Name _____ Date _____ Bell _____

Unit 3: Lesson 1- How do the Sun, Earth, and Moon Differ?

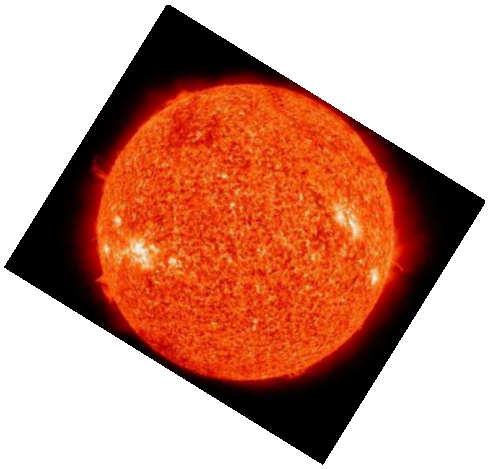
Vocabulary

1. Revolve (page 110)-
   _____
   _____
   _____

2. orbit (page 11)-
   _____
   _____
   _____

3. Rotates (page 112)-
   _____
   _____
   _____

4. Axis (page 112)-
   _____
   _____
   _____



Very Different Orbs Page 108-109

1. Why is Earth a planet and not a star or moon?

   _____

2. What is the diameter of Earth? _____
3. What is another name for Earth that it is often called and why?

   _____

4. What is Earth mostly made up of? _____
5. What kinds of gases is Earth's atmosphere made up of? _____
6. What are some notable features of Earth? _____
7. Why is the sun a star and not a moon or planet?

   _____

8. How much larger is the sun than the Earth? _____
9. How is the sun different from the Earth and Moon? _____
10. What is the diameter of the Sun? _____
11. What is the Sun made up of? _____
12. Which gases are the Sun made up of? _____
13. What are some notable features of the Sun? _____
14. How is the moon different from the Sun and the Earth?

    _____

15. How is the Moon similar to Earth? _____
16. How are we able to see the Moon? _____
17. What is the diameter of the Moon? _____
18. What is the moon made up of? _____
19. Does the Moon have an atmosphere? _____
20. What are some notable surface features of the Moon?

    _____

21. What is the order of Earth, the sun, and the moon from smallest to largest?

    _____

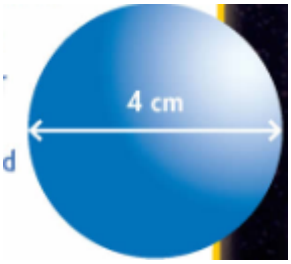
22. How do you think that scientists know so much about the properties of the sun?

    _____

23. This circle is a model of Earth. It is 4 cm in diameter. Use a calculator and data on pages 108 and 109 to find the diameter for the moon model. Would the moon model fit inside Earth's model? How big would the diameter of the moon be in this model?

    _____

    _____



The Sun-Earth-Moon System Pages 110-111

24. What is a year? _____
25. What does revolve mean? _____
26. What is a satellite? _____
27. What is an orbit? _____
28. What direction does Earth revolve around the sun? _____
29. Earth's orbit around the sun is in what shape? _____
30. How long does it take Earth to make one orbit around the Sun? _____
31. How long does it take the Moon to make one orbit around Earth? _____
32. What is gravity? _____
33. Gravitational attraction between two objects depends on two things:

    _____

    _____
34. How many revolutions of Earth have you lived through? _____
35. What is the difference between an orbit and revolution?

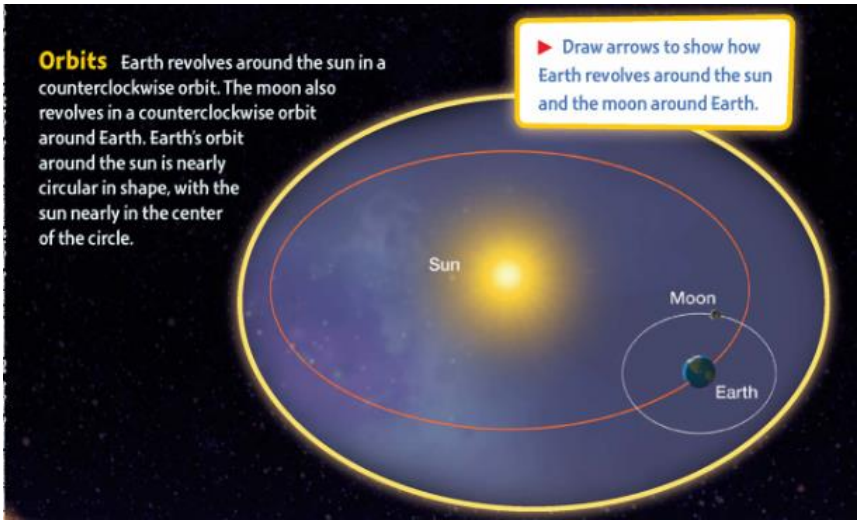
    _____

    _____
36. Scientists have observed that every year the moon gets farther away from Earth. Predict what could happen if the moon gets too far away from Earth.

