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**WHAT IS THE DIFFERENCE BETWEEN SAND, SILT AND CLAY**

**Sand** is a naturally occurring [granular](http://en.wikipedia.org/wiki/Granular) material composed of finely divided [rock](http://en.wikipedia.org/wiki/Rock_%28geology%29) and [mineral](http://en.wikipedia.org/wiki/Mineral) particles. The composition of sand is highly variable, depending on the local rock sources and conditions, but the most common constituent of sand in inland continental settings and non-[tropical](http://en.wikipedia.org/wiki/Tropical) [coastal](http://en.wikipedia.org/wiki/Coastal) settings is [silica](http://en.wikipedia.org/wiki/Silica) (silicon dioxide, or SiO2), usually in the form of [quartz](http://en.wikipedia.org/wiki/Quartz).

The second most common type of sand is [calcium carbonate](http://en.wikipedia.org/wiki/Calcium_carbonate), for example [aragonite](http://en.wikipedia.org/wiki/Aragonite), which has mostly been created, over the past half billion years, by various forms of life, like [coral](http://en.wikipedia.org/wiki/Coral) and [shellfish](http://en.wikipedia.org/wiki/Shellfish). It is, for example, the primary form of sand apparent in areas where reefs have dominated the ecosystem for millions of years like the [Caribbean](http://en.wikipedia.org/wiki/Caribbean).

**Silt** is [granular material](http://en.wikipedia.org/wiki/Granular_material) of a size somewhere between [sand](http://en.wikipedia.org/wiki/Sand) and [clay](http://en.wikipedia.org/wiki/Clay) whose mineral origin is [quartz](http://en.wikipedia.org/wiki/Quartz) and [feldspar](http://en.wikipedia.org/wiki/Feldspar). Silt may occur as a [soil](http://en.wikipedia.org/wiki/Soil) or as suspended [sediment](http://en.wikipedia.org/wiki/Sediment) (also known as suspended load) in a surface [water body](http://en.wikipedia.org/wiki/Water_body). It may also exist as soil deposited at the bottom of a water body. Silt has a moderate specific area with a typically non-sticky, plastic feel. Silt usually has a floury feel when dry, and a slippery feel when wet. Silt can be visually observed with a hand lens.

**Clay minerals** are typically formed over long periods of time by the gradual chemical [weathering](http://en.wikipedia.org/wiki/Weathering) of rocks, usually silicate-bearing, by low concentrations of [carbonic acid](http://en.wikipedia.org/wiki/Carbonic_acid) and other diluted [solvents](http://en.wikipedia.org/wiki/Solvents). These solvents, usually acidic, migrate through the weathering rock after [leaching](http://en.wikipedia.org/wiki/Leaching_%28pedology%29) through upper weathered layers. In addition to the weathering process, some clay minerals are formed by [hydrothermal](http://en.wikipedia.org/wiki/Hydrothermal) activity. Clay deposits may be formed in place as residual deposits in soil, but thick deposits usually are formed as the result of a secondary [sedimentary](http://en.wikipedia.org/wiki/Sedimentary) deposition process after they have been eroded and transported from their original location of formation. Clay deposits are typically associated with very low energy [depositional environments](http://en.wikipedia.org/wiki/Sedimentary_depositional_environment) such as large lakes and marine basins. The distinction between silt and clay varies by discipline. [Geologists](http://en.wikipedia.org/wiki/Geologist) and [soil scientists](http://en.wikipedia.org/wiki/Soil_scientist) usually consider the separation to occur at a particle size of 2 [µm](http://en.wikipedia.org/wiki/Micrometre) (clays being finer than silts), [sedimentologists](http://en.wikipedia.org/wiki/Sedimentologist) often use 4-5 μm, and [colloid](http://en.wikipedia.org/wiki/Colloid) [chemists](http://en.wikipedia.org/wiki/Chemist) use 1 μm.

Primary clays, also known as [kaolins](http://en.wikipedia.org/wiki/Kaolinite), are located at the site of formation. Secondary clay deposits have been moved by [erosion](http://en.wikipedia.org/wiki/Erosion) and water from their primary location