**CVSR Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Class\_\_\_\_ Date\_\_\_\_\_\_\_\_\_\_\_ Earth Science**

**Learning Target:** I can analyze the evolution of life and the geologic history of New York State.

**Motivation**: Students play the role of the Paleontologists to determine the characteristics of fossils, the environment of formation and the characteristics of life forms back then.

**Materials**: Fossils (present in the ESRT), reference table, handout, smart-board with internet access.

**Standard 4.** Students will understand and apply scientific concepts, principles and theories pertaining to the physical setting and living environment and recognize the historical development of ideas in science.

**Performance indicator 1.2**: Students describe current theories about the origin of the universe and solar system. 1.2h;1.2i;1.2j.

At the end of this activity you should be able to:

1. Identify all the given fossils in the Pd. Table pg.8 and 9
2. Describe a characteristics that makes the good index fossils
3. Give the time period during which the fossil species was present on earth.
4. Analyze and describe the characteristics of life on earth during that time.
5. Compare and contrast these fossils to other fossils
6. Describe any important geologic event that happened during the time the fossil was still around.

Look at the fossil on pg 1and:

Fossil name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Describe one characteristic you may observe.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. Explain what make your fossil a good index fossil? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. Draw the fossil in the box below and explain which fossil does it look similar to, if any and why?

4. During which Geologic Time Period did the fossil live? What Era was that period? Which particular Period? How many million years ago was that?

Era\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Period\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Epoch\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Millions of years ago\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Is the fossil still around or did it become extinct? If it became extinct when did that happen, how many millions of years ago approximately? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

6. Give one characteristic of Life on Earth during the time the fossil was existent (circle indicates existence, discontinued line indicates extinction or no fossil evidence) \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Was there an important geologic event in New York during the time the fossil was around and describe the event? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

8. Match the Period of time the fossil lived with the type of fossil:

|  |  |  |
| --- | --- | --- |
| Period | Years in between | Names() of fossil(s) |
| Cambrian |  |  |
| Ordovician |  |  |
| Silurian |  |  |
| Devonian |  |  |
| Triassic |  |  |
| Quaternary |  |  |

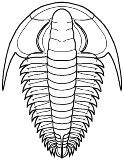
9. List the following events from oldest to youngest, give the Eon and the number of years ago that event happened.

Estimated time of origin of Earth and solar system; First sexually reproducing organisms; Oxygen combining with iron forming iron oxide layers on ocean floor; Oxygen begins to enter the atmosphere; Evidence of biological carbon; Oldest known rocks.

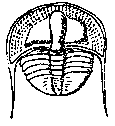
|  |  |  |
| --- | --- | --- |
| Event | Eon (Early-Middle-Late) | Approximate M.Y.A  (the event happened ) |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |
|  |  |  |

Summary: Write a brief summary of this activity, including the environment of fossil and its body structure.\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

