

Checklist for describing sedimentary rocks

1. General properties	<p>a) Colour (on fresh and weathered surfaces)</p> <p>b) Strength e.g. consolidated/ unconsolidated or friable (loose grains rub off)</p> <p>c) Fissility e.g. massive or fissile (breaks along laminae)</p>
2. Sedimentary structures	<p>Comment on the type, spacing and scale of structures e.g. lamination, bedding, wave-formed ripples, current-formed ripples, planar cross bedding, trough cross bedding, desiccation cracks, sole structures (flute casts, tool marks and groove casts, scours), load & flame structures, geopetal structures.</p>
3. Constituents	<p>a) Test the rock with cold, dilute (0.1M) hydrochloric acid. If the rock effervesces, it may be a clastic rock with calcite cement, but if there are no visible mineral grains it is more likely a limestone.</p> <p>b) For limestones the main constituents are: carbonate grains (bioclasts/ fossils, ooids, peloids, intraclasts i.e. fragments of reworked carbonate sediment), lime mud (micrite) and cement (usually calcite). Comment on: (i) type of constituents and their relative proportions (ii) fossil types e.g. articulated/ disarticulated, complete or fragmented (iii) degree of abrasion of bioclasts (iv) presence or absence of cement and cement type.</p> <p>c) For clastic rocks the main constituents are mineral grains (quartz, feldspar, muscovite and lithic grains), fossils, matrix and cement (commonly silica, calcite, hematite and siderite). Comment on: (i) type of constituents and their relative proportions (ii) grain size (coarse >2mm, medium 0.063-2mm, fine <0.063mm). (iii) grain sorting e.g. very well sorted, well sorted, moderately sorted, poorly sorted, very poorly sorted (iv) roundness and sphericity of grains (v) presence or absence of matrix - and type of matrix (vi) presence or absence of cement - and type of cement (vii) fossil types e.g. articulated/ disarticulated, complete or fragmented (viii) the degree of abrasion of bioclasts</p>
4. Fabric	<p>Comment on features such as grading, imbrication, preferred orientation of grains (parallel to current or normal to current).</p>
5. Final reminders	<p>a) Use a grain size comparator</p> <p>b) Avoid including interpretations in your rock description.</p> <p>c) Draw sketches of the rock as a whole. Use zoomed insets to show key features. Add a scale and plenty of labels.</p> <p>d) When naming a rock, it is a good idea to add details e.g. for a sandstone the description could be 'well-sorted, medium-grained quartz arenite' e.g. for a limestone the description could be 'oolitic grainstone'.</p>