

Sixth Grade Science

1st Semester Study Guide

E1a – I can ask questions to determine changes in models of Earth’s position in the solar system, and origins of the universe as evidence that scientific theories change with the addition of new information.

1. What occurred as a result of the Big Bang?
2. What evidence do we have to support the Big Bang theory?
3. Explain the difference between the heliocentric and geocentric model.
4. Draw the following:

Heliocentric Model

Geocentric Model

E1b – I can develop a model to represent the position of the solar system in the Milky Way galaxy and in the known universe.

5. List the levels of organization in the universe by size from smallest to largest?
6. Sketch a model that shows the location of Earth’s sun in the Milky Way.
7. What is the name of Earth’s galaxy?
8. Sketch a model that shows the position of Earth’s solar system in the Milky Way galaxy.

E1c – I can analyze and interpret data to compare and contrast the planets in our solar system in terms of: size relative to Earth, surface and atmospheric features, relative distance from the sun, and ability to support life.

9. Use the chart below to complete the following sentences.

Planet	Diameter (in Earth diameters)
Mercury	0.382
Venus	0.948
Earth	1.000
Mars	0.532
Jupiter	11.186
Saturn	9.407
Uranus	3.982
Neptune	3.809

- How does Earth’s diameter compare to Jupiter? _____
- How does Earth’s diameter compare to Neptune? _____
- How does Earth’s diameter compare to Venus? _____
- How does Earth’s diameter compare to Saturn? _____

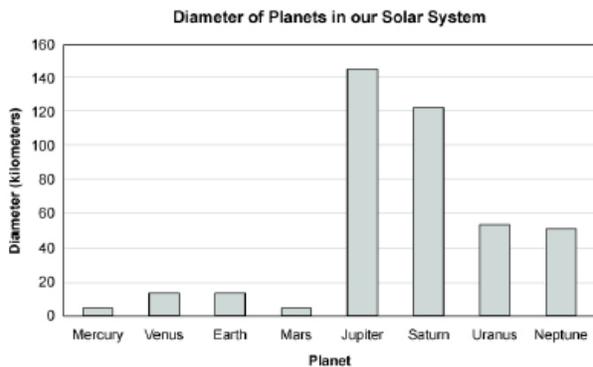
10. Use the chart below to answer the following questions.

Planet	Distance from the Sun (in AU)
Earth	1.00
Mars	1.52
Jupiter	5.20
Saturn	8.54

- Which planet should have the highest surface temperature?

- Which planet should have the lowest surface temperature?

11. Use the bar graph below to list the planets in order from smallest to largest.



E1d – I can develop and use a model to explain the interaction of gravity and inertia that governs the motion of objects in the solar system.

12. What holds the planets in Earth’s solar system together? _____
13. Why do planets orbit the sun? _____

E1e – I can ask questions to compare and contrast the characteristics, composition, and location of comets, asteroids, and meteoroids.

14. What causes the bright streaks of light that we call a “shooting star”?

E2a – I can develop and use a model to demonstrate the phases of the moon by showing the relative positions of the sun, Earth, and moon.

E2b – I can construct an explanation of the cause of solar and lunar eclipses.

15. What causes a lunar eclipse?

16. What moon phase must be in place for a total eclipse of the sun to occur?

17. Draw and label a model that shows the position of the Earth, moon, and sun during a solar eclipse.

E2c – I can analyze and interpret data to relate the tilt of the Earth to the distribution of sunlight throughout the year and its effect on seasons.

18. Place the four seasons in order from least to greatest hours of sunlight in an area.

19. Where are on Earth do the shortest days in winter occur?

20. How is the tilt of the Earth related to winter and summer?

E3a – I can ask questions to determine where water is located on Earth's surface (oceans, rivers, lakes, swamps, groundwater, aquifers, and ice) and communicate the relative proportion of water at each location.

21. What percentage of Earth's water is immediately available to drink?

22. Define hydrosphere.

23. Where is most of Earth's freshwater located?(Hint: This doesn't mean it is readily available to use)

24. Why is most of Earth's water not readily available to drink?