    _____

    _____

    _____



Clear As Day and Night Pages 112-113

37. What direction does the sun rise? _____ set? _____
38. Is the sun moving across the sky? _____
39. What causes the sun to appear to move across the sky?

    _____

    _____
40. What does rotate mean? _____
41. What does Earth spin on? _____
42. What is an axis?

    _____

    _____
43. How many hours does it take for Earth to make one full rotation on its axis? _____
44. What does Earth's rotation on its axis cause?

    _____

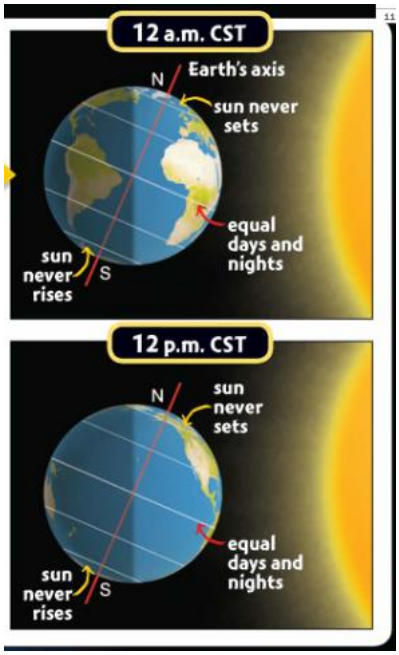
    _____

    _____
45. What is one piece of evidence that scientist know about to prove that Earth does rotate?

    _____

    _____

    _____
46. If it is nighttime in Cincinnati Ohio, What is it in Sydney Australia? _____



More Earth-Sun Interactions Pages 114-115

47. What happens on Earth as a result of Earth revolving around the sun? _____
48. Earth's axis is not straight up and down. Instead, it is tilted. At what degree is Earth's axis tilted at? _____
49. What are seasons?

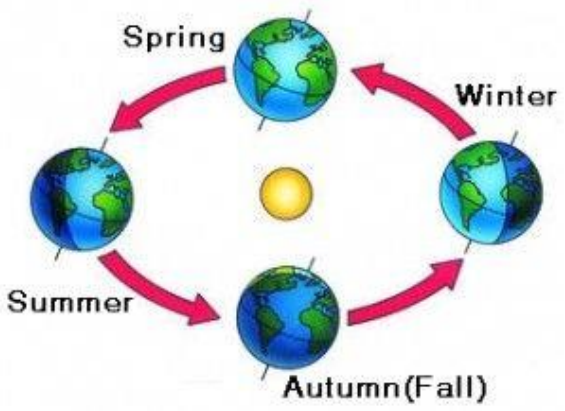
    _____

    _____
50. Most places on Earth have how many seasons? _____
51. Why do seasons happen?

    _____

    _____

    _____
52. During Summer Solstice, what is the position of Earth's axis? _____
53. When is the Northern Hemisphere's summer solstice? _____
54. It is the _____ day of the year.
55. The noon sun is high in the sky, causing the shadows to be _____.
56. Summer days are the _____ and _____.
57. During the Fall Equinox, What is the position of Earth's axis? _____
58. When is the Northern Hemisphere's Fall Equinox occur? _____
59. It has _____ hours of day and night.
60. Daylight hours grow _____.
61. During Winter Solstice, what is the position of Earth's axis? _____
62. When is the Northern Hemisphere's Winter Solstice? _____
63. It is the _____ day of the year.
64. Winter days are _____ and _____.
65. The noon sun is low in the sky, causing the shadows to be _____.
66. During spring equinox, what is the positon of Earth's axis? _____
67. When is the Northern Hemisphere's spring equinox occur? _____
68. It has _____ hours of day and night.
69. Daylight hours grow _____.
70. About how long does each season last? _____
71. When it is summer in the Northern Hemisphere, what season is the Southern Hemisphere experiencing? _____



What if Earth Didn't Spin? Pages 116-117

72. How did Scientists prove that Earth rotates?

    _____
    _____
    _____

73. What was the name of the scientist that proved that Earth does indeed rotate?

    _____

74. What is a pendulum?

    _____
    _____

75. A person observes and records the changing phases of the moon and uses the data to propose that the moon takes about 27 days to go through one cycle of phases. Did the person use empirical evidence? Why or Why not?

    _____
    _____
    _____

76. A person observes a full moon one night and proposes that the moon is always full. Did this person use empirical evidence? Why or Why not?

    _____
    _____
    _____

77. What would happen if Earth stopped spinning?

    _____
    _____
    _____
    _____