ESSIEN, ABASIODIONG

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Answers

* Lithification

                 Lithification is a complex process whereby freshly deposited loose grains of sediment are converted into rock through compaction and cementation of sediments. The compaction usually occurs as a result of the crushing weight of overlying sediments above, expelling water and air from between the pore spaces of the individual sediment particles. As the water is squeezed out, a form of mineral precipitation occurs and these minute mineral crystal structures attach themselves to, and cement together, the individual particles of sediment, whether they be sand grains, minute clay particles, pebbles, or boulders.

* Cementation

                Cementation is the hardening and welding of clastic sediments (those formed from pre-existing rock fragments) by the precipitation of mineral matter in the pore spaces. It is the last stage in the formation of a sedimentary rock. The cement forms an integral and important part of the rock, and its precipitation affects the porosity and permeability of the rock. Many minerals may become cements; the most common is silica (generally quartz), but calcite and other carbonates also undergo the process, as well as iron oxides, barite, anhydrite, zeolites, and clay minerals.

* Compaction

                 Compaction is the decrease of the volume of a fixed mass of sediment from causes such as; continual sediment deposition at a particular site, wetting and drying of sediments in the subsurface, which promotes clay mineral changes and granular reorientations, and the extraction of groundwater or petroleum from certain sediments, which also leads to granular reorientation and thus compaction.

* Induration

                 Induration is the hardening of rocks by heat or baking. It is also the hardening of sediments through cementation or compaction, or both, without the introduction of heat. An example is the rock called hornfels, which is formed at contacts with igneous intrusions and in which heat and fluids from the intruding magma reconstitute the original wall rock into a hardened, flinty rock with a dense texture; it also is commonly formed by induration of carbonate sedimentary rocks and shales.

Other examples of diagenesis include;

1. Recrystallization
2. Dolomitization
3. Hydration