Fossil Unit Study Guide

**Geology:** the study of materials that make up the Earth, organisms that inhabited the Earth, and how structures change over time.

**Fossilization:** Processes that occur to preserve organic or natural material.

-How do we eventually find a fossil?
  1. **Death:** Plant or animal dies.
  2. **Decay and burial:** Soft tissue is eroded and carried away.
  3. **Sedimentation/Permineralization:** Plant/animal becomes covered.
  4. **Uplift and Exposure:** Movement of plates move fossil toward surface.
  5. **Discovery and Extraction:** Fossil is found and removed from where it was found.

**Index Fossil:** Commonly found fossils of a plant or animal that existed during a specific/limited time period. Helps to tell the age of rock layers.

**Two types of Fossils:**

1. **Mold Fossil:** An outline of a fossil. Formed when a plant or animal is covered by sediment. The soft tissue is eroded and carried away, leaving the outline of the plant or animal.

2. **Cast Fossil:** A replica of original fossil. Formed when sediment fills in spaces within the mold fossil and hardens.

*Be able to draw rock layers and index fossils.*

1. Draw two index fossils.
2. Draw arrows to index fossils and state age of index fossil.
2. Write two sentences telling how index fossil tells the age of rock layer.

**EXAMPLE:**

<table>
<thead>
<tr>
<th>248 million years old</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 million years old</td>
</tr>
<tr>
<td>200 million years old</td>
</tr>
</tbody>
</table>

An index fossil is a commonly found fossil of a plant or animal that existed during a specific and limited time period. If an index fossil is found, the rock layer surrounding the fossil is the age of the index fossil.

**Pennsylvania’s State Fossil:**

- Trilobite: a relative of modern day insects and crustaceans. It had an exoskeleton that it would occasionally shed in order to make room for growth.

**Geologist tools:**

<table>
<thead>
<tr>
<th>1. Hammer</th>
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</thead>
<tbody>
<tr>
<td>2. Chisel</td>
</tr>
<tr>
<td>3. Goggles</td>
</tr>
<tr>
<td>4. Brush</td>
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<tr>
<td>5. Gloves</td>
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<tr>
<td>6. Hard Hat</td>
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</tbody>
</table>

**Roles of a Geologist:**

1. **Study Earth Processes** (landslides, earthquakes, floods, volcanic eruptions)
2. **Study Earth Materials** (Oil, metals, water)
3. **Study Earth History** (climate change, type of organisms that inhabited Earth)