



What are crystals?

Crystals are a special kind of solid material where the molecules fit together in a repeating pattern. This pattern causes the material to form all sorts of unique shapes.

How do they form?

The process of crystal forming is called crystallization. Crystals often form in nature when liquids cool and start to harden. Certain molecules in the liquid gather together as they attempt to become stable. They do this in a uniform and repeating pattern that forms the crystal.

In nature, crystals can form when liquid rock, called magma, cools. If it cools slowly, then crystals may form. Many valuable crystals such as diamonds, rubies, and emeralds form this way.



Another way crystals form is when water evaporates from a [mixture](#). Salt crystals often form as salt water evaporates.

What unique properties do crystals have?

Crystals can have very flat surfaces called facets. They can form geometric shapes such as triangles, rectangles, and squares. The shapes are a direct result of the type of molecules and atoms that make up the crystal. Smaller crystals and larger crystals that were formed of the same molecules and in the same method should have similar shapes.

There are seven basic crystal shapes, also called lattices. They are Cubic, Trigonal, Triclinic, Orthorhombic, Hexagonal, Tetragonal, and Monoclinic.

Interesting Types of Crystals

Snowflakes - Snowflakes are ice crystals that are formed high in the [clouds](#) when water freezes. They always have six sides or arms, but every one of them is unique.

Timing crystals - When an electric current is sent through some crystals they vibrate at a very precise frequency. Quartz crystals are used in watches and other electronics to keep an accurate time.

Quartz - Quartz is a common mineral and crystal. It is one of the hardest common minerals. The gemstone amethyst is a purple type of quartz.

Diamonds - Diamonds are one of the most valuable [minerals](#) on Earth. Not only for jewelry, but diamond is also the hardest substance on earth and is used for special tools such as diamond saws. Diamond is a form of the element [carbon](#).

Fun facts About Crystals

- Crystallography is the science of studying crystals and how they form.
- Some crystals, like diamonds, are really just one giant molecule made from lots of atoms of a single element.
- A lot of computer screens use liquid crystals for their display.
- They are very popular in jewelry because they can sparkle and come in many different colors.
- Some living organisms are able to produce crystals.

