

STEM EXPERIMENT KIT™

EN

Manual

Amazing Minerals



THAMES & KOSMOS

EN Dear parents!

Please lend your child a hand and assist and supervise them when excavating the minerals. Read through the instructions together before starting the experiment, and follow them. Then nothing will stand in the way of a successful excavation! Keep all parts of this kit out of reach of small children, in particular the pieces of plaster waste left over after the excavation. Throw these away in the household trash.



Safety information

WARNING! Not suitable for children under 8 years.

For use under adult supervision. Read the instructions before use, follow them and keep them for reference.

WARNING! Not suitable for children under 3 years. Choking hazard — small parts may be swallowed or inhaled. This kit contains functional sharp edges or points. Do not injure yourself!

WARNING! Never leave the magnifying glass unattended in the sun. Fire danger!

WARNING! Never look directly into the sun, either with your naked eye or through the magnifying glass! You could blind yourself!

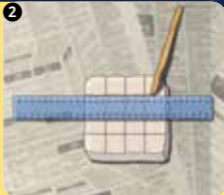
Pay attention to the instructions for use when excavating. Keep small children or animals away from the experimentation area. Do not eat or drink in the experimentation area. The plaster block should be processed slowly and when damp, so that no chips or dust are produced. Do not get the plaster material in your mouth or eyes. Wash all equipment and the work space after use. Wash hands after use! Keep packaging and instructions as they contain important information.

Excavating

1. Before starting your dig, prepare a suitable work space. Lay some old newspaper on the tabletop to protect the surface. Prepare the excavation block, the excavation tool, the brush, a bowl of water, and a ruler.



2. When excavating, pretend you are a geologist. Divide your excavation site into squares to be searched one by one. Carve a grid pattern into the surface using the chisel and the ruler.



3. Now begin excavating in any of the search squares. Soak the brush with water in the bowl of water and dampen the first search square.



4. The plaster in the search square becomes very soft as a result of the water, and you can now freely scrape away the surface using the excavation tool. As soon as you come across something, carefully dig it up. You may have to dampen the layers of plaster again using the brush.



5. Follow this procedure step by step for the other search squares too, until you have uncovered all the minerals. Work slowly and carefully so as not to damage the found specimens.

6. Once you have excavated all the gems, you now just need to remove any plaster residue that is stuck to them. For this, rinse each individual gem under running water and clean the surface. It's best to close the drain when doing this, so that you don't lose any small parts. To finish, dry your findings using a piece of paper towel.

Rock and minerals

The Earth's crust consists of solid rocks such as sandstone, basalt, and granite. These are composed of smaller material called minerals. There are some minerals that exist in vast amounts — for example quartz — and there are other minerals that exist in very small amounts. These include diamonds and other especially beautiful gems such as rubies, sapphires, and emeralds.

Mineral descriptions

The **clear quartz crystal** is a colorless variety of quartz that is very common in nature. It is so hard that it can even scratch glass.

The **amethyst** is a violet variety of quartz. The color is formed due to the iron content in the mineral, which turns the crystal violet from the effects of natural (and harmless!) radioactivity.

Pyrite is also known as fool's gold. What is special about this mineral is that it often forms cube-shaped crystals, and looks like gold metal.



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