pieces cross the position of Earth, and it enters earth's atmosphere they burn up this is called a meteor.

	Planet	Characteristics
23.	Earth	Has one moon; Only known planet to sustain life; Has canyons, craters, mountains, volcanoes; More than 70% of the surface is covered by water
24.	Saturn	Larger than Earth; 1 year equals 29 ½ Earth years; Largest, most impressive ring system; Gaseous planet; Least dense planet; Second largest planet in the solar system
25.	Neptune	Larger than Earth; Gaseous planet; Coldest planet; Atmosphere of methane; Has large storm system like the Great Dark Spot
26.	Mercury	"Earth-like" characteristics; Surface has many craters and high cliffs; Smaller in size in relation to Earth; Has no moons; Has no atmosphere; innermost and smallest planet in the solar system
27.	Mars	All water is now frozen; "Earth-like" characteristics; Once had active volcanoes; Thinner atmosphere than the Earth; Smaller in size in relation to the Earth; Appears red because of rusted soil; Has severe dust storms at hurricane speeds
28.	Jupiter	Larger than Earth; Largest planet; Faint ring of dust; Gaseous planet; Spins the fastest; Day is 10 hours long; Has at least 63 moons; Large red spot
29.	Venus	"Earth-like" characteristics; Close to the Earth's size (95% of radius); A day is longer than a year due to slow spin; Spins clockwise; Hottest planet (can melt lead); Brightest object in the sky after the Sun and moon
30.	Uranus	Larger than Earth; Gaseous planet; Atmosphere of hydrogen, helium, and methane; Third largest planet; Tipped on its side