



## Grade 3: Paul Litchfield: An American Industrialist in Arizona

### Learning Objectives

- Students will be able to discuss the life of Paul W. Litchfield, an influential industrialist of the early to mid-20<sup>th</sup> century.
- Students will identify key information from a video about Paul Litchfield.
- Students will apply what they learned about Paul Litchfield and his influence in Arizona through an extension activity.

### Rationale

This lesson will introduce students to industrialist, Paul Litchfield and his impact on the development of Arizona. They will watch a video to learn about Paul Litchfield's influence in Arizona, the relationship between the cotton industry and tire production in the early 20<sup>th</sup> century, and how the Southwest region of the Salt River Valley typifies the agricultural history of a large part of Arizona. The lesson will conclude with a choice of extension activities to allow students to demonstrate their understanding of Paul Litchfield's impact.

The primary source used in this lesson is *Industrial Voyage* by P. W. Litchfield.

This lesson has been designed to align with the following Arizona Third Grade Social Studies State Standards:

- 3.H1.1 Utilize a variety of sources to construct a historical narrative exploring Arizona's cultures, civilizations, and innovations.
- Key concepts include but are not limited to the impact of prehistoric peoples, Native Americans, Latinx, African Americans, Asian Americans, and newcomers from the United States and world on art, language, architecture, mining, agriculture, and innovations.
  - *Influential individuals and groups in the history and development of Arizona.*

### Paul W. Litchfield Background

Paul Weeks Litchfield figured prominently into the pillars of Arizona's 20<sup>th</sup> century economy and was instrumental in its transition from one largely based on agriculture to one increasingly based on manufacturing and technology. He was born in Boston, Massachusetts and was mainly based in Akron, Ohio throughout his career. He was a chemical engineer, inventor, corporate leader, and industrialist with the Goodyear Tire and Rubber Company from 1900 – 1958 and was engaged in enterprises that had a significant role in shaping Arizona's economy.



After graduating from MIT with a degree in chemical engineering, Paul Litchfield moved up the ranks of Goodyear Tire and Rubber to eventually become president and CEO of one of the largest manufacturers in the U.S. He held several patents for tire design.

He was also known for his skill in developing good relations between labor and management. When he came to Arizona in search of a location to grow long-staple cotton as an important ingredient for the pneumatic truck cord tires being pioneered by Goodyear Tire and Rubber Co, he established company towns, one of which became Litchfield Park, to support the workers needed to plant and harvest cotton. Facilities included worker housing, stores, schools, community centers, and churches. Operations were originally established in today's Chandler, Sun City, Goodyear, and Litchfield Park. Eventually all agricultural operations were consolidated to the Goodyear/ Litchfield Park region of the Valley.

The town of Goodyear gets its name from the Goodyear Tire and Rubber Company, which was involved not only in local agriculture, but in aerospace with the arrival of World War II. Paul Litchfield was instrumental in bringing aircraft manufacturing to Arizona during the war. The town of Goodyear was incorporated a few years after the Goodyear Aircraft plant was established nearby during the 1940s.

He kept a home west of Phoenix in Litchfield Park and was continually engaged in community development and improvement, from his advocacy and support of the Boy Scouts to his efforts to bring community members together to hear famous speakers representing various points of view and faiths.

#### **Lesson Essential Questions**

- What does it mean to leave a legacy?
- Research and solving problems—What does it mean to do research? How can research help solve a problem?

#### **Vocabulary**

**Transform:** to change the form, look, or shape of.

**Horse-drawn carriage:** a vehicle with wheels used to carry people and pulled by a horse.

**Promote:** to move to a higher position.

**Researcher:** someone who does careful study of something in order to gain information or solve a problem.

**Boll weevil:** a small beetle with a gray body and a long snout. It lays eggs in the seed pods of the cotton plant where they hatch and cause damage to the plant.

**Profit:** the amount of money a business makes that is more than the cost of making the item that will be sold.

**Boom:** a great increase in something, like an item everyone wants to buy.

**Crash:** a large decrease in what people want to buy.



**Alfalfa:** a plant with purple flowers grown as food for cattle and horses.

**Conserve:** to protect, to use in amounts that are no more than necessary in order to avoid waste.

**Testing ground:** a place where new equipment or machines can be tried out to see how well it works

**Terrain:** land or ground, or the natural characteristics of its surface.

**Blimp:** an aircraft that holds its shape and flies because it is filled with a gas that is lighter than air.

**Radar:** the use of radio waves to track the location, distance, and speed of faraway objects.

**Patent:** a government grant that gives someone the right to make, use, or sell an invention.

**Legacy:** something that is passed down from ancestors or someone who came before. It can be things like money and possessions, or things that influence future ideas, values, heritage, or tradition.

### Warm Up

- Review or explain the five Cs of Arizona. In the early part of the 1900s, they were important to the economy. Many of the jobs people had back then had something to do with copper, cattle, cotton, citrus, and climate.
- Display the provided images of cotton and ask students to describe what they see. Point out the plant has a blossom which develops into a fluffy boll. The boll has fibers that can be spun into thread and woven into fabric.
- Growing cotton became an important crop in Arizona in the 1910s. Although not as much is grown as in the past, Arizona is still a leading state in cotton along with Texas, California, Mississippi, and Louisiana. Cotton is used to make fabric for clothing and other items, but also can be used for fertilizer, fuel, and food.
- Display the image of cowboy and cattle. Ask students to describe what they see. Explain this is a cowboy herding cattle in Arizona near Phoenix. Point out that raising cattle was once a very significant part of Arizona's economy. In the first half of the 20<sup>th</sup> century, Arizona was a major provider of beef to the U.S.
- Display the image of a tire. Ask students to identify what it is and ask if they know what it's made of. Tires use rubber which comes from the sap or latex of a rubber tree or can be made with chemicals.



### **Instruction & Activity**

Distribute a copy of the visual organizer for the video or have students replicate it on their own paper.

Before starting the video, ask students to look and listen for information about cotton, cattle, tires, blimps, and Paul Litchfield.

Follow the link to play the video about Paul Litchfield.

Have students draw a picture of cotton, a cow, a tire, a blimp, and Paul Litchfield in the left column and write one thing they learned about each from the video in the right column.

### **Comprehension Questions**

1. Who was Paul Litchfield and what is he known for?
2. What kinds of inventions did Paul Litchfield and his research groups come up with? (first air-filled truck tires, tires for airplanes, factory conveyor belts, many other things)
3. What kinds of problems did he try to solve?
4. What crop brought Paul Litchfield to Arizona? Why did he want to grow it? (cotton for reinforcing rubber tires)
5. What industries in Arizona can be connected to Paul Litchfield? (rubber, agriculture, aerospace)
6. How did Paul Litchfield and the Goodyear Tire & Rubber Co influence agriculture and manufacturing in Arizona?

### **Extension Activities**

- Write a letter to a family member telling them who Paul Litchfield was and what you learned about him.
- Create poster with a drawing of something related to Paul Litchfield and the problems he solved. Write a caption including three things he did below your drawing.
- Paul Litchfield invented many things to solve problems. What is something you would invent to solve a problem? Draw a picture of your invention, explain what problem it solves, and how it works.



VISUAL ORGANIZER

My picture

What I learned

COTTON	
CATTLE	
TIRE	
BLIMP	
PAUL LITCHFIELD	