**Formation of Sedimentary Rocks and Structures**

**Lithification**

Lithification is the process that converts \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
  
into \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_. It involves two basic processes:

1. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
    -Sediments pile up over time.  
    -Their weights causes pressure, squeezing them together.  
    -This drives out water and pushes the fragments closer.
2. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  
    -As the water is squeezed out, dissolved materials \_\_\_\_\_\_\_\_\_\_  
    out onto the grains, bonding them together like glue.

**Sedimentary Structures**

Before sediments are lithified into rocks, there are a variety of ways they can be arranged.

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| **1. Graded Bedding** | **2. Mudcracks** |
| Occurs in still or slow-moving water. | Form when standing water dries up and mud contracts. |

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| **3. Ripples** | **4. Cross Beds** |
| Occur where water or wind is moving. | Forms when sediments are deposited on top of ripples. |

**Sedimentary Environments**

The type of sedimentary rock that forms depends on the environment it comes from.

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| **Sedimentary Rock** | **Probable Environment** |
| Fine-grained  e.g. shale |  |
| Fine-grained with fossil shells  e.g. limestone |  |
| Fine-grained with coal |  |
| Fine-grained or shell-rich limestone |  |
| Angular fragments  e.g. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |  |
| Medium- or coarse-grained  Rounded fragments  Broken-up shells  Ripples |  |
| Medium- or coarse-grained  No shells  Asymmetrical ripples |  |
| Uniform sand fragments  Huge ripples or cross-beds |  |