

Overview

This lesson focuses on the significance of the work of Kansans in the airplane manufacturing industry during the 1920s. Students will use magazine and newspaper articles from the period to understand the growth of the airplane manufacturing industry in Kansas and its relationship to the state's economy. This lesson may take one day plus a homework assignment.

Standards

Current standards can be found on kshs.org.

Objectives

Content:

- The student will identify five Kansans who made significant contributions to the airplane manufacturing industry.
- The student will recognize Wichita was an important center of airplane manufacturing.

Skills:

- The student will identify cause-effect relationships in the growth of the airplane manufacturing industry.
- The student will use text to graph information and predict a company's growth.

Essential Questions

- Why did the airplane manufacturing industry thrive in Wichita?
- How does the success or failure of a business affect the growth of a city and/or state?

Activities

This activity uses the following *Read Kansas!* cards:

- **Success Is In The Air**
- **Growing Too Fast**

Day 1

1. Introduce the topic by activating prior knowledge about aviation history. Who were the first people to build a successful airplane? When was the first flight? Where did the first flight take place?
2. Transition to lesson by emphasizing Kansas' role as a leader in the early days of aviation and many contributions to building and flying airplanes.
3. Have students read the first side of the **Success Is In The Air** *Read Kansas!* card.
 - a. As a class, analyze why Wichita became a center for the aviation industry. Draw a web on the board to organize answers. Place question in center box and draw four topic "arms" in boxes titled History, People, Environment, and Travel Air Manufacturing Company.
 - b. Students should understand that factors such as the city's history as a center of business, the environment, and the entrepreneurs in the area all played a part.
4. Have students read the primary source on the second side of the **Success Is In The Air** *Read Kansas!* card. It describes the growth of the Travel Air Manufacturing Company and a goodwill tour made by some of Wichita's business leaders on a Travel Air plane.
 - a. As a class, return to the web on the board and add details from the article about how Travel Air contributed to the growth of the aviation industry in Wichita.
5. Distribute a copy of the **Growing Too Fast** *Read Kansas!* card to every student.
 - a. Divide students into pairs. Students will use the "Turn and Talk" discussion method to identify evidence from the Growing Too Fast card that illustrates growth at Wichita airplane manufacturing companies. One student will listen while the other talks for 2-3 minutes about facts from the article; they then switch roles.
 - b. Give each student a copy of the **Meeting Business Needs in Wichita** worksheet.
 - c. On their own, students then use that information to complete the chart and answer the questions on the worksheet.
6. Conclude lesson with a review of why Wichita became an important city for the national aviation industry.

Homework Activity

Have students read the **Travel Air's Golden Trail** newspaper article. Students should use the information from the primary source to create the graph on **Graphing Travel Air's Success**, including plotting points, creating a title, and labeling the x- and y-axis. Students then analyze the graph to estimate Travel Air's future growth and answer questions about the effects of growth for the company's investors and the state of Kansas.

Assessment

1. Observe the students' ability to participate in class discussion.
2. Evaluate the students' ability to complete the Meeting Business Needs in Wichita worksheet.
3. Evaluate the students' ability to complete the Graphing Travel Air's Success worksheet.

For the Teacher

If you are using the textbook, *The Kansas Journey*, additional information for this lesson is on pages 218-219.

Air Tour Races

Travel Air became a success only after a team of pilots flying a Travel Air plane won the 1926 Ford Reliability Tour, an air race through midwestern cities that took place annually between 1925-1931. In the early days of commercial aviation, races were proving grounds for the quality, speed, and durability of the planes as well as the skill of the pilots. Airplane manufacturers whose planes won races like the Ford tour and the Dole Reliability tour (a California-to-Hawaii race sponsored by Dole Pineapple) could count on increased sales. Races were beneficial to both business and innovation as manufacturers worked to build the most capable and speediest planes in the industry.

Biplane/Monoplane

Airplanes in the 1920s fell into two design categories: biplane or monoplane. The Wright brothers' Flyer proved early on that the biplane design was successful, but other engineers soon modified the design to use a single wing, or monoplane. Clyde Cessna built his own monoplane in 1911 using a French-made Bleriot frame as a base. He continued working on monoplane designs through his partnership at Travel Air. When the partnership dissolved, Cessna started his own company to develop and build new monoplanes. Stearman left the partnership as well and started Stearman Aircraft Corporation.

Though none of the companies begun by Cessna, Stearman, or Beech exist in their original form, the legacies of all three entrepreneurs are still present. Cessna and Beechcraft airplanes are still made by companies in Wichita. Stearman Aircraft eventually became a subsidiary of Boeing.

Answer Key: Success is in the Air Web Activity

Why was Wichita a center for the aviation industry?

