**Mars Versus Earth—A Comparison**

|  |  |  |
| --- | --- | --- |
| **Characteristic** | **Mars** | **Earth** |
| **Image** | [Water-ice clouds, polar ice, polar regions, and geological features can be seen in this full-disk image of Mars.](http://solarsystem.nasa.gov/multimedia/display.cfm?IM_ID=10167) | Earth-Africa |
| **1. order from sun** | 4th planet from the sun | 3rd 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) |
| Image result for image showing diameter of sphere**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 (CO2),  2.7% nitrogen (N2),  1.6% argon (Ar),  0.1% oxygen (O2),  0 to 0.03% water vapor (H2Ovapor) | 78% nitrogen (N2),  21% oxygen (O2),  0.9% argon (Ar),  0.04% carbon dioxide (CO2),  0 to 3% water vapor (H2Ovapor) |
| **11. weight of atmosphere on every square inch of surface**  1 inch  1 inch | 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 (H2O) exists in liquid form?** | No. But there is strong evidence of liquid water in the distant past. | Yes |
| **13. water (H2O) exists in solid form (ice)?** | Yes. Mars has polar ice caps consisting of water ice and dry (CO2) ice. Ice is also suspected below the surface (mixed with rocks/sand) in many areas. | Yes |
| **14. evidence of life detected?** | No | Yes |