

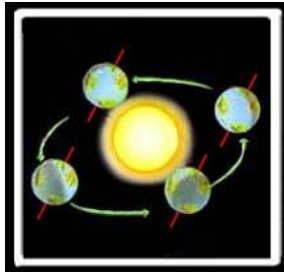
**ANSWER SHEET**

**5th Grade SOL review – SUN, MOON, EARTH SOL 4.7**

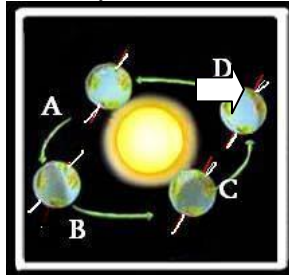
- The Earth moves in two ways; the Earth rotates, and the Earth revolves. Which means spins (like a top)?
  - revolve
  - \*rotate
- The Earth \_\_\_\_\_ on its axis.
  - revolves
  - \*rotates
- The Earth \_\_\_\_\_ around the sun.
  - \*revolves
  - rotates
- The Earth completes one rotation every \_\_\_\_\_.
  - 12 hours
  - \*24 hours
  - month
  - year



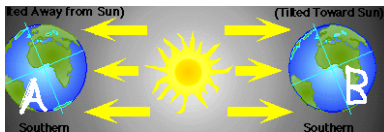
- The people on the side of the Earth's facing the sun (side A):
  - are probably sleeping
  - are very hot
  - \*could be at work or school
- What causes day and night?
  - The rising and setting of the sun.
  - \*The rotation of the Earth
  - the revolution of the Earth
- The Earth rotates on its axis every 24 hours and \_\_\_\_\_ around the sun every 365 days.
  - rotates
  - \*revolves
  - revolutions
- The path the Earth takes around the sun is called the Earth's:
  - lead
  - \*orbit
  - axis
- It takes the Earth \_\_\_\_\_ to orbit the sun.
  - one century
  - one month
  - \*one year (365 days)



- Does the Earth travel in a circle around the sun?
  - yes
  - \*no, in an ellipse (oval)
- How many times has the Earth revolved around the sun since you were born?\_\_ Child's age\_\_
- How many complete rotation has the Earth made so far this month? \_\_\_\_\_
- Why is it winter?
  - The Earth is farther from the sun this time of year.
  - \*The northern hemisphere (where we live) is tilted away from the sun.



What position is the Earth in now (winter)?\_D\_\_\_\_\_



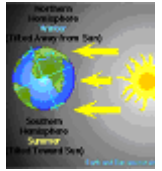
**Position A      Position B**

- In Position A, where is it summer?
  - the northern hemisphere
  - \*the southern hemisphere
- In six months the Earth moves from A to B. . In position B, the sun's rays strike the \_\_\_\_\_ hemisphere directly (at less of an angle)?
  - \* northern
  - southern

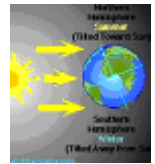
Fill in the blanks with these words.

revolves    closer  
away        directly  
tilt         summer

The tilt of the Earth causes the seasons. The Earth keeps the same tilt as it revolves around the sun, so it's winter when we are tilted away from the sun

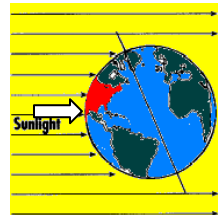


and it's summer when we are tilted toward the sun. The part of the Earth that is tilted toward the sun is warmer because the sun's rays hit that part more directly, not because it is closer to the sun



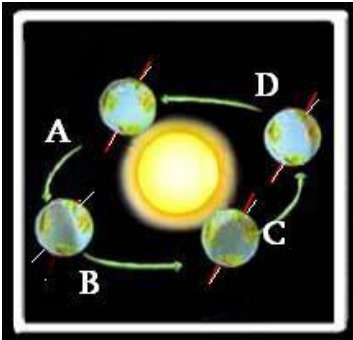
- During the summer in Reston, the \_\_\_\_\_ hemisphere is tilted toward the sun.
  - southern
  - eastern
  - \*northern

- This sketch shows the angle of the sun's rays hitting the U.S. Is it summer or winter in the U.S.? summer



- The Earth's tilt is responsible for our warm summers and cold winters, and for:
  - long winter days and short summer days
  - \*long summer days and short winter days

- On June 21, the first day of our summer, the \_\_\_\_\_ has daylight for 24 hours.
  - \*North Pole
  - South Pole



Name the season for each position:

- A. spring
- B. summer
- C. fall
- D. winter

20. \*True or false:

The moon is a natural satellite of the Earth.

