



# Texture of Sedimentary Rocks

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Fragmental or clastic (made of broken particles)

## Classifications

### Shape

Round or angular

### Size

#### Fine

<1/16mm

#### Medium

1/16mm → 2mm

#### Coarse

>2mm

### Sorting

The range of sizes. Well sorted, the same size. Poorly sorted, large range.

## Sorting

The measure of sorted ranges from very well sorted to extremely poorly sorted depending on the range of sediment sizes present in the sample.

The sorting can provide information on how the sediment was transported. Wind does not transport very coarse grains and the ones it does are deposited based on their size with the finer grains being transported further.

Rivers flowing with high energy may transport coarse, medium or fine grained sediments however as the velocity of the water decreases the grains will be deposited the coarser ones first.

The more well sorted a sediment is the more it has been transported as they have experienced more abrasion (with the ground) and attrition (with other sediment).

Figure 8 Particle Sorting

*Figure 1. Examples*

## Characteristics of sediments related to transport

Transport Type	Energy	Grain Size	Composition	Roundness	Sorting
Wind	blown sand	High	fine - medium	quartz	~ red iron oxide
Well Rounded	Well sorted	Ice	deposited as glacial till	Low	very coarse - very fine
varied: any rock fragment and clay	angular - sub-angular	Very poor	River deposit of sand in channel	High	coarse - fine sand (coarser near source)
quartz	mica	rock fragments	angular - sub-rounded with transport	poor - medium (with transport)	Beach or offshore bar in sea
High	medium sand - coarse pebbles	mostly quartz + some shell or rocks fragments	sub-rounded - rounded	moderately sorted	Gravity

When comparing grains that have been transported by ice and that by wind you would see a much less sorted sample from the ice. This is due to the the fact that the wind is not powerful enough and air dense enough to pick up large grains ensuring that the are relatively well sorted before attrition ever takes place.

glacier:  $(3 - -1.6) / 2 = 2.3$  (poorly sorted) river:  $(0.9 - -0.6) / 2 = 0.75$  (moderatly sorted) dune sand:  $(2 - 1.1) / 2 = 0.45$  (well sorted) beach:  $(0.8 - -0.1) / 2 = 0.45$  (well sorted)

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