

Sound Travels Far

Trace how a Virginia invention reached people and businesses worldwide.

VS.13.b “examining the impact of the ideas, innovations, and advancements of Virginians on a global market.”

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline the innovation and the details that made it useful. Circle words or phrases that show effects on products, services, businesses, or people beyond Virginia.

A Virginia Voice Innovation

- ① James West grew up in Farmville, Virginia, and became a scientist. In the early 1960s, he and fellow researcher Gerhard Sessler created the electret microphone at Bell Laboratories. This microphone used a material with a lasting electric charge to turn sound waves into electrical signals. Unlike many earlier condenser microphones, it was small, cost less to make, and did not need an outside electrical charge.
- ② Because the electret microphone was small and affordable, manufacturers could put it in many products. Makers in countries around the world used it in telephones, hearing aids, tape recorders, and later computers and mobile phones. The microphone helped businesses produce devices that could record or carry voices. People far beyond Virginia could communicate, learn, and hear more easily.
- ③ West's work shows how an idea from a Virginian can affect a global market. A global market connects buyers and sellers in many countries. Companies could sell microphone-based products to customers around the world. Schools, hospitals, musicians, and families used devices with this technology. The invention created value by making sound technology smaller, less costly, and useful to many people.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What innovation did James West and Gerhard Sessler create? Give two ways it was different from many earlier microphones.

2 How did the electret microphone affect products made by businesses in countries around the world?

3 Name two groups beyond Virginia that used devices with electret microphone technology.

4 How did West's invention affect the global market? Use one detail about companies or customers from the passage.

3 YOUR TURN _____ Your own words

Invent a helpful product based on an idea from a Virginian. In 3 sentences, tell what it does, name two kinds of users in other countries, and explain how it could affect businesses or people in a global market.

PART 1 • READ AND MARK

Underline the innovation and the details that made it useful. Circle words or phrases that show effects on products, services, businesses, or people beyond Virginia. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What innovation did James West and Gerhard Sessler create? Give two ways it was different from many earlier microphones.	They created the electret microphone. It was small, cost less to make, and did not need an outside electrical charge.
2	How did the electret microphone affect products made by businesses in countries around the world?	Manufacturers used it in products such as telephones, hearing aids, tape recorders, computers, and mobile phones. It helped businesses make devices that recorded or carried voices.
3	Name two groups beyond Virginia that used devices with electret microphone technology.	Answers include schools, hospitals, musicians, and families.
4	How did West's invention affect the global market? Use one detail about companies or customers from the passage.	It allowed companies to sell microphone-based products to customers around the world. The smaller, lower-cost technology made sound devices useful to many people.

PART 3 • YOUR TURN (SAMPLE ANSWER)

A Virginia engineer designs a small solar water purifier that cleans water with sunlight. Families and clinics in other countries use it to get safer drinking water. Businesses sell the purifier around the world, and it helps people use less fuel to boil water.

Accept equivalent descriptions of the electret microphone's advantages and its worldwide effects. For the open response, accept a plausible invented product if it includes its purpose, two users outside Virginia, and a global-market effect.