

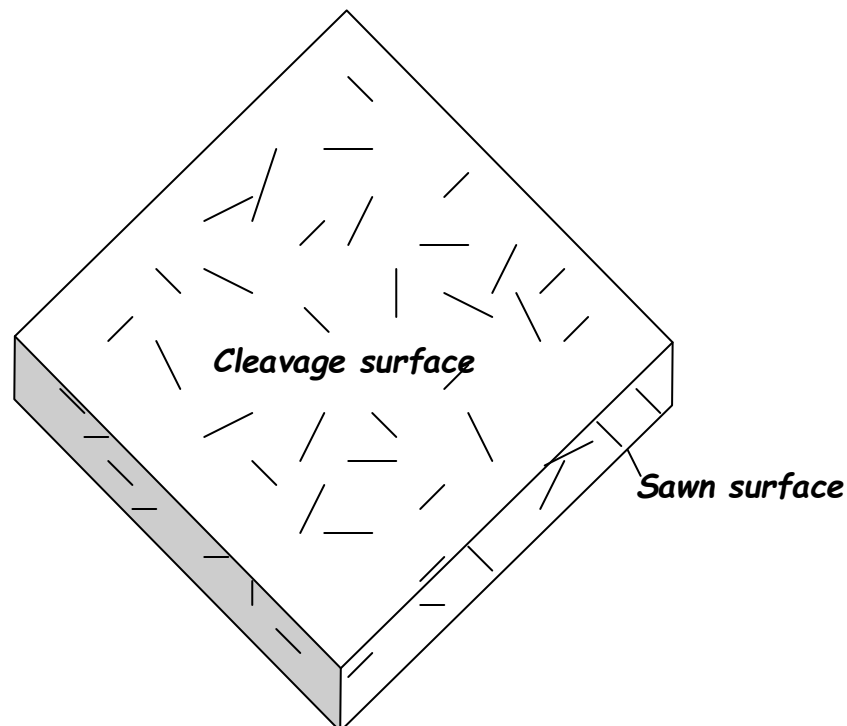
ANDALUSITE SLATE

Purpose

To see if there is any preferred orientation to andalusite crystals in andalusite slate.

Activity

- 1. On the photocopy of the cleavage surface measure the angle of the crystals to the marked line. Use the protractor with the curved side on the right so that you only record angles between 0° and 180° . Make at least 20 measurements and number each crystal as you measure it.*
- 2. Now record the angle of crystals exposed on one of the edges in a vertical plane. Hold the protractor with the 0° - 180° line parallel to the cleavage and record the angle of as many crystals as you can.*
- 3. Repeat activity 3 on the edge at right angles to the last one.*
- 4. Plot as three separate rose diagrams.*



Slab of andalusite slate cut at right angles to cleavage surface. The faces are then photocopied

Teacher's Section

Requirements

Photocopies of a piece of andalusite slate, about 10cm by 30cm by 30cm with a line drawn on the cleavage face. Two edges should be cut at right angles and these also photocopied. See appendix 7 for photocopying rocks.

Protractors

Blank rose diagrams.

Notes

A good source of slabs is along the path in Glenderaterra Beck near Keswick.

Checks

Make sure the students keep the protractor parallel with the line or the cleavage.

Results

There should be no preferred orientation.

Time

30 minutes for making the three sets of readings.



Photograph of a slab of andalusite slate taken looking vertically down on it. Enlarge to A4 and then measure the orientations of the andalusite crystals.