GE1980-01

MINERALS IN THE SCALE OF HARDNESS

The determination of the hardness of a mineral can be an important step toward its identification. Hardness is the resistance which the smooth surface of a mineral offers to being scratched. A diamond is the hardest of all substances and can only be scratched by another diamond.

Over a century ago, Friedrich Mohs by experimentation made up a scale of hardness which is referred to as Moh's scale. It does not imply an exact hardness, but is set up so that any mineral can scratch all those beneath it in the scale, or can be scratched by those above it in the scale.

Since diamond is the hardest it is given the number 10; talc is the softest so it is given number 1. Quartz is often used as a division in the scale and all those above 7 are called hard minerals.

1. Talc
2. Gypsum
3. Calcite
4. Fluorite
5. Apatite
6. Feldspar
7. Quartz
8. Beryl
9. Corundum
10. Diamond

Some very familiar objects can be used in conjunction with this scale. A fingernail has the hardness of 2.5, a copper coin between 3 and 4, a nail about 5, common window glass 5.5, a steel file or porcelain tile 6.5. Other minerals are sometimes substituted in the scale such as topaz for beryl since