Edges That Changed

How bronze and iron changed tools and weapons

AWH.C.1.4 "Explain the importance of the invention of metallurgy (bronze and iron) for the development of weapons and tools."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two ways metalworking changed tools or weapons, circle two limits on making them, and number each change and its effect with matching numbers.

From Stone Edges to Metal Points

1 Imagine a farmer trying to clear a field with a stone axe. Stone can cut wood, but its edge may chip, and replacing the blade takes time. Metallurgy, the process of extracting metal from ore and shaping it, offered another option. By about 3000 BCE, metalworkers in parts of Southwest Asia were making bronze by combining copper with tin. They poured molten bronze into molds to make axes, sickles, and spearheads. A damaged bronze edge could often be sharpened again. These changes did not end the use of stone, but they gave workers and fighters useful new choices.

2 Bronze mattered not just because it was metal, but because workers could shape it into reliable edges and points. A bronze axe could cut trees for fields or building timber, while a bronze spearhead could give a soldier a durable point. Casting in molds let metalworkers make multiple pieces of similar shape, which helped equip groups of workers or fighters. Yet bronze had a supply problem: copper and tin were not found together everywhere. A community without one ingredient needed trade to obtain it. When trade failed, making more bronze tools and weapons became difficult.

3 Iron offered a different path. Iron ore was available in more places than the tin needed for bronze, but extracting usable iron demanded hotter furnaces and skilled work. Early iron was not automatically stronger than bronze. Smiths heated and hammered iron to shape blades and points; later methods of adding carbon and controlling heat could make some iron edges harder. Where people mastered these methods and had local ore, they could produce more farm tools, such as plow points, and more weapons, such as spearheads, without relying as heavily on imported tin. Metalworking skill and access to materials shaped the results.

2 ANSWER WITH EVIDENCE

Use the passage

1. How could a bronze axe help a farmer differently from the stone axe described in the passage?

2. Why did casting bronze in molds help a community equip groups of workers or fighters?

3. How could a failed trade route affect a community that made bronze tools and weapons?

4. Why would finding iron ore nearby not be enough, by itself, to produce useful iron tools and weapons?

3 YOUR TURN

Your own words

A town's tin shipments have stopped, but people have found iron ore nearby. In five sentences, advise the town on how to supply tools and weapons, explaining one likely benefit for each, one challenge, and what to do while production changes.

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PART 1 · READ AND MARK

Underline two ways metalworking changed tools or weapons, circle two limits on making them, and number each change and its effect with matching numbers. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How could a bronze axe help a farmer differently from the stone axe described in the passage?	**A bronze axe had a useful cutting edge that could often be sharpened again, while the stone edge might chip and need replacing.**
2	Why did casting bronze in molds help a community equip groups of workers or fighters?	**Casting let metalworkers make multiple tools or weapons of similar shape.**
3	How could a failed trade route affect a community that made bronze tools and weapons?	**If the community could not obtain copper or tin, it would have difficulty making more bronze tools and weapons.**
4	Why would finding iron ore nearby not be enough, by itself, to produce useful iron tools and weapons?	**People also needed hotter furnaces and skilled smiths to extract and shape the iron. Early iron was not automatically stronger than bronze.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would advise the town to train smiths to work the nearby iron ore rather than depend only on bronze. Iron plow points could help farmers replace worn tools while tin shipments are stopped. Smiths could also make spearheads for defenders from a local supply of ore. This plan would require hotter furnaces and skilled workers, so it would take time. The town could keep using its existing bronze tools and weapons while iron production grows.

Accept reasonable choices supported by the passage. Responses should connect metal supply and working methods to effects on both tools and weapons, without claiming that early iron was always stronger than bronze.