World in Motion

Trace Alabama's place in global technology industries

SS24.E.10c "Research and share information on how Alabama and the United States relate to the global economy in terms of current technological innovations and technology-based industries."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline two technology-based activities in Alabama, circle their links to other countries or global markets, and number the U.S. technology or policy connections to trace how these industries fit into the global economy.

Made Here, Connected Everywhere

1. In Mobile, Alabama, Airbus assembles A320-family passenger jets for airline customers. Airbus is a European company, and its aircraft depend on parts and engineering from many countries. Building jets in Alabama connects local workers and suppliers to an international production network, even when a plane is delivered to a U.S. airline. Mercedes-Benz makes SUVs in Vance, Alabama, and ships vehicles from its Alabama operations to markets outside the United States. These two factories show different directions of global trade: a foreign company makes aircraft in the United States, while an Alabama-made vehicle can reach customers abroad.

2. The shift to electric vehicles adds another layer to Alabama's ties abroad. Mercedes-Benz operates a battery plant in Bibb County that supplies batteries for electric SUVs made in Vance. Batteries need minerals such as lithium and nickel, and mining and processing take place in multiple countries. This means a car assembled in Alabama can depend on materials and specialized work far beyond the state. It also means changes in mineral prices or shipping can affect production costs. A battery factory is not only a local employer; it is one link in a global technology supply chain.

3. Across the United States, semiconductor companies design or produce chips used in cars, aircraft, and other devices. Some chipmaking steps occur overseas, so a delayed shipment can disrupt U.S. manufacturers, including those in Alabama. The federal CHIPS and Science Act of 2022 supports more domestic chip production and research. That policy aims to strengthen U.S. capacity, not end trade with other countries. To investigate a claim about these connections, compare a manufacturer's production information with U.S. government trade or industry data. Record the source and date, since factory output and supply chains can change.

2 ANSWER WITH EVIDENCE

Use the passage

1. How do the Airbus and Mercedes-Benz operations in Alabama connect to global trade in different ways?

2. Trace one way an electric SUV made in Vance depends on work beyond Alabama, and explain a possible effect on production costs.

3. Why could overseas chipmaking affect an Alabama manufacturer, and how does the CHIPS and Science Act address that connection?

4. To check a claim about an Alabama factory's global connections, which two types of sources does the passage recommend comparing, and why should you record their dates?

3 YOUR TURN

Your own words

Write an 85 to 105 word briefing for a visiting student that explains how one Alabama technology-based industry and the U.S. semiconductor industry connect to other countries. Compare one risk or opportunity they share, then pose a new research question and name a specific reliable source you would use to investigate it.

ANSWER KEY

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GRADE 12 · SS24.E.10c

PART 1 · READ AND MARK

Underline two technology-based activities in Alabama, circle their links to other countries or global markets, and number the U.S. technology or policy connections to trace how these industries fit into the global economy. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	How do the Airbus and Mercedes-Benz operations in Alabama connect to global trade in different ways?	**Airbus, a European company, assembles aircraft in Alabama using an international production network. Mercedes-Benz makes SUVs in Alabama and ships vehicles to markets abroad.**
2	Trace one way an electric SUV made in Vance depends on work beyond Alabama, and explain a possible effect on production costs.	**Its battery comes from the Bibb County plant, but battery minerals are mined and processed in multiple countries. Changes in mineral prices or shipping can affect production costs.**
3	Why could overseas chipmaking affect an Alabama manufacturer, and how does the CHIPS and Science Act address that connection?	**A delay in an overseas chipmaking step could disrupt a manufacturer that needs chips. The act supports more U.S. chip production and research, though it does not end international trade.**
4	To check a claim about an Alabama factory's global connections, which two types of sources does the passage recommend comparing, and why should you record their dates?	**Compare the manufacturer's production information with U.S. government trade or industry data. Record dates because factory output and supply chains can change.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Alabama's Mercedes-Benz plant in Vance builds electric SUVs with batteries supplied by its Bibb County plant. Materials for batteries can come from many countries, so international shipping can affect costs in Alabama. U.S. semiconductor businesses also rely on overseas production steps, leaving American manufacturers vulnerable to delays. Both industries gain access to specialized global suppliers but face disruptions when shipments stall. The CHIPS and Science Act supports domestic chip production, yet it does not remove international ties. My next question is: How has the value of Alabama transportation equipment exports changed since 2022? I would check the International Trade Administration's state export data.

Accept other passage-supported global links and effects. The briefing should connect an Alabama industry and U.S. semiconductors, compare a shared risk or opportunity, and identify a source suited to the student's new research question.