Lesson 3 Resources and Location

Big Ideas

- Henry Ford used natural resources from Michigan and other places in the United States and the world to build his Model T.
- Henry Ford had to solve the problem of where to locate his factory; Detroit was the answer.

Key Concepts

- Iron ore
- Lumber

Digitized Artifacts From the Collections of **The Henry Ford**

Lesson 3 Resources and Location

- Exploded Ford Model T in *Henry Ford Museum* (view 1 ID# THF52709) (view 2 ID# THF52714) (view 3 ID# THF52715) (view 4 ID# THF52721)
- Aerial View of Ford Rouge Plant Complex, 1948 ID# THF24040

Materials

- Computer with access to the Internet, digital projector and screen (preferred) OR printed handouts of digital artifacts, images and descriptions
- Sign: How do people solve problems?
- United States map (classroom copy)
- World map (classroom copy)
- Student Activity Sheet 3: My Factory

Duration 1 class period (45 minutes)

Instructional Sequence

1. Engagement

Introduce Henry Ford's problem of how to build affordable cars for the masses.

Ask students to brainstorm what is needed to build cars. Answers may include natural resources to make metal and glass, capital resources such as factories and machines, and human resources such as workers and engineers.

Tell students that the way cars are built today is very different from the way Henry Ford built his first Model T in 1908.

2. Henry Ford Uses Resources

- Exploded Ford Model T in *Henry Ford Museum* (view 1 ID# THF52709) (view 2 ID# THF52714) (view 3 ID# THF52715) (view 4 ID# THF52721)

You may want to zoom in so students can examine it very closely. Challenge them to list as many materials they can see that are used in the Model T and to identify where on the car each material was used. Record their answers in chart form on the board. Invite them to guess other materials that may have been used that they cannot see. After a few minutes, add the materials used that they haven't guessed.

Group students in pairs and give each pair a sticky note with the name of a material. Ask the students to predict where in the world these resources came from. Direct them to look at the classroom maps of the United States and of the world. Each pair of students should tape their paper to the place they think Henry Ford would have purchased their resource or material.

Review the answers as a class, making corrections as necessary.

Continued…

2. Henry Ford Uses Resources Continued

Material/Natural Resource	Used in	From
Wood	Body frame	Michigan's Upper Peninsula
Iron Ore/Metal	Body panels, chassis, engine, many other small parts	Michigan's Upper Peninsula, Minnesota
Rubber	Tires	Southeast Asia
Sand/Glass	Headlights, windshield	Many possible source locations
Petroleum	Gasoline, oils, lubricants	Southwest United States
Cotton	Stuffing for seats	Southern United States
Horsehair	Stuffing for seats	Many possible source locations
Leather	Upholstery	Many possible source locations
Brass (an alloy of tin and copper)	Headlights, radiator, trim	Copper from Michigan's Upper Peninsula, Tin source location unknown

Note: Some materials changed during the 18 years Ford produced the Model T.

3. Location for Manufacturing

Tell students Henry Ford also had to move the resources to his factory. The Model T was made at the Highland Park Plant in Detroit, Michigan. Have students locate Detroit on a map of the United States. Use the map to start a discussion by asking questions such as:

Why might Detroit be a good place for Henry Ford to locate his automobile factory?

It is on a river so boats could get there easily. It's also close to the Upper Peninsula where he could obtain wood and iron ore.

If a resource was coming from Southeast Asia, how would it get to Detroit? What forms of transportation would it take? Trace the route you think the resource would take.

By ship Students should trace a route from Southeast Asia through the Pacific Ocean to the Panama Canal, north through the Atlantic Ocean to New York, following the Hudson River north to the Erie Canal to Lake Erie and up the Detroit River to Detroit.

By ship and railroad Trace a route from Southeast Asia through the Pacific Ocean to California (ship route) and east across the United States to Detroit (railroad route).

Is the Highland Park Plant on the water?
How were resources moved to the factory?

No, the Highland Park Plant is not on the water. Resources could be moved on the railroad.

Tell students that although Henry Ford did build a railroad track right to the Highland Park Plant, he wasn't satisfied. He wanted a larger factory right on the water, so he built the Ford Rouge Factory. Ask students to locate the River Rouge, just south of Detroit, which intersects with the Detroit River. This is where the Ford Rouge Factory was built. Ask students what the advantages of this location are.

The Rouge is on the water.

Show students the digitized images

– Aerial View of Ford Rouge Plant Complex, 1948 ID# THF24040. Point out that a railroad came right along the river next to where the boats dock, too
– Have them list the types of transportation they see in this diagram that could be used to bring resources to the Rouge.

