Weathering, Erosion, or Deposition?

Based on the free activity by Laura Chandler: (<https://www.teacherspayteachers.com/FreeDownload/Weathering-and-Erosion-Sorting-Activity-Free-354192> )

**Instructions:**

* Print and cut out the sorting cards.
* Students will sort the cards into 3 stacks based on the process being described: Weathering, erosion, or Deposition.
* Once sorted, teacher may choose to check the stacks before students move on to the writing portion.
* For each stack students will choose 1 card and, in CER format, explain why they classified the card as they did.

CER Rubric:

|  |  |  |  |  |  |
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|  | **Claim** | **Evidence** | **Reasoning** | **Language and Vocabulary** | **Focus and Organization** |
|  | *A statement or conclusion that answers the original question/problem.* | *Scientific data that supports the claim. The data needs to be appropriate and sufficient to support the claim.* | *A justification that connects the evidence to the claim. It shows why the data counts as evidence by using appropriate and sufficient scientific principles.* |
| 4 | • All aspects of level 3 and is written in a way that engages the reader. | • All aspects of level 3, **correctly identifies the sources** and is written in a way that engages the reader. | • All aspects of level 3 and is written in a way that engages the reader. | • Response clearly and effectively expresses ideas using precise, scientifically appropriate descriptions and vocabulary. | • Focus only on question at hand • Logical progression of ideas • Clearly stated and focused claim that is strongly maintained |
| 3 | • Makes an accurate and complete claim and includes points from the question in the writing. | • Provides all or most of the expected pieces of evidence from the sources used in an appropriate manner. | • Provides reasoning components for all or most of the evidence and explains how the evidence supports the claim. | • Response adequately expresses ideas and scientifically appropriate descriptions and vocabulary, but they are more general than specific | • Focus mainly on question at hand, some loosely connected material present • Logical progression of ideas • Clearly stated and focused claim that is adequately maintained |
| 2 | • Makes an accurate and complete claim. | • Provides some of the expected pieces of evidence from the sources used (e.g. data like numbers, observations, etc.) in an appropriate manner. | • Provides reasoning components for some of the evidence and explains how the evidence supports the claim. | • Response inconsistently and sometimes inappropriately expresses ideas or scientific descriptions and vocabulary | • Focus not consistent on question at hand • Progression of ideas not entirely logical • Have a claim, but it’s not entirely clear or maintained |
| 1 | • Makes an accurate but vague or incomplete claim. | • Makes a general statement regarding evidence, but does not include specific details. | • Repeats evidence and links it to the claim, but does not explain how the evidence supports the claim. | • Scientific language and vocabulary are not precise or appropriate | • Focus not at all consistent • Progression of ideas not logical • Have an unclear claim that is not maintained |
| 0 | • Does not make a claim, or makes an inaccurate claim. | • Does not provide evidence, or only provides inappropriate evidence or vague evidence, like “the data shows me it is true.” | • Does not provide reasoning, or only provides inappropriate reasoning. | • Not understandable | • No clear focus or organization. |

KEY:

|  |  |  |
| --- | --- | --- |
| Weathering | Erosion | Deposition |
| 1, 5, 7, 11, 13, 14, 16, 19 | 2, 4, 12\*, 15, 18 | 3, 6, 8, 9, 10, 17, 20 |
| \* the focus on 12 is the movement of the sand (thus erosion), but students may focus on the end-point and classify it as Deposition. Use your judgment, based on their evidence and reasoning, to determine if you want to accept it as deposition or erosion. | | |

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| --- | --- |
| **1**  **Flowing river water pounding against a canyon wall and wearing it down.** | **2**  **Rain Washing away soil from a hillside.** |
| **3**  **Layers of sediment forming on the bottom of a river.** | **4**  **A mudslide flowing down a hill.** |
| **5**  **Rockslide sends tons of granite falling to the bottom of a mountain.** | **6**  **Delta forms at the mouth of the Mississippi River.** |
| **7**  **Caves form as acidic rain dissolves away limestone underground.** | **8**  **Waves push sand up on the beach.** |
| **9**  **A glacier drops rock to form terminal moraines.** | **10**  **Flood water piling rocks, trees, cars and other debris against bridge supports.** |

|  |  |
| --- | --- |
| **11**  **Water getting into cracks in the road, freezing, and forming pot-holes.** | **12**  **Wind blowing sand from one place to another.** |
| **13**  **Wind forming an arch by blasting sand against soft stone.** | **14**  **Glaciers scraping rocks across the earth’s surface.** |
| **15**  **A fast-moving river carrying mud downstream.** | **16**  **Rivers smoothing and rounding out rocks by tumbling them across the riverbed.** |
| **17**  **A pond fills with mud and sediment and turns into a marsh** | **18**  **Ocean waves carve out the soft rock in a cliff to form a natural bridge.** |
| **19**  **Tree roots grow into a crack in a bolder and split the rock in half.** | **20**  **Mineral rich water drips from the roof of a cave forming a stalactite.** |

Weathering, Erosion, or Deposition?

*Define:*

1. Weathering:
2. Erosion:
3. Deposition:

*Activity Instructions:*

1. With your group discuss each card and then sort the cards into 3 stacks:
   1. Weathering
   2. Erosion
   3. Deposition
2. Choose 1 card from each stack, each member of the group should choose a different card.
3. In CER format write 1 paragraph for each card justifying the classification claim you have made.



**Weathering:**

**Erosion:**



**Deposition:**

**Differentiated Sort: Picture Additions**

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**Differentiated Sort: Highlighting keywords/concept**

|  |  |
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