Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_

**“Who’s on First”**

**Activity Introducing Chapter 21 – A Relative Dating Activity**

**Procedure:**

1. **Sort the cards into 2 piles**; one with letters only and one with fossils on them.
2. **Part A**: Use the pile that contains **letters only**:
   1. The card marked “bottom” is the oldest layer & should be placed at the bottom of the rock column you create.
   2. This bottom layer has the 2 oldest “fossils” in it: T and C.
   3. Look for a card with either a “T” or “C” on it. Because it has a common letter it must go on top of the “TC” fossil layer. The fossils in this card are younger than the “T” and “C” fossils in the bottom layer.
   4. Place the remaining cards in order using the same process: overlapping with common letters (fossils).
   5. When finished, you should have a vertical stack of cards with the top card representing the youngest fossils and the “TC” card at the bottom representing the oldest fossils.
   6. **ANSWER the PART A Questions**
3. **Part B:** AFTER answering the Part A Questions below, repeat the procedure above for the set of cards with pictures of organism fossils on them.
   1. The oldest rock layer has the letter “M” in the lower left-hand corner & also says “oldest”. Place this card at the bottom of a new fossil layer column.
   2. Find a “rock layer” that has at least one of the fossils present in the oldest layer. This layer would be younger as indicated by the appearance of new fossils. Keep in mind that **extinction is forever.** Once an organism disappears from the sequence it cannot reappear later. Use this information tosequence the cards in a vertical column with the oldest layer on the bottom and the youngest on top.
   3. **ANSWER the Part B Questions.**

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| **PART A** | **Letter** |
| **Youngest “Letter”** |  |
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| **Oldest “Letter”** |  |

1. **Have the teacher check both of your columns.**

**Part A Questions:**

1. Use each letter **ONLY once** in the column at the right. Write the “**oldest fossil letter”** at the bottom & the **youngest** at the top.
2. How do you know that “X” is older than “M”?
3. Explain why “D” in the rock layer represented by DM is the same age as “M”.
4. Explain why “D” in the rock layer represented by OXD is older than “D” in the rock layer represented by DM.

**Part B Questions:**

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| **Part B:**  **LETTERS** | **Letter** |
| Youngest “Letter” |  |
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| Oldest “Letter” |  |

1. **Using the letters in the lower left-hand corner** of each of the fossil cards, write the letters in the column to the right, with the **oldest on the bottom.**
2. **Index Fossils (Use your book p. 568 if needed.)**
   1. What is an index fossil used for?
   2. What are the 4 characteristics needed to be an index fossil?
   3. Which 5 fossil organisms MIGHT be used as index fossils? EXPLAIN.
   4. There are several organisms that probably would not be used as an index fossil. Name at least 3 of them. EXPLAIN why they probably are not an index fossil.

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| **Part B:**  **ORGANISMS** | **Organism/Fossil**  **NAME** |
| Youngest Organism (Last to appear) |  |
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| Oldest Organism  (First to appear) |  |

1. **Rock types (Review from Chapter 5 & 6):**
   1. What are the 3 main types of rocks?
   2. Which of the 3 main types of rock is the only type fossils are found in?
   3. Explain why the other 2 types of rocks cannot contain fossils.
   4. State the Law of Superposition.
2. Use each ORGANISM **ONLY once** in the “rock column” to the right. Write the NAME of the **oldest (first to appear) organism** at the bottom & the **youngest (last to appear)** at the top.