

# Teacher materials

## Food and water: Conserving water

### Scenario description

Players take on the role of decision-makers in a region facing increasing water stress. They must gather data, make decisions and build infrastructure to secure a sustainable water supply. As water demand rises and natural sources dwindle, players must think critically about the environmental, economic and ethical implications of each decision.

**Approximate location:** Western USA



### Learning objectives

- To identify short-term and long-term variability of water sources in high-income countries (HICs).
- To make decisions about securing water supplies for domestic, agricultural and industrial uses.
- To examine the causes, effects and solutions to water pollution in HICs.

Key geographical terminology	Key decisions	Think, work and apply like a geographer
<ul style="list-style-type: none"> <li>• <b>Water security:</b> Having access to a safe, reliable and affordable supply of water.</li> <li>• <b>Dam:</b> Strong walls built to hold back water, usually a river.</li> <li>• <b>Aqueduct:</b> A structure for carrying water across land.</li> <li>• <b>Desalination:</b> The removal of salt from sea water. This enables sea water to be turned into safe drinking water.</li> <li>• <b>Reservoir:</b> A large natural or artificial lake used as a source of water supply.</li> </ul>	<ul style="list-style-type: none"> <li>• How should we monitor our water sources more effectively?</li> <li>• Should we invest in large infrastructure projects, such as dams and aqueducts?</li> <li>• Should we prioritise clean water for farming, industry, or local use?</li> <li>• How should we deal with and treat sewage?</li> <li>• How should we treat and reuse wastewater?</li> <li>• Should we use fossil fuels or renewable energy to power water facilities?</li> </ul>	<p>Encourage students to explore the links between gameplay and real-world job roles, such as:</p> <ul style="list-style-type: none"> <li>• civil engineer</li> <li>• environmental scientist</li> <li>• hydrologist</li> <li>• public health officer</li> <li>• renewable energy technician</li> </ul>

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Questions to explore	<ul style="list-style-type: none"> <li>• Why is it important to monitor water levels and track demand?</li> <li>• What are the advantages and disadvantages of dams and aqueducts?</li> <li>• How do droughts and farming practices affect water availability?</li> <li>• How does water pollution impact ecosystems and human health?</li> <li>• How can wastewater be safely reused?</li> <li>• What are the ethical dilemmas around access to water and pollution clean-up?</li> <li>• How can we make water systems more resilient to climate change?</li> </ul>
Emotional and ethical considerations	<ul style="list-style-type: none"> <li>• <b>Fear and uncertainty:</b> The threat of water shortages may cause anxiety.</li> <li>• <b>Ethical decision-making:</b> Who gets water first when there's not enough to go around? How can we make choices now that ensure safe water for future generations? Are big projects like dams worth it if they damage ecosystems?</li> </ul>
<b>Links to other BBC resources*</b> <i>*Some video content may only be available in the UK.</i>	<ul style="list-style-type: none"> <li>• BBC Bitesize – Water resources: <a href="https://www.bbc.co.uk/bitesize/topics/zjsc87h/articles/zkxsn9q">https://www.bbc.co.uk/bitesize/topics/zjsc87h/articles/zkxsn9q</a></li> <li>• BBC Bitesize – Increasing water supply: <a href="https://www.bbc.co.uk/bitesize/topics/zjsc87h/articles/zwhvydm#zpsnsk7">https://www.bbc.co.uk/bitesize/topics/zjsc87h/articles/zwhvydm#zpsnsk7</a></li> <li>• BBC Bitesize for Teachers – Drought in Queensland, Australia: <a href="https://www.bbc.co.uk/teach/class-clips-video/articles/zwqbydm">https://www.bbc.co.uk/teach/class-clips-video/articles/zwqbydm</a></li> <li>• BBC Bitesize for Teachers – Achieving water security in Southern Africa: <a href="https://www.bbc.co.uk/teach/class-clips-video/articles/z7r3239">https://www.bbc.co.uk/teach/class-clips-video/articles/z7r3239</a></li> <li>• BBC Bitesize for Teachers – River Wharfe and wastewater systems in the UK: <a href="https://www.bbc.co.uk/teach/class-clips-video/articles/zq8g8p3">https://www.bbc.co.uk/teach/class-clips-video/articles/zq8g8p3</a></li> <li>• BBC Bitesize for Teachers – Intensive chicken farming and the River Wye: <a href="https://www.bbc.co.uk/teach/class-clips-video/articles/zqfp3qt">https://www.bbc.co.uk/teach/class-clips-video/articles/zqfp3qt</a></li> <li>• BBC Bitesize UN Sustainable Development Goal 6: Clean water and sanitation: <a href="https://www.bbc.co.uk/bitesize/guides/z8cbydm/revision/1">https://www.bbc.co.uk/bitesize/guides/z8cbydm/revision/1</a></li> </ul>
Play Planet Planners on Roblox	The URL for the game is: <a href="https://www.roblox.com/games/80099528313812">https://www.roblox.com/games/80099528313812</a> . This link will take you to the Roblox platform.