History

Oil
Wheat
Distribution
Won races

Travel Air Manufacturing Company

Innovative
Reliable
High quality
Grew to meet demand
Fast planes

Environment

Clean Air
No fog

People

Willing to take chances
Walter Beech
Lloyd Stearman
Clyde Cessna

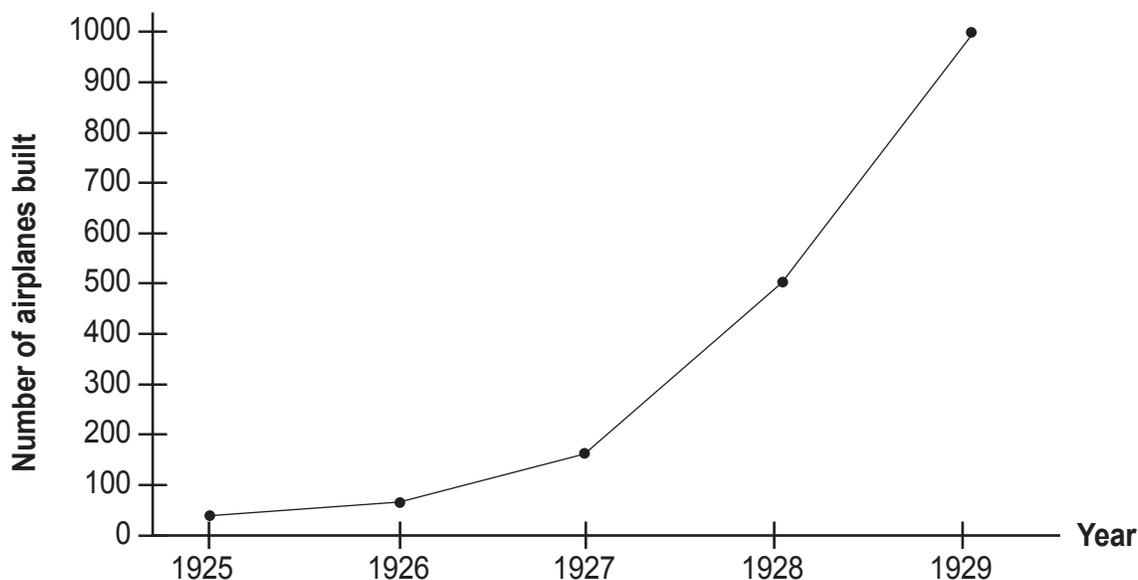
Answer Key: Meeting Business Needs in Wichita

Cause	Effect
Travel Air: Business at Travel Air has outgrown its new space and doubled capacity.	<i>Walter Beech wants to build another new Travel Air factory.</i>
Stearman: <i>Stearman has run out of room in its own hangar.</i>	Stearman must lease ground at the local municipal airport.
Swallow Air: Swallow Air is experiencing the same success at the other companies.	<i>The company needs more space to grow.</i>
Cessna: <i>Cessna is working on a new monoplane.</i>	The company will soon need more space than it already has to build its new product.

1. All the airplane manufacturing companies in Wichita are growing quickly and outgrowing their factories.
2. It would be good for Kansas' economy because if these companies are successful, that means other new companies in Kansas might be successful too.

Answer Key: Graphing Travel Air's Success

Airplanes Built by Travel Air, 1925 - 1929



1. About 1,000
2. It will make a profit.
3. More business is good for Kansas. It means there will be more money going through the state.

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Resources for this lesson are from:

- Kansas Historical Society collections
- Walter H. and Olive Ann Beech Collection, Wichita State University Libraries

Meeting Business Needs in Wichita

The article outlines what was happening at four of the largest airplane manufacturing companies in Wichita. Gather information from the article about each company to evaluate its status as a business.

Cause	Effect
<p>Travel Air: Business at Travel Air has outgrown its new space and doubled capacity.</p>	
<p>Stearman:</p>	<p>Stearman must lease ground at the local municipal airport.</p>
<p>Swallow Air: Swallow Air is experiencing the same success as the other companies.</p>	
<p>Cessna:</p>	<p>The company will soon need more space than it already has to build its new product.</p>

1. Using the information you have identified, what conclusion can you draw about the airplane manufacturing companies in Wichita?

2. What impact would this have on Kansas' economy?

Name _____

Graphing Travel Air's Success



1. Draw a line graph using Beech's production numbers in the "Travel Air's Golden Trail" newspaper article for the years 1925-1928. Estimate how many Travel Air planes will be built in 1929. Plot your estimate on the graph. Provide a title and label the axis lines.
2. What does growth like this mean for Travel Air's investors?
3. What does growth like this mean for the state of Kansas?