

16.3 SPACE ROCKS INFORMATION

Meteorites: General information

Most meteorites contain iron and so they are **MAGNETIC**.

Meteorites are **MORE DENSE** than most Earth rocks.

Meteorites have a fusion crust – a dark outer coating that can show bubble pits or waves from where the outer rock has melted as the meteorite burns up in the atmosphere.

IRON METEORITES

Description:

Large pieces of iron-nickel.

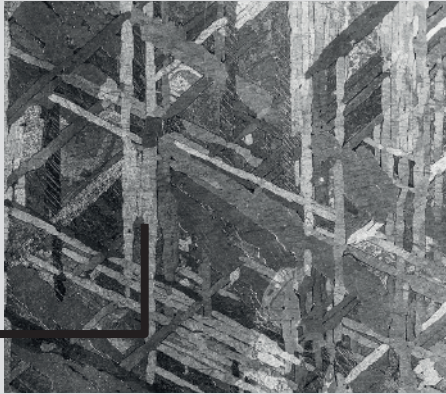
From: The core of large asteroids.

Density: The densest meteorites.

Magnetic?: Yes.

Additional features:

Widmanstätten patterns formed due to the slow cooling of the material deep within the body of a large asteroid.



Widmanstätten patterns

CHONDRITE METEORITES

Description:

Pieces of stone with flecks/ small pieces of iron/nickel inside them.

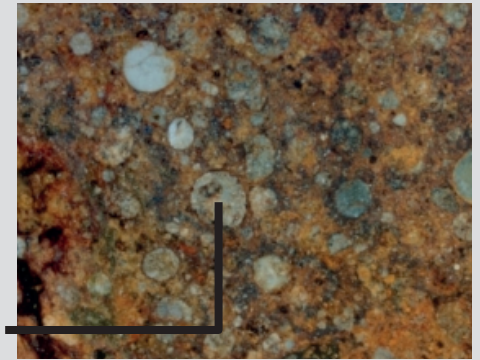
From: Small asteroids.

Density: The least dense meteorites.

Magnetic?: Yes.

Additional features:

Chondrules – small spherical rock formations from where the small asteroid gradually came together under the forces of gravity and charge attraction.



Chondrules

TEKTITES

Description: Rock that melted when a meteorite hit the Earth.

From: The Earth – fall back as droplets of melted rock.

Density: Low density.

Magnetic?: No.

Additional features:

Often show holes or bubbles from gases heated up on impact.

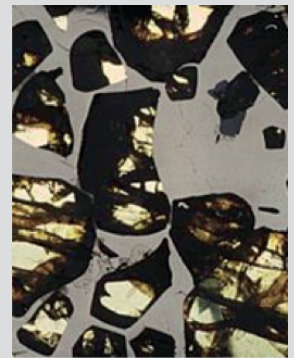
PALLASITE (STONY-IRON) METEORITES

Description: Iron/nickel with non-metallic crystals inside.

From: The core/mantle boundary of large asteroids.

Density: Medium density.

Magnetic?: Yes.



GLASS IMPACTITES

Description: Silica rich rock that melted when a meteorite hit the Earth.

From: The Earth – fall back as droplets of melted rock.

Density: Medium density.

Magnetic?: No.

Additional features:

Glass-like and often coloured due to elements in the rock.

MOLDAVITES

Description: Rock that melted when a meteorite hit the Earth.

From: The Earth – fall back as droplets of melted rock.

Density: Low density.

Magnetic?: No.

Additional features:

Distinct green colouring due to elements in the Earth at the impact location.