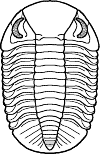




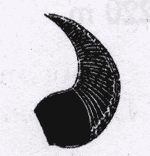


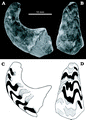




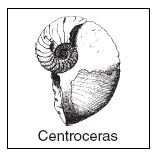






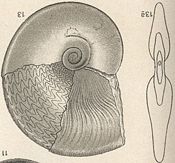


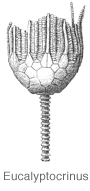


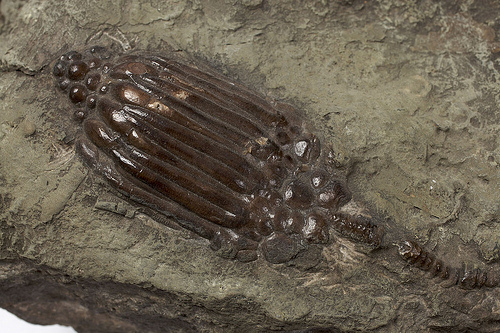






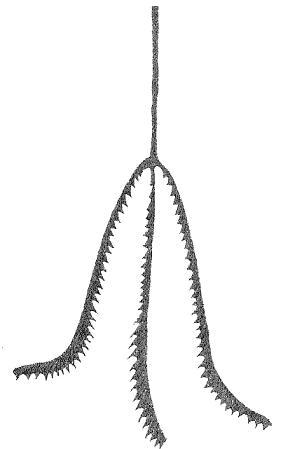






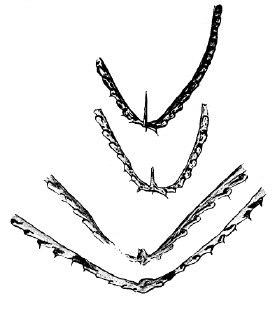


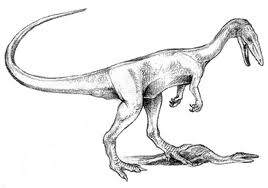


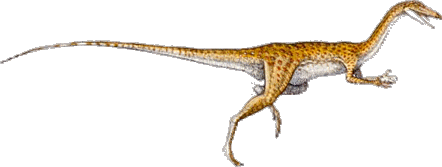


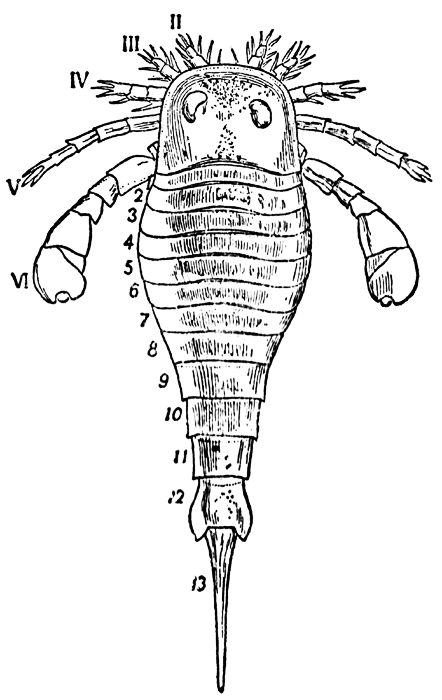




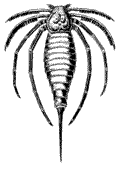


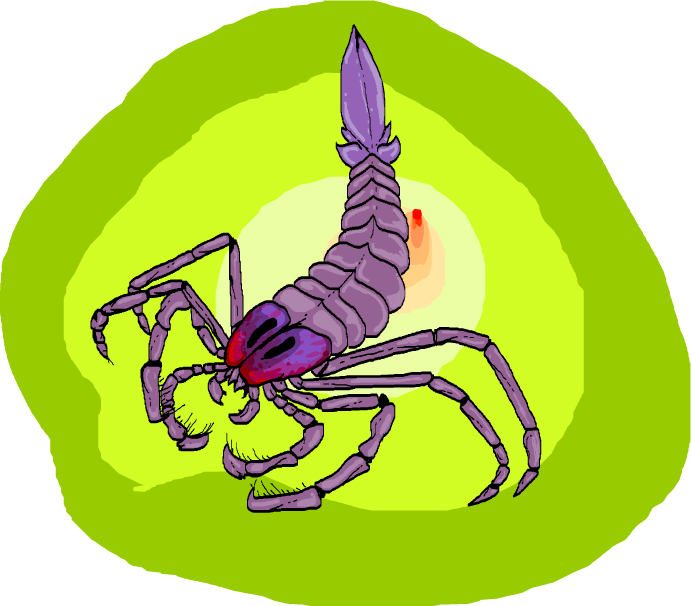
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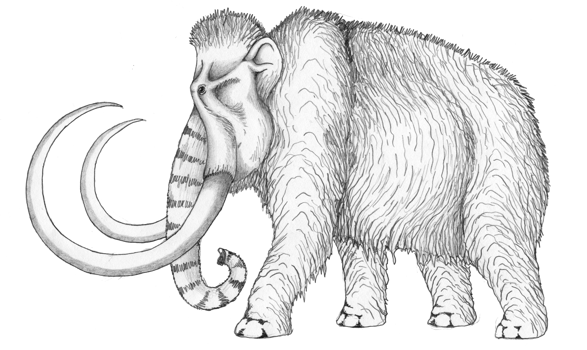


