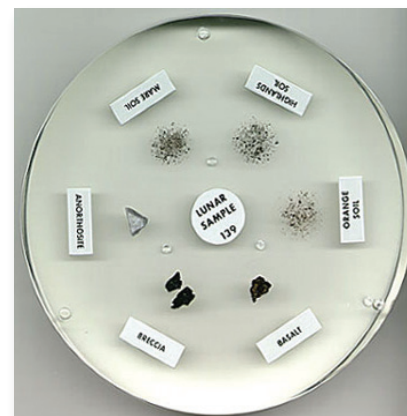


## Black Kit Contents



### NASA Moon Rocks Disc

<b>Basalt</b>	Solidified lava found in the dark lowland maria or 'seas'.
<b>Breccia</b>	Rocks made of fragments of other rocks created in violent impacts.
<b>Highland Soil (Regolith)</b>	Fragments from the breakup of highlands rocks by meteorites.
<b>Anorthosite</b>	White rock consisting of feldspar crystals. Predominant rock of the lunar highlands.
<b>Mare Soil (Regolith)</b>	Fragments from the breakup of mare rocks by meteorites.
<b>Orange Soil</b>	Volcanic glass beads from a lunar eruption 3.5 billion years ago. Found by Apollo 17.

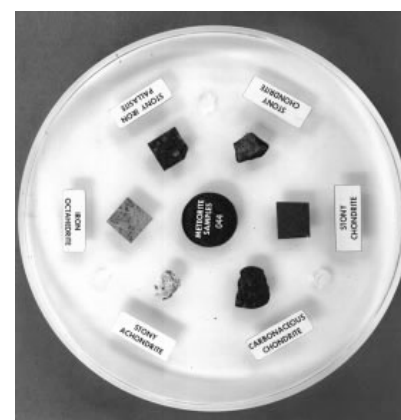


### NASA Meteorites Disc

The NASA meteorites disc can be viewed with the geo lenses or the USB microscope.

More notes about the sample types are given on the A4 display sheet.

Like all the meteorite samples in the kits, they can be found easily online by Googling the meteorite code or name. This will lead to more pictures, thin sections and details on the type and origin of the sample.



Name	Find Location	Find Date	Mass (kg)	Classification
ALH90411	Allan Hills, Antarctica	1990	5.8	chondrite L3
LEW87030	Lewis Cliff, Antarctica	1987	8	chondrite H5
Allende	Allende Mexico	1969	1,000	carbonaceous chondrite
EET83227	Elephant Moraine, Ant.	1983	2	basaltic achondrite
Gibeon	Namibia, Africa	1836	21,000	iron - octahedrite
Brenham	Kansas, USA	1882	4,400	stony-iron - pallasite



## Loan Kit Contents

### Hand-held Meteorites

#### Campo del Cielo

(First reported in Argentina in 1576)

Campo del Cielo is a nickel-iron meteorite, which once formed the core of a small planet that broke apart perhaps 4 billion years ago. The meteorite fell in a strewn field of 3 x 30 km about 6000 years ago, but was first reported in 1576. The total mass found so far exceeds 60 tons, making it the heaviest meteorite ever found on earth. There could be bigger ones, but they have not been found. A very large piece is in the Natural History Museum collection.



#### NWA 5491 & 5950

(Found in Northwest Africa. Year unknown)

These show very clear Calcium-Aluminium rich inclusions (CAI), the white flecks. CAIs consist of minerals that are among the first solids condensed from the cooling protoplanetary disk. They are thought to have formed as fine-grained condensates from a high temperature gas that existed in the protoplanetary disk in the early stages of the Solar System.



#### Brahin

(Found in Russia in 1807)

This is a stony iron pallasite formed at the core-mantle boundary of a large asteroid. It shows a snapshot of the process of differentiation of olivine crystallising in a matrix of iron and nickel at the core-mantle boundary. Campo del Cielo came from deeper inside a metallic core where no olivine was present. In small samples the olivine is often weathered away. The front cover of the NHM Meteorites book has a spectacular picture of a pallasite. A massive impact event would have blasted these fragments into space.



### Geologist's Lenses

There are 10 lenses in each kit. x10 magnification, 21mm diameter.



### USB 2.0 Digital Microscope

This gives excellent bright LED illuminated close-ups of all the meteorites and Moon rocks. Windows software is on a CD in the kit and Mac software is available on the Celestron.com site.



### Meteorites Book

A compelling and beautifully illustrated introduction to meteorites by leading scientists at the Natural History Museum.

