



Dams: Benefits and Challenges

Part 1

Teacher Reads Dams are large concrete structures built across rivers and streams to stop or change the flow of water. There are different reasons for building dams, but their benefits also come with challenges. Before reading this passage, examine the photo of Hoover Dam, which is in the state of Nevada.

When a dam is constructed, the flow of river water is stopped.

12 The river water behind the dam often forms a lake called a
24 **reservoir**. The river water stored in the reservoir can be used
35 for many purposes, including boating, swimming, fishing, and
43 waterskiing. The reservoir can also collect fresh water from
52 precipitation (rain or snow). That water can be moved to nearby
63 cities or towns using canals or pipes, where it is used for drinking
76 water. The water can also be transported to dry lands where it is
89 used to **irrigate** farmland.

93 Dams also stop water from flooding the land. After a lot of
105 rain, a river can overflow its banks, flooding areas along the river.
117 The water can damage roads and buildings and harm people.
127 A dam can stop the flooding by holding back the water.

Part 2

Teacher Reads Using dams to control the flow of water can create energy that people can use. Dams have been used in this way for hundreds of years.

138 In the past, the water behind dams would be released to
149 spin wheels in mills. The spinning wheels made energy that
159 could be used for many purposes. Grain could be crushed to
170 make flour. Trees could be cut up and turned into lumber for
182 making buildings.



Part 2 continued

184 Today, electricity is created when the water from a
193 reservoir is released and rushes through pipes. The rapid
202 flowing water makes wheels called **turbines** spin. The
210 turbines run machines called generators that produce
217 electricity.

218 People need electricity for lights, heat, and cooking. Entire
227 towns can get their electricity from the power created by dams.

Part 3

Teacher Reads People have become more knowledgeable about the impact of dams on the environment. That knowledge is important for deciding where to build new dams and when to remove older dams.

238 When a dam is built, it impacts the natural environment
248 around it. For example, dams block fish from swimming
257 up and down rivers. To help fish swim in rivers with dams,
269 people often build fish ladders. Fish ladders are steps of
279 water near or next to a dam. Fish swim up the fish ladders
292 to help them get past a dam.

299 Dams can also change the nearby land. The water level
309 of the river often decreases because the river no longer has
320 as much flowing water. When there is less water, food and
331 water for wildlife decreases. Nutrients in soil may change
340 with less water, impacting plants and animals.

347 The cost to keep up some dams can be high. Some dams
359 are not safe and may crack. When dams fail, water rushes
370 past the riverbanks unexpectedly, flooding and damaging
377 natural areas and structures downriver. Maintaining dams
384 is important for people's safety and for the surrounding
393 natural environment.

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