Mohs Scale – Student Activity

Friedrich Mohs created a scale called the Mohs Scale of Hardness to describe how hard a mineral is relative to some other common minerals. By comparing the ability of one mineral to scratch another, we can identify the hardness of a mineral.

Mineral	Mohs Scale of Hardness	Relative hardness
Talc	1	very soft – can be scratched by a fingernail
Gypsum	2	
Calcite	3	pretty soft – a piece of glass is harder than this
Fluorite	4	
Apatite	5	about the same hardness as a knife blade
Feldspar	6	
Quartz	7	pretty hard – scratches most things
Topaz	8	
Corundum	9	very hard
Diamond	10	the hardest – nothing can scratch diamond

Quartz was used to make Stone Age tools such as this Dutch hand axe which dates to the Upper Palaeolithic. Why do you think people used quartz to make this axe?

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I use the hand axe to try to scratch some other minerals: gypsum, corundum, fluorite, and topaz. On which of these minerals would the axe be able to scrape a line? Why?

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Crystal drinking glasses used to be carefully carved out of a single quartz crystal. They took a long time to make and were very expensive. What mineral(s) could you use to carve the crystal?

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Mohs Scale – Student Activity

Beware! Fake gem stones

Fake jewels can be made from ground glass or heated quartz crystals, with colouring chemicals added to make these inexpensive materials look like saphires or amethysts.

How could you test to see if a pink 'diamond' really was a diamond and not artificially-coloured quartz or corrundum?

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