Steel by the Lake

Trace how resources, transport, and energy shape an industrial hub.

7.C.4.3 "Evaluate the effects of human modification of the natural environment through processes related to industrialization. Explain why places become major hubs of industrial activity by analyzing the relationship between the location of natural..."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline where each raw material comes from, circle how it reaches Gary, and number two ways industry changes the environment so you can trace the connections.

Why Steel Mills Grew in Gary

1. In 1906, builders began a steel mill in Gary, Indiana, on the shore of Lake Michigan. The site was not chosen by chance. Ships could carry iron ore from mines in Minnesota across the Great Lakes to the mill. Trains brought coal from Appalachian mines. Workers heated iron ore with coke made from coal to produce iron, then made steel. Because large amounts of these heavy materials could arrive by water and rail, the mill could make steel near a growing network of customers.

2. At the mill, lake freighters unloaded ore at docks, and rail cars carried finished steel to other cities. Factories turned that steel into train tracks, cars, and appliances. Rail lines and roads then moved these products to stores, giving more people access to goods made far from home. The port and rail yard helped Gary grow into an industrial hub, but building docks and tracks also changed the lakeshore. Wetlands were filled in for industrial land, reducing places where fish and birds could live.

3. Steelmaking also demands energy. Burning coal to heat furnaces released smoke and gases into the air, while mining ore and coal disturbed land far from Gary. Newer equipment can use electricity to run parts of a steel mill. A hydroelectric dam could provide some of that electricity without burning coal at a power plant, but its reservoir would flood land and the dam could block fish. Choosing an energy source means weighing effects in more than one place, not simply checking whether the mill itself looks clean.

2 ANSWER WITH EVIDENCE

Use the passage

1. Why did Gary's location work well for making steel? Connect both raw materials to the routes that brought them to the mill.

2. How did the docks, rail lines, and roads help people get goods made from Gary's steel?

3. Name two ways the steel industry changed the natural environment in or beyond Gary. Explain one effect on living things.

4. If a mill used electricity from a hydroelectric dam instead of a coal-burning power plant, what environmental benefit and cost could result?

3 YOUR TURN

Your own words

Choose a site for a new bicycle factory: beside an inland rail yard or beside a lake port. In four sentences, explain how materials would arrive, how bicycles would reach buyers, and one environmental cost with a way to limit it.

ANSWER KEY

Steel by the Lake

GRADE 7 · 7.C.4.3

PART 1 · READ AND MARK

Underline where each raw material comes from, circle how it reaches Gary, and number two ways industry changes the environment so you can trace the connections. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	Why did Gary's location work well for making steel? Connect both raw materials to the routes that brought them to the mill.	**Ships brought Minnesota iron ore across the Great Lakes, while trains brought Appalachian coal. These routes delivered the heavy materials needed to make steel.**
2	How did the docks, rail lines, and roads help people get goods made from Gary's steel?	**Docks received ore for steelmaking. Rail lines carried finished steel to factories, and rail lines and roads moved products to stores.**
3	Name two ways the steel industry changed the natural environment in or beyond Gary. Explain one effect on living things.	**Filling wetlands for industrial land reduced places where fish and birds could live. Mining ore and coal also disturbed land far from Gary.**
4	If a mill used electricity from a hydroelectric dam instead of a coal-burning power plant, what environmental benefit and cost could result?	**The power plant would not need to burn coal for that electricity, avoiding smoke and gases from coal burning. The dam's reservoir could flood land, and the dam could block fish.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

I would build the bicycle factory beside an inland rail yard. Trains could bring metal parts from suppliers, and trucks could carry finished bicycles to stores. Truck traffic could add air pollution near the factory. I would send large shipments by rail when possible to limit that pollution.

Accept either factory site if the response gives workable routes for incoming materials and outgoing bicycles. The environmental cost and proposed way to limit it should fit the chosen site.