



Mars Versus Earth—A Comparison

Characteristic	Mars	Earth
Image		
1. order from sun	4 th planet from the sun	3 rd planet from the sun
2. average distance from Sun (miles)	142,000,000 miles (about 1.5 times earth's distance)	93,000,000 miles (93 million miles)
3. average diameter (miles)	4212 miles (about 1/2 earth's diameter)	7918 miles
4. shape	sphere	sphere
5. surface gravity at equator (1 gravity = earth's)	0.38 gravity (about 1/3 earth's gravity)	1 gravity
6. day length— 1 spin on axis (Earth days)	1.03 days	1 day
7. temperature at surface (°F) (note: water freezes at 32°F, boils at 212°F)	-243°F (night, poles) to 68°F (day, equator) [Average -81]	-128°F (night, poles) to 131°F (day, equator) [Average 57°F]
8. surface broken into large chunks (plates) which move?	No. But there is some evidence of plate motion in the very distant past.	Yes
9. layer of gases (atmosphere) surrounds the object?	Yes	Yes
10. composition of atmosphere—main gases (% by volume)	95.3% carbon dioxide (CO ₂), 2.7% nitrogen (N ₂), 1.6% argon (Ar), 0.1% oxygen (O ₂), 0 to 0.03% water vapor (H ₂ O _{vapor})	78% nitrogen (N ₂), 21% oxygen (O ₂), 0.9% argon (Ar), 0.04% carbon dioxide (CO ₂), 0 to 3% water vapor (H ₂ O _{vapor})
11. weight of atmosphere on every square inch of surface	0.095 pounds (per square inch) (155 times less than the weight of the atmosphere on earth)	14.7 pounds (per square inch)
12. water (H ₂ O) exists in liquid form?	No. But there is strong evidence of liquid water in the distant past.	Yes
13. water (H ₂ O) exists in solid form (ice)?	Yes. Mars has polar ice caps consisting of water ice and dry (CO ₂) ice. Ice is also suspected below the surface (mixed with rocks/sand) in many areas.	Yes
14. evidence of life detected?	No	Yes