

Changing the Land

Trace how human changes have shaped U.S. environments and ecosystems.

SS.8.G.5.2 "Describe the impact of human modifications on the physical environment and ecosystems of the United States throughout history."

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each human modification, circle each physical-environment or ecosystem effect, and draw an arrow from each modification to an effect it caused.

People Reshape U.S. Landscapes

- ① During the 1800s, settlers and businesses changed many eastern forests. Loggers cut large stands of trees for lumber, and farmers cleared land for fields. Removing trees exposed soil to rain and reduced roots that held soil in place. More soil washed into streams, making water cloudy and burying gravel where fish laid eggs. Forest loss also broke wildlife habitat into smaller pieces. Some animals had less food, shelter, and space to travel between feeding and nesting areas.
- ② In the early 1900s, plowing expanded across parts of the Great Plains. Farmers removed native grasses to plant crops. Grass roots had helped anchor dry soil, but repeated plowing left broad areas bare after harvest. During drought, strong winds lifted this loose topsoil and carried it far away. The Dust Bowl damaged farmland and filled the air with dust. It also harmed prairie ecosystems because plants, insects, and animals lost the soil and cover they depended on.
- ③ After World War II, the federal government and private companies built dams on many U.S. rivers. Dams stored water, controlled some floods, and generated electricity, but they also changed river systems. A dam can flood valleys upstream, replacing forests or farms with reservoirs. Downstream, altered water flow can change sandbars and riverbanks. Dams can block fish from reaching spawning areas, and reservoirs may cover river habitat. Later projects added fish passages and changed release schedules to reduce some harm.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 How did clearing trees affect both streams and fish habitats in eastern forests?

2 Explain how plowing and drought together led to the Dust Bowl.

3 Name one physical-environment effect and one ecosystem effect caused by dams.

4 How did both forest clearing and dam building change animal habitats? Use one passage detail for each modification.

3 YOUR TURN _____ Your own words

Choose a human modification in U.S. history that is not described in the passage, such as draining wetlands, building a highway, or mining. In 4 to 5 sentences, describe the modification, one effect on the physical environment, and two different effects on an ecosystem. Include at least one clear cause-and-effect link.

PART 1 • READ AND MARK

Underline each human modification, circle each physical-environment or ecosystem effect, and draw an arrow from each modification to an effect it caused. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	How did clearing trees affect both streams and fish habitats in eastern forests?	Tree removal let more soil wash into streams, making the water cloudy and burying gravel where fish laid eggs.
2	Explain how plowing and drought together led to the Dust Bowl.	Plowing removed native grasses and left soil bare. During drought, winds lifted and carried away the loose topsoil.
3	Name one physical-environment effect and one ecosystem effect caused by dams.	Physical-environment effects include flooded valleys, reservoirs, changed sandbars, or changed riverbanks. Ecosystem effects include blocked fish movement to spawning areas or covered river habitat.
4	How did both forest clearing and dam building change animal habitats? Use one passage detail for each modification.	Forest clearing broke habitat into smaller pieces and reduced animals' food, shelter, and travel space. Dams flooded or covered habitat and could block fish from reaching spawning areas.

PART 3 • YOUR TURN (SAMPLE ANSWER)

In the 1900s, people drained wetlands in south Florida to create farmland and communities. Canals lowered water levels and changed the flow of freshwater. With less wetland water, peat soil dried and sometimes subsided, changing the physical environment. Birds and fish lost shallow-water habitat, and migrating animals had less food and shelter. Saltwater could also move farther inland, harming freshwater plants.

Accept other accurate U.S. examples if the response identifies a human modification, a physical-environment effect, and two distinct ecosystem effects. The cause-and-effect connection should be clear and historically plausible.