

GLG 101 – CHAPTER 7 - SEDIMENTARY ROCKS

- Sediments must be deposited and lithified (compacted and cemented) to produce **detrital** or clastic sedimentary rocks. **Chemical** sedimentary rocks are produced by precipitation of crystals from liquid water due to chemical reactions.
- **Particle size** is used to distinguish the various detrital sedimentary rocks. The size of the particles is related to how fast the water or wind was moving when the particles were deposited – faster currents move larger sediments. Common detrital sedimentary rocks include **breccia, conglomerate, sandstone** and **shale**.
- **Particle shape** (how angular or round) is also used to describe sediments. The rounder a particle is, the more it has been abraded, and the farther it is likely to have been transported from the “source region” before being deposited and lithified into sedimentary rock.
- **Chemical sedimentary rocks** include **limestones, cherts, dolostones, coal, rock salt** and **rock gypsum**. **Biological activity** often (but not always) aids in the formation of chemical sedimentary rocks. The biochemical rocks limestone, chert and coal are examples.
- **Sedimentary environments** are the places in which sediments can be deposited. The types of sediments we find in areas such as streambeds, beaches, lake bottoms and the ocean floor today can be compared to those in sedimentary rocks to determine the past environments in which those rocks formed.
- **Sedimentary structures** can be used to determine the conditions of wind or water flow when sediments were deposited. Common sedimentary structures include bedding, graded bedding, ripple marks, cross-bedding and mud cracks.
- **Fossilization** occurs almost exclusively in sedimentary rocks. Types of fossils include **casts, molds, trace fossils** (like footprints or drag marks), **carbon films**, and **replacement** (such as petrified wood).