## NINE PLANETS - SOLAR SYSTEM TOUR

- All planets can be seen with a small telescope or binoculars and private observatories continue to provide useful information. But the possibility of getting up close with interplanetary spacecraft has revolutionized planetary science. Very little of this site would have been possible without the space program

- Nevertheless, there's a lot that you can see with very modest equipment or even with just your own eyes. Past generations of people found beauty and a sense of wonder contemplating the night sky. Today's scientific knowledge further enhances and deepens that experience. And you can share in it by simply going out in the evening and looking up

- A planet is an astronomical object orbiting a star, brown dwarf, or stellar remnant that:
- a) is massive enough to be rounded by its own gravity
-b) is not massive enough to cause thermonuclear fusion and has cleared its neighbouring region of planet esimals

- The term planet is ancient, with ties to history, science, mythology, and religion. Several planets in the Solar System can be seen with the naked eye. These were regarded by many early cultures as divine, or as emissaries of deities. As scientific knowledge advanced, human perception of the planets changed, incorporating a number of disparate objects. In 2006, the International Astronomical Union (IAU) officially adopted a resolution defining planets within the Solar System. This definition is controversial because it excludes many objects of planetary mass based on where or what they orbit. Although eight of the planetary bodies discovered before 1950 remain "planets" under the modern definition, some celestial bodies, such as Ceres, Pallas, Juno, Vesta (each an object in the solar asteroid belt), and Pluto (the first trans-Neptunian object discovered), that were once considered planets by the scientific community are no longer viewed as such
- The planets were thought by Ptolemy to orbit Earth in deferenet and epicycle
motions. Although the idea that the planets orbited the Sun had been suggested many times, it was not until the 17 th century that this view was supported by evidence from the first telescopic astronomical observations, performed by Galileo Galilei. By careful analysis of the observation data, Johannes Kepler found the planets' orbits were not circular but elliptical. As observational tools improved, astronomers saw that, like Earth, the planets rotated around tilted axes, and some shared such features as ice caps and seasons. Since the dawn of the Space Age, close observation by space probes has found that Earth and the other planets share characteristics such as volcanism, hurricanes, tectonics, and even hydrology
- Planets are generally divided into two main types: large low-density giant planets, and smaller rocky terrestrial. Under IAU definitions, there are eight planets in the Solar System. In order of increasing distance from the Sun, they are the four terrestrials, Mercury, Venus, Earth, and Mars, then the four giant planets, Jupiter, Saturn, Uranus, and Neptune. Six of the planets are orbited by one or more natural satellites

- The idea of planets has evolved over its history, from the divine wandering stars of antiquity to the earthly objects of the scientific age. The concept has expanded to include worlds not only in the Solar System, but in hundreds of other extrasolar systems. The ambiguities inherent in defining planets have led to much scientific controversy.
- The five classical planets, being visible to the naked eye, have been known since ancient times and have had a significant impact on mythology, religious cosmology, and ancient astronomy. In ancient times, astronomers noted how certain lights moved across the sky in relation to the other stars. Ancient Greeks called these lights m入ávnies áoṪ̇ןes (planētes asteres, "wandering stars") or simply $\pi \lambda a v \tilde{\eta} T a \|$ (planētai, "wanderers"), from which today's word "plane干t" was derived. In ancient Greece, China, Babylon, and indeed all pre-modern civilizations, it was almost universally believed that Earth was the center of the Universe and that all the "planets" circled Earth. The reasons for this perception were that stars and planets appeared to revolve around Earth each day and the apparently common-sense perceptions that Earth was solid and stable and that it was not moving but at rest

