

Resources needed

- Animation of 'How stars and planets might form' (on CD-ROM)
- 'yes', 'no', 'not sure' cards

Worksheets

- Criteria for establishing whether Pluto is a planet or not
- Information package from CCLRC
- Images of objects in space
- Fact sheet blank
- Evidence sheet or evidence sheets for Pluto, Mars and Earth
- 'New planets' sheet

Homework

Provide pupils with appropriate SAT questions

Key words

asteroid comet
ecliptic evaluation
evidence inclination
light year

Starter

As this is a short animation you may need to play it more than once.

Main

You will see from the 'Criteria for Pluto being a planet' that the criteria are not very clear-cut. Pluto can be regarded as the smallest, oddest planet with the most inclined, eccentric and far-away orbit but it does have an atmosphere and a moon. Or it could be the biggest known, and not very special, Kuiper Belt object, or even a comet, although it doesn't approach close to the Sun at times in its orbit in the way that comets do. Even today astronomers are divided on the definition. The official view from the International Astronomy Union is that Pluto remains as the ninth planet. However it does not fit the pattern of the other planets.

Orbit means the path of an object round the Sun or other object. The orbit inclination is the angle in degrees at which a planet's orbit around the Sun is tilted relative to the ecliptic plane (which is defined as the plane containing the Earth's orbit so the Earth's inclination or orbit inclination is 0°).