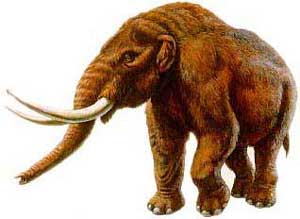




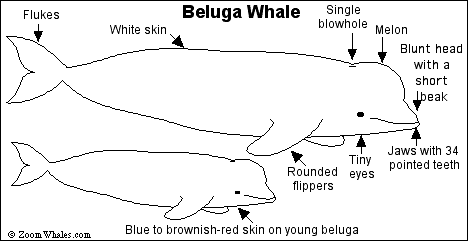


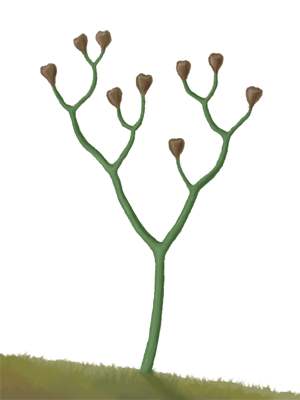


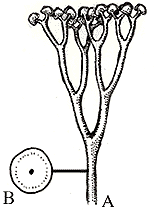










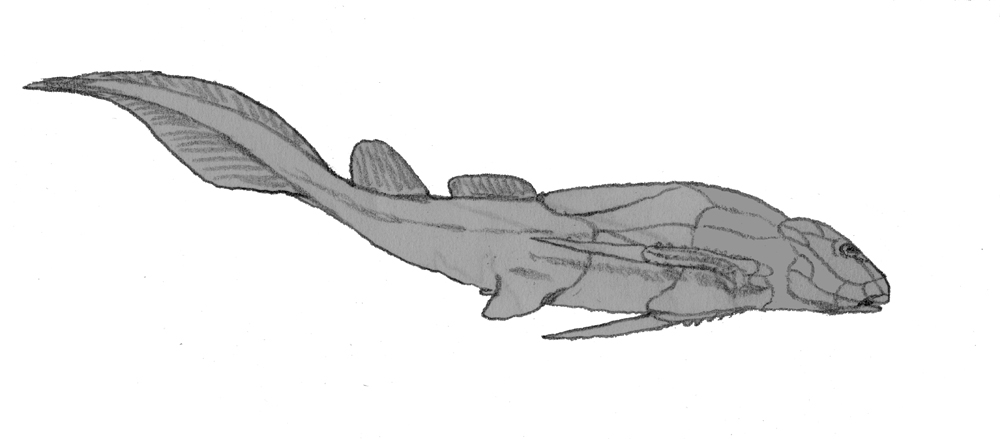


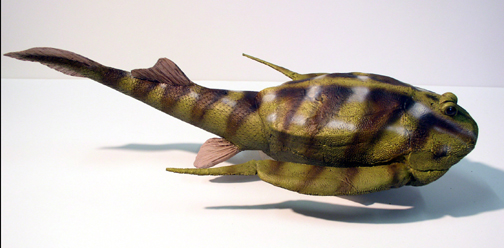




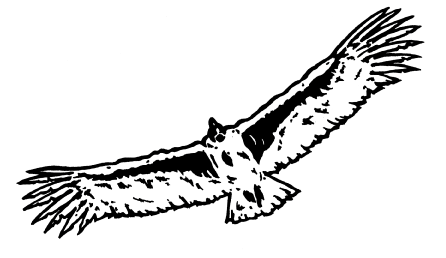




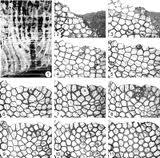










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