



# Quartz or « rock crystal »

Quartz is one of the major components of the Earth's crust. It can be found in many of our mountain ranges, and particularly in the Alps. It is a colourless, transparent, crystallised silica ( $\text{SiO}_2$ ) commonly known as « rock crystal ».



Quartz « rock crystal », La Gardette, Isère, France. © Coll. Muséum d'Histoire Naturelle de Grenoble

## The three forms of silica :

- crystalline,
- nanocrystalline,
- vitreous

- The crystalline form is found in many rock formations, such as magmatic (granites), sedimentary (sandstone, sand) and metamorphic (quartzite) rocks.

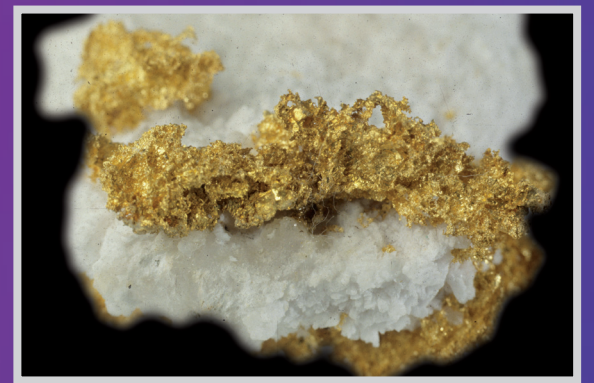
- The nanocrystalline form, with minute crystals, is present in agates, chalcedony and flint.

- The vitreous form is rare, but can be found in opal and obsidian (volcanic lava)

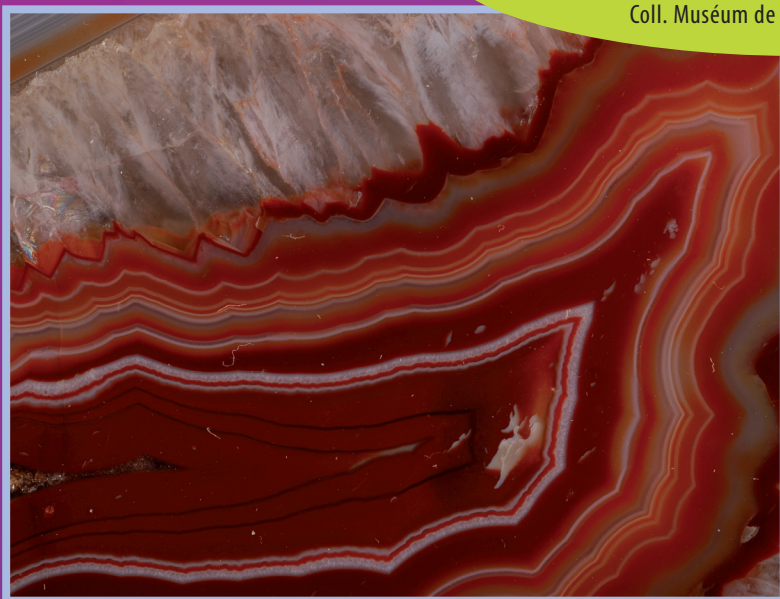
## Quartz's variety of forms is due to the environment it is formed in.

Quartz often presents six-sided prism facets terminating with six-sided pyramids.

In its purest form it is colourless and transparent, and known as « rock crystal ». Impurities are responsible for its coloured forms: violet for amethyst, yellow for citrine.

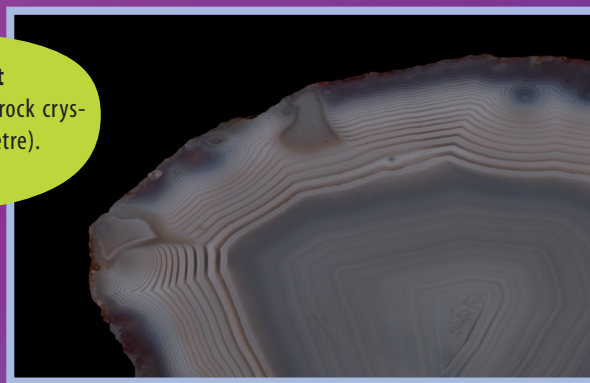


Native gold on quartz, Mine de la Gardette, Isère, France. © Coll. Muséum d'Histoire Naturelle de Grenoble



Agate, Cape of Good Hope, South Africa © Coll. Muséum d'Histoire Naturelle de Grenoble

**Agate, chalcedony and flint**  
Agate, chalcedony and flint are formed from rock crystals of microscopic size (1 millionth of a metre).  
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Chalcedony © Coll. Muséum d'Histoire Naturelle de Grenoble



Quartz amethyst, Silver-Star, Montana, USA. © Coll. Muséum d'Histoire Naturelle de Grenoble



Quartz herisson, Mine de la Gardette, Isère, France. © Coll. Muséum d'Histoire Naturelle de Grenoble

Crystal, an object of desire