

CLEAVAGE: splitting along preferred directions due to weak bonds within the atomic structure. Cleavage is described as perfect, good, poor.

This is a property of crystals – be careful that you are looking at crystals and not crystal aggregates.

Cleavages can be confused with crystal faces – can often see cleavage *planes* perpendicular to crystal *faces*.

Some crystals do not show cleavage due to similar bond strengths throughout the crystal structure. However, a crystal can have 1, 2, 3... directions of cleavage. It is important to note: (i) the number of cleavage directions, and (ii) their angular relationship:

- 1 direction; 2 directions at 90°; 2 directions, inclined;
- 3 directions, cubic; 3 directions, rhombohedral;
- 4 directions, octahedral; 6 directions dodecahedral.