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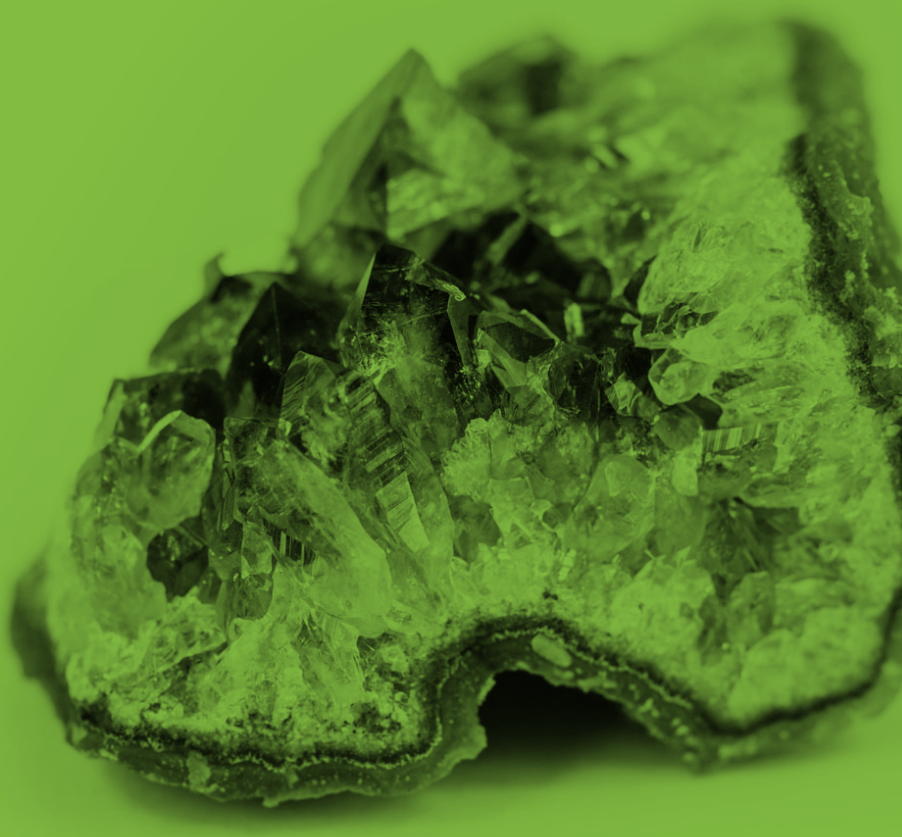
GEOLOGY

Practical Guidance Sheet 4



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GCSE Geology Practical Guidance Sheet 4

Title: Production of full rock description of macro and micro features from conserved hand specimens and unfamiliar field exposures

Specification reference: 1.2a, 1.3b, 1.3d, 1.4a, 1.4c
Appendix B. The requirement to produce full rock descriptions of macro and micro features from hand specimens and unfamiliar field exposures of igneous, sedimentary and metamorphic rocks is stated in Appendix B.

Aim: To produce a full rock description of macro and micro features from hand specimens and unfamiliar field exposures of igneous, sedimentary and metamorphic rocks.

Apparatus:
Hand lens or light microscope
Ruler
A sediment comparator
A range of igneous, sedimentary and metamorphic rocks

Method (igneous rocks):
1. Select a hand specimen of an igneous rock (or an unfamiliar field exposure of igneous rock).
2. Describe the texture of the rock:
    - crystalline
    - crystal size (s): coarse (>3mm), medium (1-3mm), fine (<1mm)
    - other textural features: equicrystalline, porphyritic
3. Describe and identify the minerals within the rock.
4. Observe any macro features from the igneous rock specimen/field exposure eg. pillow structures, columnar joints.

Method (sedimentary rocks):
1. Select a hand specimen of a sedimentary rock (or an unfamiliar field exposure of sedimentary rock).
2. Describe the texture of the rock:
    - clastic/fragmental/granular
    - grain size (s)
    - grain shape
    - the degree of sorting of the grains.
3. Describe features of the composition of the rock:
    - colour(s)
    - identify the minerals within the rock.
4. Observe and record any macro features in the sedimentary rock specimen such as sedimentary structures or fossil content.

Method (metamorphic rocks):
1. Select a hand specimen of a metamorphic rock (or an unfamiliar field exposure of metamorphic rock).
2. Describe the texture of the rock:
    - crystalline
    - foliated, including type of foliation (slaty cleavage, schistosity) or non-foliated
    - crystal size (s)
3. Describe and identify the minerals within the rock.
4. Observe any macro features from the metamorphic rock.