

Special Mineral Properties

Double Refraction

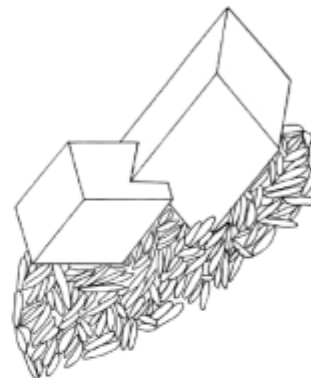
In this experiment, you will see a special property that happens with clear, colorless pieces of calcite. Another name for clear calcite is *Iceland Spar*.

What you will need:

--Paper and pen or pencil

--A piece of colorless, clear calcite (Iceland Spar).

When calcite breaks, it breaks into *rhombs*. A *rhomb* is like a box that has been pushed over on its side. It looks like the specimen to the right.

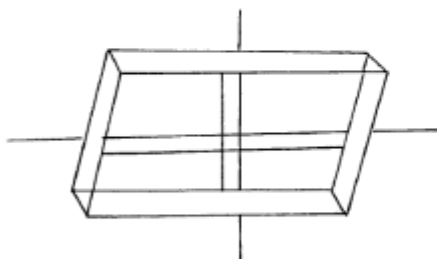


What to do:

Step 1: Draw a large "+" sign on a piece of paper.

Step 2: Place a piece of Iceland Spar on top of the lines.

What do you see?



This is a special property called *Double Refraction*. When light goes into Iceland Spar, the crystal breaks the light into two parts. As a result, you see two lines instead of one.

Sparks

The mineral *pyrite* is named after the Greek word *pur* which means *fire*. You will learn why in this experiment.

What you will need:

Safety goggles, a piece of pyrite (not a good display specimen), a steel hammer.

Step 1: Put on the safety goggles to protect your eyes.

Step 2: Hold a piece of pyrite firmly in one hand.

Step 3: Hit the pyrite with the edge of a hammer (or any other item made of steel). Turn the lights down (or off) and do this again. The results will be more dramatic.

What do you see? _____ . You will see the flash of sparks.
(You will also *smell* something. This is the smell of the sulfur that is in the pyrite crystal.)



A long time ago, this was a way people could start campfires in the wilderness.