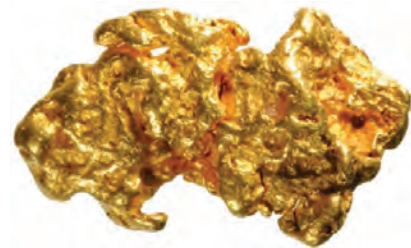# CLASSIFICATION

Classification systems are frameworks created by scientists in order to better understand and describe the organisms, compounds, and phenomena found on Earth. Classification is helpful because it creates definitions and patterns for us to situate our discoveries. However, it is also arbitrary to some extent, and there are in fact many ways to classify things.

Strict guidelines exist today for mineral classification. Before being classified as a new mineral, compounds are studied extensively by mineralogists in order to confirm that their chemical composition and structure are unique. Some minerals are a combination of different elements (SiO_2 or quartz is composed of the elements silicon and oxygen), whereas others are pure elements (such as gold). The latter are referred to as native minerals, and they can be grouped into metals, semi-metals or non-metals.

Quartz (amethyst)

Gold

Did you know?

Some minerals are created by living organisms. These biogenic substances are often used to construct or strengthen shell and bone. They are often excluded from mineral classification schemes because of their organic origin, but many argue for an expansion of the current definition to include biominerals.

CLASSIFICATION ACTIVITY

Steps

1   **Collect** a variety of materials from both indoors and outdoors. Gather a minimum of 10 objects, but as many more as you'd like.

2   **Lay** all of the objects out in front of you, and consider how you might group them based on shared characteristics.

3   **Consider** questions such as: Are they... organic or inorganic? Different colours or sizes? Different shapes? Soft or hard? Shiny or dull?

4   **Come up with** as many different categories as you can think of, and record the results.

5   **Think about** how your perception of the objects changes with each grouping. Were there times that an object fit in more than one group? How do you think different methods of classification allow scientists to approach and understand the things they study?

Record your categories and results here