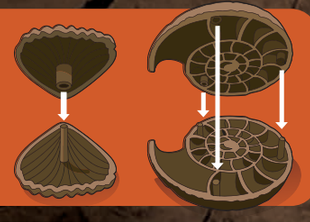


Brachiopods are marine invertebrates with a structure very similar to today's bivalve molluscs (clams and mussels), with a shell made up of two valves enclosing the soft body parts. Although certain species still survive, many others (including those of the Rhynchonella genus, such as the model included in the kit) first appeared in the Paleozoic Era and became extinct a long time ago.

ASSEMBLE THE FOSSILS

To assemble the brachiopod and the ammonites included in the kit, simply join the complementary parts together and firmly tighten the joints. The trilobites are one-piece items and do not need to be assembled.



THE EARTH'S TREASURES

A geologist studies the Earth's crust, when and how mountains were formed, the activity of volcanoes and earthquakes, and often bumps into magnificent objects such as stones and crystals. **Now you will also be able to find special rocks by digging into the block of earth!**

GREEN MARBLE: Alpine green marble is a metamorphic rock with variable shades, alternating dark green patches (almost black) and lighter areas (ochre). Its characteristic colour is due to the abundant presence of the mineral serpentine.

WHITE MARBLE: a metamorphic rock (which, as such, formed at high temperature and pressure) that is mainly made up of calcium carbonate ($CaCO_3$). It is widely used in the building sector.

RED MARBLE: a metamorphic limestone rock with compounds containing iron which give it its characteristic red colour.

GRANITE: a hard and heavy intrusive magmatic rock, which forms at great depths. It is mostly made up of silica (SiO_2) and other different-coloured minerals, such as quartz, plagioclase, feldspars and micas. If you observe carefully, you'll notice some tiny coloured and glittering specks.

