

Terrestrial Review

Earth/Moon/Mercury:

- * Approximately what's the radius of the Earth? 6000 km
- * The largest portion of the interior of the earth is? Mantle
- * Earth's Atmosphere is mainly? Nitrogen
- * Name three greenhouse gases: Water vapor, methane, Carbon dioxide
- * Wind is caused by? Convection
- * Why is the sky blue? Blue light scatters off the atmosphere
- * Clouds are located primarily on top of the? Troposphere
- * Ozone is? A molecule of Oxygen that protects us from UV
- * Which is denser, Iron or the density of the earth? Iron
- * How do we know so much about the earth's interior? Seismic waves
- * The half-life of uranium is approximately? 5 billion years.
- * What drives plate tectonics? Convection in the mantle
- * The mid atlantic rift is? A crack caused by plates separating
- * Northern lights are caused by? Charged particles redirected to the poles by Earth's magnetic field
- * The tides are caused by? The sun and the moon.
- * It takes light approximately how long to get from the earth to moon? 1 second
- * If you increase the temperature of a gas, the average speed? Increases
- * If you decrease the molecular mass of the average speed? Increases
- * If you increase the mass of a planet, the escape velocity? Increases
- * If you decrease the radius of a planet, the escape velocity? Increases
- * Which side of the moon has more Maria? Earth Side
- * Have humans been to the moon? Yes.
- * Mercury, like the moon, is tidally locked? False
- * The best scientific hypothesis for the origin of the moon is? The impact model
- * Mercury has a magnetic field? True

Venus/Mars

- * Venus's radius and mass are most closely related to? The Earth's
- * Venus is in an inferior orbit? True
- * The difference between the daily and nightly temperature on Venus is? Approximately zero
- * Venus's atmosphere on the surface is? Denser than Earth's
- * Venus is hellishly hot because of? The greenhouse effect of its carbon dioxide
- * The highest point on venus is? Maxwell Mons
- * Earth's carbon doesn't cook our planet because? It's stored in our oceans and rocks and plants
- * Martian summers and winters are very different between hemispheres because? Mars is on an elliptical orbit
- * The highest structure on Mars is? Olympus Mons
- * The southern hemisphere is characterized by? Craggy highlands
- * The largest continent on mars is called? The Tharsis Bulge
- * The Martian atmosphere is mostly? Carbon Dioxide
- * The venutian atmosphere is mostly? Carbon Dioxide

- * The super grand canyon on Mars is called the? Valles Marineris
- * There is an enormous amount of water on Mars? True
- * Studies of life on Mars have so far been? Inconclusive
- * The robot currently exploring Mars' surface is? Curiosity
- * The robot that landed near the northern caps in search for life is? Phoenix
- * Curiosity is mostly powered by? A nuclear core generating heat.
- * Mars has moons? True.

Jovian Review

Jupiter and Saturn

- * Jupiter is? Much more massive than Earth
- * The rate of Jupiter's rotation is? Faster than Earth's
- * Jupiter's atmosphere is mainly? Hydrogen and Helium
- * The zones and belts making up Jupiter's stripes are? Convection cells stretched by Jupiter's rapid rotation
- * Due to Jupiter's rapid rotation, it is? A squished oblate spheroid.
- * The great red spot is? A giant storm
- * Jupiter has a magnetic field? True
- * Jupiter has rings? True
- * The largest Galilean moon is? Ganymede
- * The volcanically active Galilean moon due to tidal heating is? Io
- * The huge sub surface water Galilean moon is? Europa
- * The non-differentiated Galilean moon with a feature called "Valhalla" on its face is? Callisto
- * Saturn's radius is? About the same as Jupiter's
- * Saturn's rotation rate is? About the same as Jupiter's
- * Saturn has a magnetic field? True
- * Saturn's atmosphere is mostly? Hydrogen and Helium
- * Saturn is hotter than the energy it receives from the Sun because? of Helium rain
- * Saturn's rings are? Tiny rocks and ice particles orbiting Saturn
- * The Roche limit is? The point close to a planet at which an orbiting object is tidally destroyed
- * Saturn's biggest moon is called? Titan
- * The rain on Titan is? Methane
- * Enceladus has ice geysers powered by? Tidal heating
- * Stationary points in many body gravitational systems are called? Lagrange points

Uranus and Neptune

- * Uranus and Neptune are? Smaller than Jupiter and Saturn
- * Uranus was discovered by? William Herschel
- * Uranus's rotation axis is? Rotated 90 degrees with respect to its orbital axis
- * Uranus has rings? True
- * Neptune was discovered due to its? Gravitational perturbation of Uranus's orbit
- * The great dark spot is? a megastorm
- * Uranus and Neptune's atmosphere is? Mostly hydrogen and helium
- * Neptune's internal heat source is? Remnant heat from formation

- * Uranus and Neptune's magnetic fields are strange in that? They are rotated with respect to their axis of rotation AND they are displaced from the center of the planet
- * The magnetic fields of Neptune and Uranus are likely due to? An ammonia-water ion slush
- * Neptune's large moon is called? Triton
- * The future of Neptune's large moon is? To be tidally disrupted into a ring
- * This sad future of Neptune's large moon is due to? its retrograde orbit with respect to the orientation of Neptune's rotation
- * Neptune has rings? True