Mountain in Motion

Weigh evidence of change at Mount St. Helens

E.8.9A.4 "Research and assess the credibility of scientific ideas to debate and discuss how Earth's constructive and destructive processes have changed Earth's surface at varying time and spatial scales."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline evidence that material was removed, circle evidence that material was added, and write 1 beside the stronger source and 2 beside the weaker source to track how evidence, time, and place affect each claim.

What Changed at Mount St. Helens?

1. On May 18, 1980, Mount St. Helens in Washington changed in minutes. A huge landslide tore away part of its north side, and an eruption blasted rock and ash outward. The summit became lower, and nearby valleys filled with debris. Wind carried ash across several states, so a local event affected a much larger area. Mudflows also moved sediment along rivers in hours. These changes destroyed parts of the old landscape, but a single view of the damaged mountain cannot show what happened next.

2. Over the following years, thick lava pushed up inside the crater and cooled into a new dome. Another period of dome growth began in 2004. Scientists with the U.S. Geological Survey, or USGS, recorded changes using repeated ground surveys and photographs taken at different times. Their dated records show where rock was added, even though the mountain did not regain its old shape. Rivers also carried loose debris downstream, where sediment changed channels over years. Destruction and construction can occur in the same region at different rates.

3. A social media post claims, "The eruption only destroyed land. Nothing new has formed there." It shows a photograph of the crater taken soon after the 1980 eruption, but gives no method for checking later changes. The photograph may show real damage, yet it cannot test a claim about decades of change. USGS records offer evidence from later dates and repeated measurements. The dome rose inside the crater, while rivers moved debris through nearby valleys, changing channels along their paths.

2 ANSWER WITH EVIDENCE

Use the passage

1. How did Mount St. Helens both lose and gain rock? Compare where and how quickly the two changes happened.

2. Which source gives stronger evidence for judging whether anything new formed after 1980? Name two features of its evidence that make it stronger.

3. A student says the early crater photograph proves that no new land formed over the next 20 years. Assess that claim using a later observation from the passage.

4. Do records of dome growth prove that every nearby valley gained land? Explain how location limits that conclusion.

3 YOUR TURN

Your own words

A classmate proposes a sign that reads, “Mount St. Helens made new land everywhere after the 1980 eruption.” Write a four-sentence response that revises the claim, uses evidence from two places or times, explains which source is more credible, and names one question you would research before making a claim about the whole region.

ANSWER KEY

Mountain in Motion

GRADE 8 · E.8.9A.4

PART 1 · READ AND MARK

Underline evidence that material was removed, circle evidence that material was added, and write 1 beside the stronger source and 2 beside the weaker source to track how evidence, time, and place affect each claim. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How did Mount St. Helens both lose and gain rock? Compare where and how quickly the two changes happened.	**A landslide tore away part of the mountain's north side in minutes. Lava built a dome inside the crater over years.**
2	Which source gives stronger evidence for judging whether anything new formed after 1980? Name two features of its evidence that make it stronger.	**The USGS records are stronger because they include dates and repeated ground surveys that show where rock was added.**
3	A student says the early crater photograph proves that no new land formed over the next 20 years. Assess that claim using a later observation from the passage.	**The photograph shows an early moment, not the next 20 years. Later USGS records show that lava formed a dome inside the crater.**
4	Do records of dome growth prove that every nearby valley gained land? Explain how location limits that conclusion.	**No. The dome grew inside the crater, while debris moved through nearby valleys and changed river channels. Crater measurements do not establish what happened in every valley.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Mount St. Helens lost part of its north side in minutes in 1980, but lava built a dome inside its crater over years. Debris also moved through nearby valleys, so the dome cannot show that new land formed everywhere. The USGS records are more credible than the social media post because they include dated, repeated measurements. I would research how each nearby valley changed before making a claim about the whole region.

Accept answers that distinguish rapid removal from later dome growth and recognize that evidence from the crater cannot establish what happened in every valley. Credibility judgments should point to identifiable, dated, repeated observations rather than treating a single photograph as proof of decades of change.