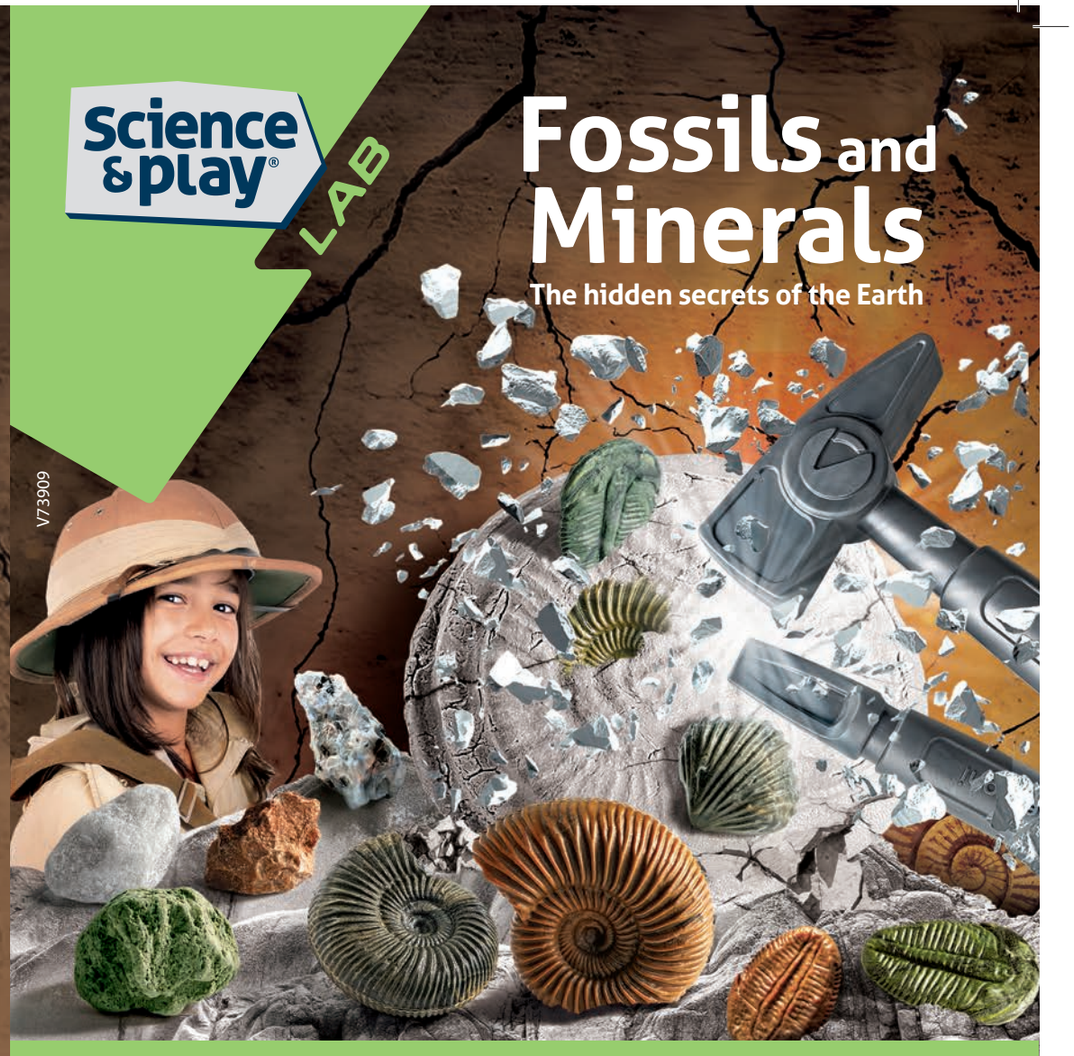


Science & play® LAB

Fossils and Minerals

The hidden secrets of the Earth

V73909



EXCAVATE THE BLOCK OF EARTH*! WARNING!

• Children under the specified age limit and animals must be kept away from the area where the activities are carried out. • Do not eat, drink or smoke in the play area. • Do not swallow nor smell the excavation material. • Work on a sturdy surface. • Do not use equipment or tools other than those inserted in the kit. • Do not dispose of waste material down sanitary wares. • Wash your hands at the end of the activities. • If the excavation material comes into contact with the eyes, rinse the eyes with plenty of water. • While you excavate, watch out for small fragments that could strike you in the face.

** composed of gypsum, pumice stone and sand.*

Read and keep for reference.

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OVERVIEW OF THE KIT

Palaeontology and geology have never been so familiar and interesting thanks to this kit! Dig out the ammonite-shaped brick using the palaeontologist tools supplied with the kit, and **unearth models of fossils and rocks to study and collect.**

CONTENTS:

- **AMMONITE-SHAPED BLOCK OF EARTH* TO DIG OUT**
- **FOSSIL MODELS TO ASSEMBLE**
- **ROCKS**
- **HAMMER AND CHISEL**

** composed of gypsum, pumice stone and sand.*



BEFORE YOU START

Work near the wall of a room (without other people in front of you) and protect the worktop with sheets of paper or cardboard. We suggest working with the block of earth placed in the overturned lid of a box, to avoid dispersing the excavation material. The search will be easier if you start excavating from the edge of the brick, using the hammer and chisel. **When the fossil and rock fragments start to emerge, you need to work like a real professional: scrape around them gently to free them without forcing so that they do not get damaged. As you gradually extract the pieces, clean the dust off them and wash them carefully with water.** Be careful when excavating, as tiny granules could strike you in the face.

PALAEONTOLOGY

The first creatures that populated our planet were very simple organisms that evolved into new and increasingly complex species over the course of millions of years. A huge number of living beings of the past are now extinct. The extremely long process of transformations and changes that occurred and continues to occur in organisms is called evolution. But how can we know the fundamental aspects of the evolutionary process of life on Earth? With the help of **palaeontology**, a science that studies fossils, namely remains of extinct animals, plants and other organisms that have come down to us, and **allows us to get a more accurate idea of what our planet was like before man's appearance.**



THE FOSSILISATION PROCESS

It all starts with the animal's death: the soft body parts decompose leaving only the hard parts, namely the bones. They would also tend to disappear with time but, if they are covered with sand or mud, they can preserve themselves for longer. Layers of earth, mud or rocks slowly build up and **the skeleton petrifies.** Ultimately, thanks to erosion, the same process that causes sedimentary rocks to form, **the skeleton re-emerges from the surface**, where it is discovered and studied by palaeontologists.

FOSSILS OF EXTINCT ANIMALS

Ammonites appeared around 416 million years ago and, for a long period of time, they were the most widespread animals in the Earth's seas, before they became extinct in the late Mesozoic Era, roughly 65 million years ago. Scientists have identified over 10,000 different species. **They were molluscs very similar to the present-day nautilus, with tentacles surrounding the mouth and a spiral-shaped shell resembling a ram's horn.** This also explains their name. Their shell was divided into several chambers (that you can see also in the models contained in the play set) crossed by a siphon, a channel regulating the level of gas, so that the mollusc could control its up and down movements in the water.



Trilobites were small arthropods, that is, organisms lacking a spine (invertebrates) like crustaceans, spiders and insects, which lived in the seas during the Paleozoic Era, roughly 520 million years ago. Endowed with an exoskeleton, which protected their vital parts, they had a very peculiar shape. If you observe them carefully, you will notice that **their body is divided into three parts, both horizontally and vertically.** This characteristic also explains their name, which was invented by the German naturalist Walch in 1771. The fossils of these animals' tail, which is often found detached from the rest of the body, are called "**bat stone**" or "**butterfly stone**" by the Chinese, due to their shape. Just imagine that some Native American tribes, the Ute and Paiute Indians, used them as amulets worn around the neck, because they believed they brought good luck and protected them from diseases.

