

Name \_\_\_\_\_ Date \_\_\_\_\_ Bell \_\_\_\_\_

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

### Vocabulary

1. Revolve (page 110)-

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2. orbit (page 110)-

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3. Rotates (page 112)-

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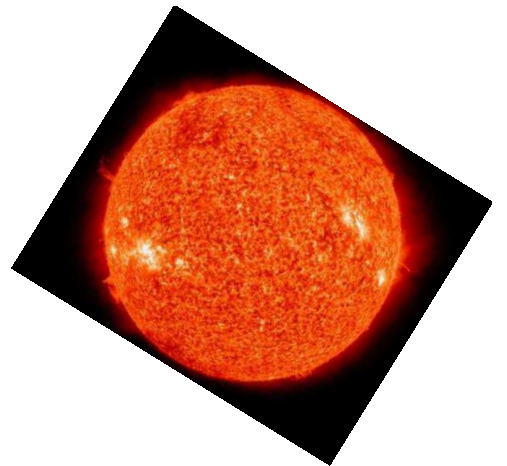
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4. Axis (page 112)-

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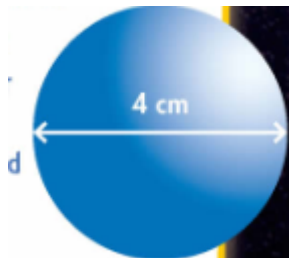
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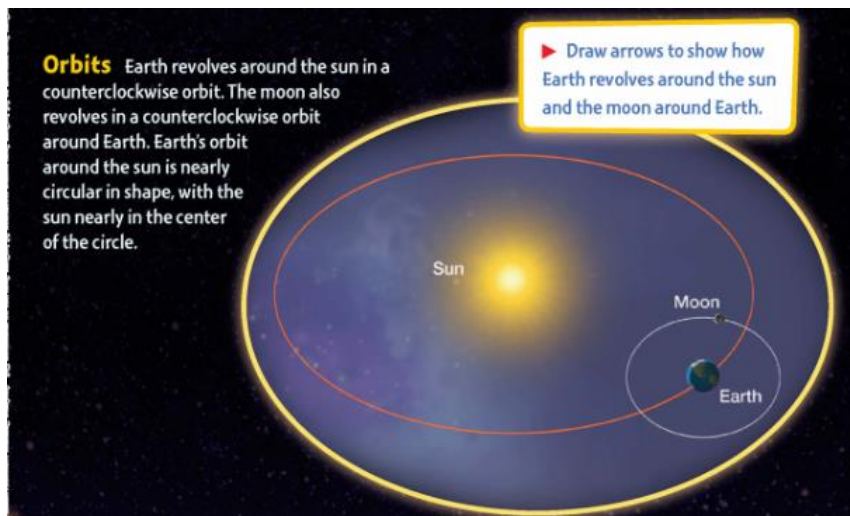
## Very Different Orbs Page 108-109

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?

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40. What does rotate mean? \_\_\_\_\_

41. What does Earth spin on? \_\_\_\_\_

42. What is an axis?

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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?

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

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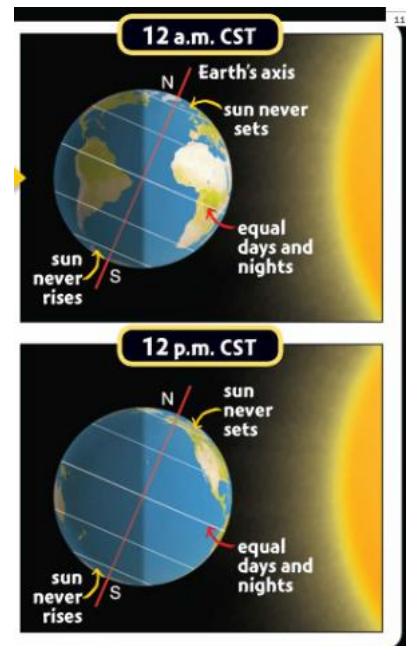


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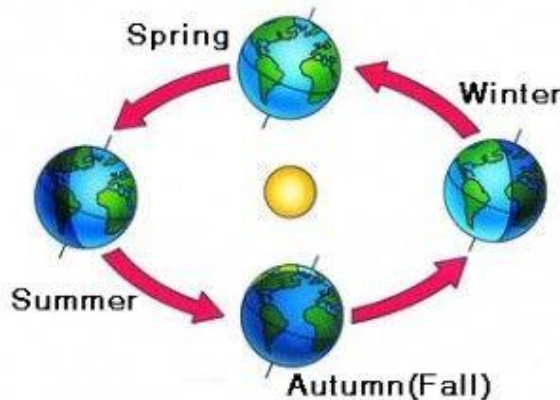
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46. If it is nighttime in Cincinnati Ohio, What is it in Sydney Australia? \_\_\_\_\_



## 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 position 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?

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

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74. What is a pendulum?

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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?

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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?

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77. What would happen if Earth stopped spinning?

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