

Mid Term Prep-The Solar System

- Compared to Jovian planets, terrestrial planets have
 - larger masses
 - larger equatorial diameters
 - shorter periods of revolution
 - shorter periods of rotation
 - Compared to the other planets in our solar system, Jupiter, Saturn, and Neptune have
 - shorter periods of rotation
 - shorter periods of revolution
 - greater eccentricities
 - greater densities
 - Compared to the terrestrial planets, the Jovian planets have
 - smaller diameters
 - greater average densities
 - slower rates of rotation
 - longer periods of revolution
 - Compared to the terrestrial planets, the Jovian planets are
 - smaller and have lower densities
 - smaller and have greater densities
 - larger and have lower densities
 - larger and have greater densities
 - Which list of three planets and Earth's Moon is arranged in order of increasing equatorial diameter?
 - Earth's Moon, Pluto, Mars, Mercury
 - Pluto, Earth's Moon, Mercury, Mars
 - Mercury, Mars, Earth's Moon, Pluto
 - Mars, Mercury, Pluto, Earth's Moon
 - Which statement correctly compares the size, composition, and density of Neptune to Earth?
 - Neptune is smaller more gaseous, and less dense.
 - Neptune is larger, more gaseous, and less dense,
 - Neptune is smaller, more solid, and more dense.
 - Neptune is larger, more solid, and more dense.
 - Three planets that are relatively large, gaseous, and of low density are
 - Mercury, Jupiter, and Saturn
 - Venus, Jupiter, and Neptune
 - Mars, Jupiter, and Uranus
 - Jupiter, Saturn, and Uranus
 - Which planet takes more time to complete one rotation on its axis than to complete one revolution around the Sun?
 - Mercury
 - Venus
 - Mars
 - Jupiter
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9. Base your answer to the following question on on the data table below, which shows information about the four largest asteroids found in our solar system.

Data Table

Name	Average Diameter (kilometers)	Period of Revolution (years)
Ceres	848.4	4.60
Pallas	498.1	4.61
Juno	247.0	4.36
Vesta	468.3	3.63

The asteroids shown in the data table are located between the orbits of

- A) Venus and Earth
B) Earth and Mars
C) Mars and Jupiter
D) Jupiter and Saturn

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10. Base your answer to the following question on the passage and diagram below. The diagram shows the orbits of the four inner planets and the asteroid Hermes around the Sun. Point *A* represents a position along Hermes' orbit.

The Curious Tale of Asteroid Hermes

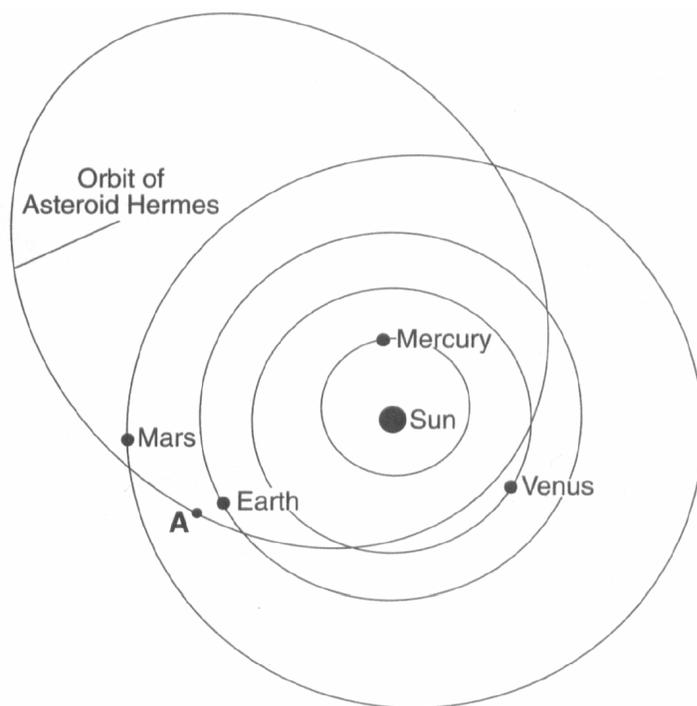
It's dogma [accepted belief] now: an asteroid hit Earth 65 million years ago and wiped out the dinosaurs. But in 1980 when scientists Walter and Luis Alvarez first suggested the idea to a gathering at the American Association for Advancement of Sciences, their listeners were skeptical. Asteroids hitting Earth? Wiping out species? It seemed incredible.

At that very moment, unknown to the audience, an asteroid named Hermes halfway between Mars and Jupiter was beginning a long plunge toward our planet. Six months later it would pass 300,000 miles from Earth's orbit, only a little more than the distance to the Moon....

Hermes approaches Earth's orbit twice every 777 days. Usually our planet is far away when the orbit crossing happens, but in 1937, 1942, 1954, 1974 and 1986, Hermes came harrowingly [dangerously] close to Earth itself. We know about most of these encounters only because Lowell Observatory astronomer Brian Skiff rediscovered Hermes on Oct. 15, 2003.

Astronomers around the world have been tracking it carefully ever since....

Excerpted from "The Curious Tale of Asteroid Hermes," Dr. Tony Phillips, *Science @ NASA*, November 3, 2003



(Not drawn to scale)

According to the diagram, as Hermes and the planets revolve around the Sun, Hermes appears to be a threat to collide with

- A) Earth, only
B) Earth and Mars, only
C) Venus, Earth, and Mars, only
D) Mercury, Venus, Earth, and Mars

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11. What is the inferred age of our solar system, in millions of years?

- A) 544
- B) 1300
- C) 4600
- D) 10,000

12. Scientists believe that Earth's early atmosphere changed in composition as a result of

- A) the appearance of oxygen-producing organisms
 - B) the drifting of the continents
 - C) the changes in Earth's magnetic field
 - D) a transfer of gases from the Sun
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Answer Key
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1. C
 2. A
 3. D
 4. C
 5. B
 6. B
 7. D
 8. B
 9. C
 10. C
 11. C
 12. A
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