

Adult Guidance

The Planets

Number of Planets

There are 8 planets in the solar system, not 9 as many of us would have been taught. While some of the planets are visible in the night sky not all are. Without development of optics and invention of the telescope, the discoveries of Uranus and Neptune would not have been possible. This needs to be remembered if showing children astronomical charts from Ancient civilisations.

Pluto Reclassified

In 2006 the International Astronomical Union reclassified Pluto as a dwarf planet. It did so because it defines a planet based on three criteria:

1. It orbits the Sun
2. It has sufficient mass to assume an approximately spherical shape
3. It has 'cleared the neighbourhood' around its orbit

Pluto failed to meet the third criteria because in the outer solar system there are too many similar sized objects. If Pluto were to be considered a planet then other objects similar to Pluto would also have to be reclassified as planets.

The reclassification was controversial and met with some resistance in the scientific community. However this was due to the sentimental attachment to the idea of Pluto as a planet rather than a disagreement regarding the third criterion.

Ultimately, scientifically it can either be accepted that there are eight planets or expand the number the planets significantly so that Pluto can be considered one.

It is highly unlikely that Pluto will be reclassified again to a planet and therefore it should not be taught as one to avoid misconceptions.

Still, the story of Pluto's discovery and reclassification is an example of ongoing scientific debate and shows that ideas are not fixed in any field of science. This is an important point to note, particularly given the difference between scientific enquiry and its portrayal in the media as an 'absolute' truth.

Rocky Planets Versus Gas Giants

Mercury, Venus, Earth and Mars are all rocky planets as they are mostly made up of metal and rock, they are heavy, do not have rings and have very few moons.

Jupiter, Saturn, Uranus and Neptune are mostly made up of gases (helium and hydrogen) although they do have cores made up of rock and metal. They move more quickly, some have rings and all have a large number of moons.