Assessment

Give students the Student Activity Sheet 3: My Factory. To complete the assignment, students should use what they learned today about how Henry Ford selected the location for his Ford Rouge Factory. There is no one right answer. To get full credit, students need to show at least one form of transportation (water, railroad or road) going to their factory. In class the next day, discuss advantages and disadvantages of relying on each of these forms of transportation.

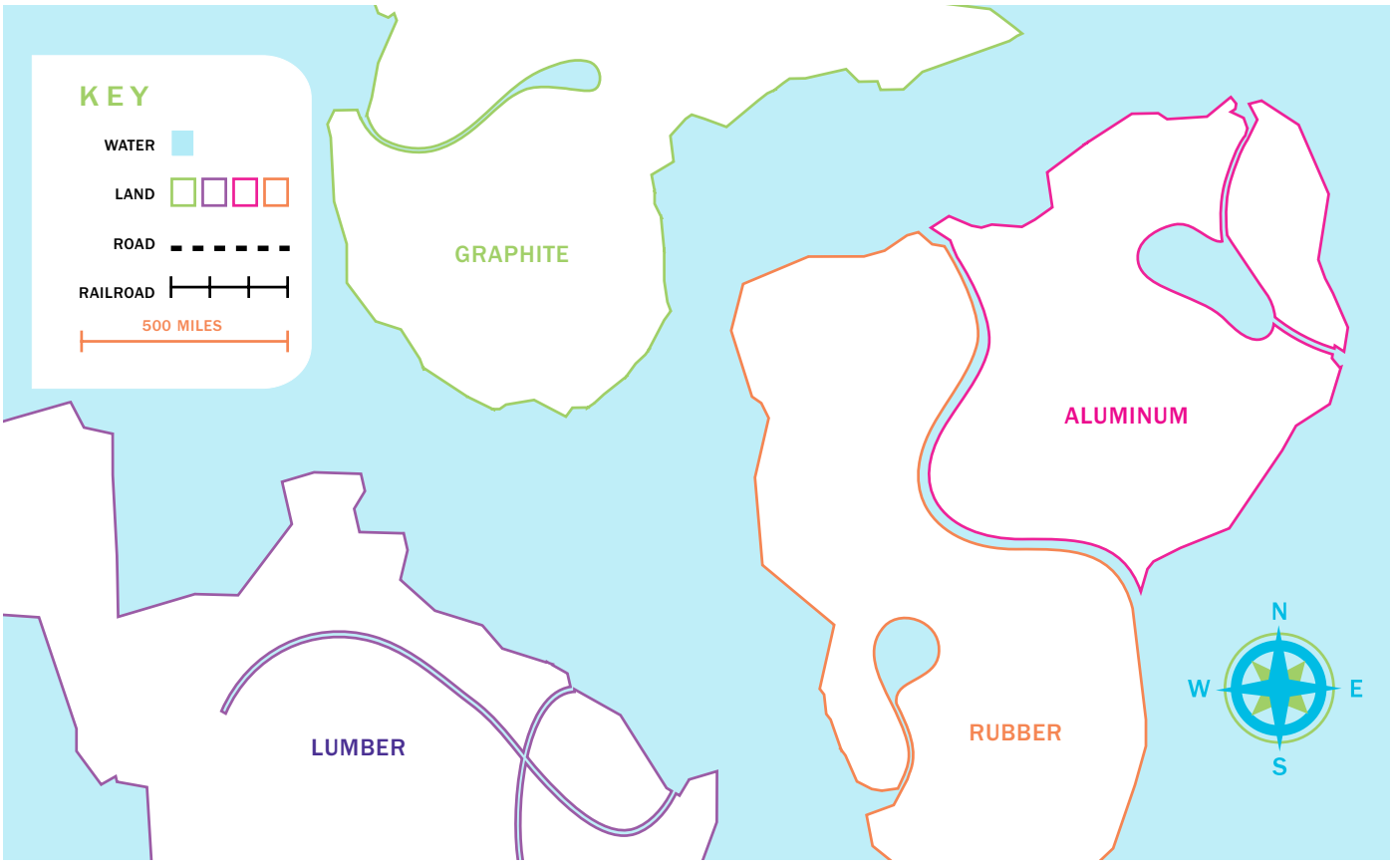
my factory

Name _____

Imagine that you are starting your very own factory. It is a pencil factory. To produce pencils, certain natural resources are required:

1. Lumber
2. Graphite
3. Rubber
4. Aluminum

Below is a map of your imaginary world. It shows the places where each natural resource needed to produce pencils can be found, as well as the waterways in those places. Draw a star where you would locate your factory. You may draw in railroads or roads if necessary. Draw a path from each resource's current location to your factory, following the modes of transportation – water, railroad or road.



1. How did you choose the location for your factory?

2. What forms of transportation do your resources use to travel to your factory?

3. What other changes could you make to improve your factory location?