

Features Analysis Chart—Earth’s Changing Surface

Teacher Name: _____

Circle One: PRE POST

Describe the assessment item: Questions 2, 3, and 4 on the pre-post assessment for the Earth’s Changing Surface unit.



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2. Describe what you think caused the place in this picture to look the way it does.
3. In what ways do you think water changes the surface of Earth? (Think about rainfall, streams, and rivers as examples.) (a) Draw a picture. (b) Explain your drawing.
4. Will the landforms in this picture always look this way? Explain your ideas.

Describe the ideal response:

Question 2: I think the river in the picture carried dirt [*soil*] and rock downstream, slowly carving a canyon into the land over a long period of time.

Question 3: [*Students’ pictures should show water (rain, rivers, and/or streams) washing away soil and rock and carrying them from one place to another. Drawings might also include a canyon or delta.*] **Possible student response:** I drew a river because I think rivers can make landforms, like canyons, by moving dirt and rocks from one place to another. I think rain can wash away the land too, especially during a flood. The dirt and rocks that rivers carry away end up at the ocean and make a delta.

Question 4: I think these landforms will look different in the future because landforms don’t stay the same. They change over time. Sometimes the changes happen fast, like during a flood, and sometimes they happen very slowly, like when a river carves out a canyon. Over time, water moves rocks and soil from one place to another, and that changes how landforms look.

Features of a Complete, Accurate Response	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1. Landforms change over time.																												
2. Water causes landforms to change.																												
3. Water can pick up soil and rock and carry it away <i>[downstream]</i> .																												
4. Water deposits the soil and rock in other places, like where a river meets the ocean <i>[a delta]</i> .																												
5. Water can make landforms, like canyons and deltas, by moving soil and rock from one place to another.																												
6. Falling rain can change the land by moving soil and rock.																												
7. Changes to landforms can happen fast, like during a landslide or flood. Other changes happen very slowly, like water carving out a canyon over millions of years.																												

Features Consistent with Student Misconceptions/Problems	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28
1. Landforms don't change.																												
2. Water isn't strong enough to change the land by itself. Something else causes the change, like an earthquake cracking open the land.																												
3. Land floats on top of water.																												
4. Rivers don't make valleys and canyons; they run through them.																												
5. Water dissolves rock and soil, and they disappear.																												
6. Water only changes the land during major events like floods.																												