

## Mercury, Venus, and Mars Test Review

1. The surface of Mercury resembles the surface of what other world? **Moon**
2. What would happen to Earth's atmosphere if Earth's temperature increased to that of Mercury's highest temperature? **lose most of its oxygen and nitrogen**
3. Why does Mercury experience extreme highs and lows in temperature?  
**Mercury lacks an atmosphere**
4. What spacecraft gave us the best information we have about the surface of Mercury?  
**Mariner 10**
5. Why is it surprising that Mercury has a magnetic field? **the planet rotates so slowly**
6. Define "weird terrain."  
**a region of oddly rippled and wavy surface features on Mercury**
7. What was found at the polar regions of Mercury?  
**water ice in the deep craters**
8. Describe the size of Mercury's core. **Large percent of entire planet**
9. What is Mercury's most prominent surface feature?  
**Caloris Basin**
10. Describe Mercury's rotation and orbit.  
**3 rotations to every 2 revolutions**
11. Which planet has the widest range of surface temperatures?  
**Mercury**
12. What effect does the Greenhouse effect have on Venus?  
**Traps in heat**
13. Why does Venus appear so bright?  
**it gets closer to us than any other planet does**  
**the planet's cloud cover is highly reflective**  
**Venus lies closer to the Sun, so it gets more intense sunlight**
14. What is the main component of the atmosphere of Venus?  
**CO<sub>2</sub>**
15. Why doesn't Venus have a magnetic field?  
**Rotates so slowly**
16. What orbiter gave us the most detailed maps of Venus?  
**Magellan**
17. What is Ishtar Terra?  
**a continental-sized plateau**
18. Describe Maxwell Mons.  
**shield volcano**
19. Why are Earth and Venus called sister planets?  
**They are similar in size, density - shape ☺**
20. What is the composition of the clouds of Venus?  
**Sulfuric Acid**
21. Why is Venus so hot? **Thick atmosphere doesn't allow heat to escape**
22. What is thought to have caused the craters on Venus? **Large meteors/asteroids**
23. What is strange about the rotation of Venus? **Retrograde**
24. What Russian probe landed on Venus? **Venera**
25. What is the approximate rotation period of Venus? **243 Earth Days**
26. Why are the impact craters on Venus so large? **Small meteors would burn up in atmosphere**
27. What is the main difference between Earth's and Venus' continents?  
**Earth's landmasses were formed from tectonic activity**
28. What was the source of water that formed the outflow channels of Mars?

## Flooding

29. Why is Mars red?

Iron oxide in the crust

30. Why are Martian seasons more extreme than ours?

the major component of Mars' atmosphere can change phase seasonally

Mars' axial tilt is slightly greater than ours

Mars' orbit is more eccentric than Earth's

31. Why are Martian volcanoes so tall? Low Surface gravity

32. Describe the two Martian moons.

Phobos – fear, larger – Deimos, panic

33. Why do we think the southern hemisphere of Mars is older than the northern hemisphere?

Lava flows have filled in craters in northern hem

34. Is there evidence of life on Mars? –not clear

35. How long is a day on Mars? 24.6 hours

36. Describe Olympus Mons. Texas sized volcano

37. List some phenomena that occur on Mars.

water erosion

volcanic flows

dust storms

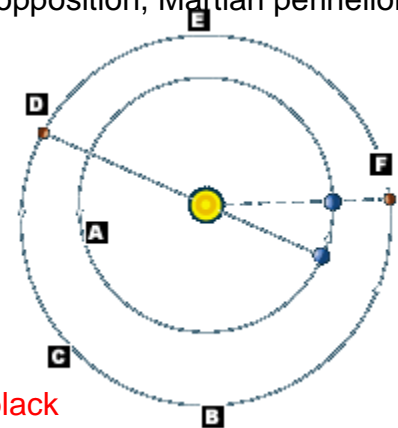
38. Describe the polar ice caps of Mars.

they shrink and grow with the seasons

they contain a residual cap, which remains frozen

they store a large fraction of the gas that was once contained in the atmosphere of Mars

39. Label the diagram below: orbit of Mars, orbit of Earth, Mars at opposition, Martian perihelion, Mars at conjunction, Martian aphelion. Use mars notes



40. Describe what the daytime sky would look like on Mercury. -- black

41. Discuss the physical causes that are responsible for the differences between Earth and Venus.

42. What evidence suggests that Venus is still volcanically active? -readings taken from probes and missions

43. What evidence suggests the past and present existence of surface water on Mars? Outflow channels, gullies, etc