(a satellite is a body that orbits around another body)

21. We see the moon at night because:

- a. the moon produces light
- b. \*the moon reflects the sun's light.

22. This shows the moon's:

- a. \*phases
- b. phrases
- c. faces



23. This picture shows all the phases of the moon in a

cycle.

- a. 365 day
- b. \*28 day (one month)

24. Why does the moon appear to change shape?

- a. Part of the moon is blocked by the sun.
- b. \*Half of the moon is always in sunlight, but depending on the moon's position, we see only part of the sunlit half.

25. "E" in the picture is a:

- a. \*full moon
- b. new moon
- c. gibbous moon

26. "C" and "G" are:

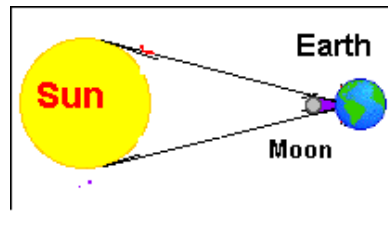
- a. crescent moons
- b. \*quarter moons (sometimes called half moons because we see half of a circle)

27.  This barely visible moon is a:

- a. crescent
- b. gibbous
- c. half (or quarter)
- d. \*new moon

28.  This is a:

- a. \*crescent
- b. gibbous
- c. half (or quarter)
- d. new moon



29. Sometimes the moon passes between the Sun and the Earth. When this happens, the moon casts a shadow on the Earth. This is a:

- a. \*solar eclipse
- b. solar shadow
- c. lunar eclipse

30. The moon is much smaller than the Earth, so:

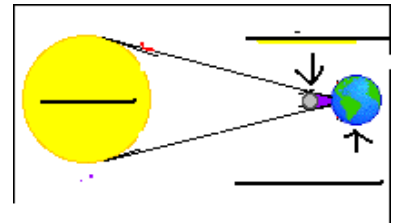
- a. \*the moon casts a relatively small shadow on the Earth, which moves quickly across the Earth
- b. the moon's shadow darkens entire continents as it moves across the Earth

31. Sometimes the opposite occurs. The Earth gets between the sun and the moon, casting its shadow on the moon. This is called a:

- a. solar eclipse
- b. \*lunar eclipse

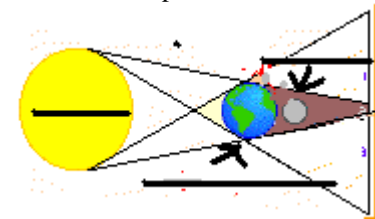
32. The Earth is much bigger than the moon, and therefore, during a lunar eclipse:

- a. \*the entire moon is in the darkness of the Earth's shadow
- b. a small section of the moon is dark.



Label the sun, moon and earth on the diagram above.

33. Is the diagram above of a solar or lunar eclipse? solar



Label the sun, moon and earth on the diagram above.

34. Is this a solar or lunar

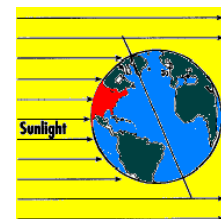
eclipse? lunar

36. Weather is caused by:

- a. the wind
- b. \*the sun

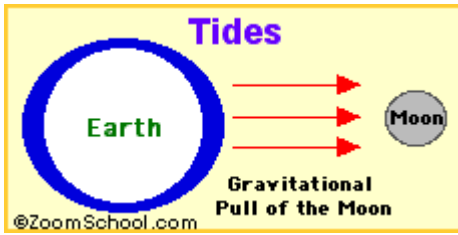
37. The sun heats the atmosphere (the air around the Earth) unevenly. In areas where the sun's rays strike the Earth at a slant:

- a. it will be very hot.
- b. \*it will be cool



38. Where the sun's rays hit the Earth directly, more solar energy:

- a. bounces off the Earth (is reflected back).
- b. \* is absorbed, causing temperature to rise.



