

## **PLANET MARS Reading Comprehension**

### **What does this planet look like?**

Mars, commonly referred to as the “red planet,” is the fourth planet from the sun. Its reddish color comes from the high amounts of iron oxide on its surface. Mars has surface features similar to those found on the moon and on Earth. It has mountain ranges, volcanic fields, valleys, ice caps, canyons, and deserts. It has numerous impact craters including one discovered in 2008 that measures more than 6,000 miles in length and nearly 5,000 miles in width. It is, by far, the largest impact crater ever discovered. Mars is also home to Olympus Mons, the highest discovered mountain in the solar system. A person standing on the surface of Mars (in any location in which the mountain was visible) would have no chance of viewing the top. With the peak at 88,600 feet, Olympus Mons is about three times as high as Mount Everest, the highest peak on Earth. Mars' Valles Marineris is the solar system's largest canyon, measuring more than seven miles deep.

### **How big is this planet?**

Mars is much smaller than the Earth. Its surface area occupies 28 percent of Earth's, its mass is only 10 percent of Earth's, and its volume is about 15 percent of Earth's.

### **How long does it take to orbit the sun?**

687 days

### **What is its gravity like?**

Gravity on Mars is 38 percent that of the Earth. A 100-pound earthling would weigh 38 pounds on Mars.

### **How far is it from the sun? From the Earth?**

On average, Mars is located 138,000,000 miles from the sun. When Mars and Earth are on the same side of the sun, the two planets may come within 35,000,000 miles of each other. When they are on opposite sides of the sun, they may be as far as 399,000,000 miles apart.

### **What is its atmosphere like?**

Mars has an extremely thin atmosphere. 95 percent of it is carbon dioxide, 3 percent is nitrogen, 1.6 percent is argon, and the remainder consists of traces of oxygen and water.

### **What's the temperature like?**

Of all the planets, Mars' temperatures are most similar to those on Earth. Temperatures can range from about -220 Fahrenheit during a Mars (Martian) winter to a temperate 68 degrees Fahrenheit in summer, though on average the temperature is about -80 Fahrenheit. Unlike Earth, however, the thin atmosphere gives rise to fearsome dust storms that may envelop the entire planet and cause overall temperatures to rise.

## **How many moons does it have?**

Mars has two moons, Phobos and Deimos. Both are small and irregularly shaped and may be former asteroids. Interestingly, Phobos orbits Mars at a distance of only about 5,500 miles away from its center, the closest any moon orbits its parent planet. In fact, if a person were to stand on Phobos and look toward Mars, Mars would look approximately 6,400 times larger than the full moon appears from Earth—taking up almost a quarter of the celestial hemisphere. Because Phobos has a particularly low orbit, scientists believe it will eventually crash into Mars or break up into pieces, possibly forming rings around the planet.

### **Interesting facts:**

\*There has long been speculation concerning the possibility of life and/or liquid water on Mars. However, the planet's thin atmosphere prevents water from accumulating for any time over significant portions of the planet. Some evidence on the planet's surface suggests the presence of liquid water at some point in history, but scientists think this water would be too salty or acidic to support life as we know it. Furthermore, fierce solar winds and poor heat transfer across its surface would make sustained life virtually impossible. There is compelling evidence, however, that Mars was once much more habitable to life than it is today.

\*Many spacecrafts have attempted to visit Mars, the most notable of which was NASA's Mariner 4, the first to visit in a fly-by in 1965. In 1976, Viking 1 and 2 became the first spacecrafts to conduct successful and sustained landings on Mars. They provided the first color photographs of the "red planet." In May of 2008, the NASA Phoenix Mars Lander touched down on the north polar region of Mars to study surface features. By December, however, NASA had lost contact with the lander and the mission was declared over.

1.) Scientists believe \_\_\_ will eventually crash into Mars.

- a.) the sun
- b.) the moon Phobos
- c.) the moon Deimos
- d.) Earth

2.) The thin atmosphere of Mars can cause scary \_\_\_\_\_.

- a.) thunderstorms
- b.) hurricanes
- c.) dust storms
- d.) blizzards

3.) \_\_\_\_\_ was the first spacecraft to visit Mars.

- a.) Viking 2
- b.) Viking 1
- c.) Phoenix
- d.) Mariner 4

4.) The red color of Mars comes from the \_\_\_ on its surface.

- a.) iron oxide
- b.) oxygen
- c.) sand
- d.) ice

5.) Scientists think any water that could possibly be found on Mars would be too \_\_\_\_\_.

- a.) contaminated
- b.) cold
- c.) salty
- d.) hot

6.) Mars is \_\_\_\_\_ the sun than Earth.

- a.) about the same distance from
- b.) farther away from
- c.) closer to

7.) The atmosphere of Mars is dominated by \_\_\_\_\_.

- a.) carbon dioxide
- b.) oxygen
- c.) argon
- d.) nitrogen

8.) Select all of the following that are true.

- a.) There is no evidence that water ever existed on the surface of Mars.
- b.) The moons of Mars may have once been asteroids.
- c.) Scientists believe that Mars is more habitable today than it was in its past.
- d.) Temperatures on Mars can be similar to those on Earth.

9.) Mars is home to \_\_\_\_\_, the largest mountain in the solar system.

- a.) Phobos
- b.) Mount Everest
- c.) Olympus Mons
- d.) Valles Marineris

10.) Which of the following IS NOT true?

- a.) It takes Mars much longer to orbit the sun (the length of one year) than it does Earth.
- b.) Gravity is significantly less on Mars than on Earth.
- c.) The average temperature on Mars is similar to the average temperature on Earth.
- d.) Earth is substantially larger than Mars.