

# Physical Science Need to Knows

## Planets

### Mercury-Venus-Earth-Mars-Asteroids-Jupiter-Saturn-Uranus-Neptune-Pluto

#### I. The Inner Planets-The Terrestrial Planets: Mercury, Venus, Earth and Mars

Mercury: Closest to the sun, about the size of our moon, fastest revolution, daytime temp 427 C & night temp -170 C

Venus: Earth's "twin" and one of the hottest surfaces, thickest atmosphere of terrestrial Planets, very slow rotation (243 Earth days) & retrograde rotation, Called the "Morning & the Evening Star"

Earth: Intelligent life, liquid water

Mars: The "Red" planet, live TV from the surface, largest volcano in solar system: *Olympus Mons*

Asteroid Belt: In orbit where a planet should be, range in size from 1000 km (1/3 the size of our moon) to dust size

#### II. The Outer Planets-Pluto & The Gas Giants: Jupiter, Saturn, Uranus, & Neptune

Jupiter: Largest of the Jovian Giants, large Red Dot is a massive storm, we viewed breakup of comet crash onto its surface.

Saturn: Rings are horizontal, fastest rotation causes poles to be flattened and equator to bulge, least dense- it would float in water

Uranus: Super heated ocean of water 8,000 km thick, Blue planet w/ atmosphere featureless & 11,000 km thick. Axis is tilted almost 90 degrees.

Neptune: Its orbit was used to calculate the position and existence of Pluto, 5 vertical rings, Blue planet w/ atmosphere with visible changing clouds. Its largest moon is Triton which has retrograde revolution.

Pluto: Last known planet discovered in 1930, only terrestrial planet in outer planets, "Twin" planets w/ large moon Charon. It has officially been declassified and is no longer a "planet".

## Artificial Satellites

Mariner 2 – 1962, first probe of Venus

Mariner 4 - 1965, first probe of Mars

Mariner 7- 1969, explored Mars, sent back aerial photos of surface

Mariner 9 – 1971, Explored Mars, sent back photos of two Martian moons

Mariner 10- 1974, three passes of Mercury

Viking 1 – 1975 – first spacecraft to land on Mars

Viking 2 – 1975 , landed on and explored Mars

Pioneer 10- 1983, First man-made object to leave our solar system, explore outer planets

Pioneer 11 – explored outer planets

Voyager 1- explored outer planets

Voyager 2 – explored outer planets

Magellan – orbit around Venus

Pathfinder-1997- Landed on Mars, released microwave-sized remote controlled rover called "Sojourner"