39. Tides are caused primarily by the:
- gravity of the Earth
  - \*gravity of the moon.
40. Tides occur in cycles of:
- once high and one low every day
  - one high and one low every week
  - \*high and low tide twice a day.
41. \*T or F - The Sun is just one of 200 billion stars in our galaxy, the Milky Way.
42. The sun is:
- \*an average-sized star
  - one of the largest stars in the universe
  - a tiny star
43. How big is the sun compared to the Earth?
- The sun's diameter is twice the size of the Earth's diameter (diameter is the line across the middle)
  - \*The sun's diameter is about 110 times the diameter of the Earth
  - The sun's diameter is about 1 million times the diameter of the Earth
44. Nuclear reactions take place at the core of the sun, giving off flashes of energy. Billions of these flashes of energy keep the star hot and make it shine.  
\*T or F
45. It's OK to look at the sun if you are wearing sunglasses.  
T or \*F
46. The moon is a small rocky satellite of the Earth. (a satellite is a body that orbits another body)  
\*T or F
47. The moon is rocky. It has about \_\_\_\_\_ the diameter of the Earth, and  $\frac{1}{8}$ <sup>th</sup> the Earth's mass.
- \* $\frac{1}{4}$ <sup>th</sup>
  - $\frac{1}{100}$ <sup>th</sup>
48. \*T or F The moon has no atmosphere or water, and no life.
49. T or \*F The temperature on the moon is about like the Earth at the equator.
50. \*T or F The temperature on the moon varies between extremely hot and extremely cold depending on whether the side is facing the sun.
51. The Earth is one of \_\_\_\_\_9\_\_\_\_\_ planets that revolve around the sun.
52. Earth is the \_\_\_\_\_3rd\_\_\_\_\_ planet from the sun.
53. The Earth is one of four:
- gas planets
  - \*rocky inner planets
54. The other three rocky inner planets are:  
Mercury\_\_Venus\_\_Mars\_\_
55. \*T or F - Earth is unique among the planets for two reasons; it has the range of temperatures that permit liquid water to exist, and it has an oxygen-rich atmosphere. These two factors have allowed life to evolve on Earth.
56. The Earth is about \_\_\_\_\_ from the sun.
- 150 km
  - \*150 million km
  - 150 billion km
57. Earth's protective atmosphere:
- blocks out all of the sun's damaging rays.
  - \*blocks out most of the sun's damaging rays.
  - blocks out none of the sun's damaging rays.
58. Liquid water is essential to all forms of life. It is one of the two raw materials (carbon dioxide is the other) used by plants to produce their own food and provide the oxygen upon which animal life depends.  
\*T or F
59. The Sun is the source of life on Earth. Without its light and heat, Earth would be dead and icy.  
\*T or F
60. The moon circles around the Earth every 28 days. (approximately)  
\*T or F
61. Ocean tides are caused by:
- winds
  - \*gravity of the moon
62. The different shapes of the moon we see are the:
- \*phases of the moon
  - faces of the moon
63. As the phases of the moon change from crescent to full, this is called a waxing moon. As they change from full to crescent again, this is called a:
- \*waning moon
  - wailing moon
64. The sun rises in the\_\_\_\_\_ and sets in the \_\_\_\_\_ .
- \* east -- west
  - west ---east

#### LEARN THE CONTRIBUTIONS OF THESE MEN

**PTOLEMY** - A.D 120-180 Lived in Egypt during the height of the Roman Empire.

Known as the "father of astronomy". **He thought that the Earth was the center of the universe.** This idea that the Earth is at the center of the universe is often referred to as the Ptolemaic System.

**ARISTOTLE** – Also believed in the Earth centered universe

**NICOLAI COPERNICUS** (1473-1543) He believed that **at the center of the Universe** was the **Sun**, not the Earth as Ptolemy had believed. This thinking was considered revolutionary at the time and Copernicus's ideas were strongly opposed by the Christian church.

GALILEO GALILEE ( 1564-1642) An Italian scientist who supported Copernicus's new theory that the sun was the center of the universe. As a result, he was put on trial by the Church and remained a virtual prisoner the rest of his life.

Galileo also was the first to use a refractor telescope for astronomy. With it, he was able to make several important discoveries such as mountains on the moon.

65. Ptolemy believed:
- a. the Earth revolved around the sun.
  - b. \*the planets and sun revolved around the Earth.

66. Who came up with the theory that the Sun was the center of the solar system?

- a. \*Copernicus
- b. Ptolemy

67. Who was imprisoned for his belief that the sun was the center of the solar system?

- a. Ptolemy
- b. \*Galileo

68. Who was the first to use a refractor telescope to discover mountains on the moon?

- a. \*Galileo
- b. Copernicus

c. Ptolemy

69. Choose two men below who believed the Earth was the center of the universe?

- a. Galileo
- b. Copernicus
- c. \*Ptolemy
- d. \*Aristotle

70. Choose two men who challenged the idea of the Earth-centered universe?

- a. \*Galileo
- b. \*Copernicus
- c. Ptolemy
- d. Aristotle

**Name the planets in order – Use this to help -**

**My Very Educated Mother**  
**Just Served Us Nine Pickles.**

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