Lithification of Sedimentary Rocks

First Step of Lithification

- **Compaction:** Sediments are squeezed together by the weight of overlying sediments on top of them.
- Clast-cemented, non-organic sediments become *clastic* rocks.
    - **Clastic:** Contains fragments of preexisting rock.
    - If organic material is included, they are bioclastic rocks.

Study Tip

Clast- is a Greek root that means broken. Clastic rocks are rocks that are formed from broken pieces of rock.
Other words with this root: Iconoclast: a breaker of beliefs or traditional institutions; osteoclast: A cell breaks up organic bone

Second Step of Lithification

- **Cementation:** When fluids deposit ions to create cement that hardens loose sediments.
- Fluids fill in the spaces between the loose particles of sediment and crystallize to create a rock by cementation.

This cliff is made of sandstone. Sands were deposited and then lithified.

Concept Check

- Explain the steps of lithification.

Supplemental Learning

- The sediment size in clastic sedimentary rocks varies greatly (see Sedimentary Rocks Classification).