

17.3 SPACE ROCK IDENTIFICATION



Use your tests and the information on this sheet to identify which of the samples you have in your tray.

LARGE IRON METEORITE

This is a very dense object. Formed from the core of a large asteroid it is made almost entirely of iron and as a result is highly magnetic. You may be able to see 'thumb print' shaped dents where it was shaped as it burnt up in the atmosphere.

Density: **7.8g/cm³**

ETCHED IRON METEORITE CUT THROUGH

This is a very dense object – also an iron meteorite, however this one is quite special as it has silicates inside that look like large crystals. It is also highly magnetic.

Density: **7.5g/cm³**

WHOLE CHONDRITE METEORITE

This is a fairly dense object – a meteorite that came from a small asteroid. It has a fusion crust which is quite dark, and you may be able to see bubbles and small channels where the outside of the meteorite melted as it heated up in the atmosphere. It does contain some iron and so is quite magnetic.

Density: **3.4g/cm³**

CHONDRITE CUT-THROUGH METEORITE

This is the same whole chondrite meteorite, but it has been cut open to reveal the chondrules – small spherical shapes that were made as the meteorite formed under gravity. You should be able to see the flecks of iron inside as you hold it to the light. It is quite dense and magnetic.

Density: **3.4g/cm³**

BASALT ROCK

This is a sample of a dark Earth rock known as basalt. This type of rock is also found on the Moon. It is an igneous rock with very fine, small grains that formed from cooling magma. It is not magnetic and has a medium density.

Density: **2.9g/cm³**

ANORTHOSITE ROCK

This white-grey rock is an Earth rock similar to some found on the Moon. It has quite big crystals, is not magnetic and has a medium density.

Density: **2.7g/cm³**

LIBYAN GLASS IMPACTITE

Like the tektite, this rock was made when a meteorite smashed into the Earth and melted the ground on impact. This particular rock was made as a result of sand melting to form glass with a yellow tint. It is denser than a tektite but still much lower density than the meteorites. It is not magnetic.

Density: **2.4g/cm³**

TEKTITE

This dark rock was made as a result of a meteorite hitting the Earth. On impact, the ground was melted and this tektite was thrown away from the impact. It has bubbles of gas trapped inside it from where the rock was heated up so quickly and has quite a low density. It is not magnetic.

Density: **2.2g/cm³**