

Make a Model of the Solar System

Name: _____

Date: _____

Student quiz — Answer key

Directions: Select the correct answer to the question from the answers provided.

1. Which statement about the solar system and its planets is correct?
- a. In the solar system, all planets orbit the Sun.
 - b. There are eight planets in the solar system.
 - c. The planets are small compared to the size of the solar system.
 - d. All of the above.

Directions: Use the data provided in Table 1 to answer questions 2-4.

TABLE 1 RADIUS AND ORBITAL DISTANCE OF THE PLANETS IN THE SOLAR SYSTEM (1 AU = 150 MILLION KM)		
PLANET	Radius (km)	Orbital distance (AU)
MERCURY	2,440	0.387
VENUS	6,052	0.723
EARTH	6,378	1
MARS	3,387	1.524
JUPITER	71,492	5.203
SATURN	60,268	9.537
URANUS	25,559	19.191
NEPTUNE	24,764	30.069

2. What is the scale factor for a model of the solar system where Jupiter has a radius of 10 cm?
- a. 1 cm/6,378 km
 - b. 1 cm/71,492 km
 - c. 10 cm/71,492 km
 - d. None of the above

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3. In a scale model of the solar system, at what distance from the Sun would Saturn need to be placed if Earth is placed 10 cm from the Sun?
- a. 950 m
 - b. 95 cm
 - c. 9.5 km
 - d. 9.5 cm
4. Which of the following is true about a solar system model in which Earth is placed 10 cm from the Sun?
- a. Earth is so small that it is not visible.
 - b. Earth has a radius of 1 cm.
 - c. Earth has a radius of 10 cm.
 - d. None of the above.

Directions: Use Figure 1 to answer question 5.

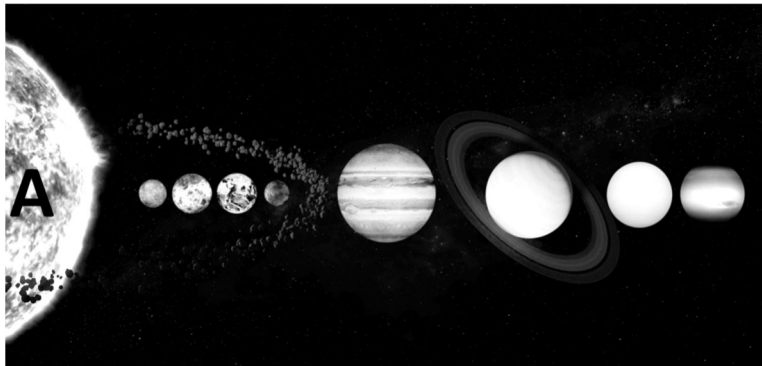


Figure 1

5. Figure 1 is an illustration of the solar system. The object labeled “A” is the Sun. Name one aspect of the solar system that is not represented to scale. Briefly explain your answer.