07/25 – Version 1

Our Precious Water

Learning Objectives

Students will:

- Understand that fresh, accessible water is rare and precious.
- Know the key features of the urban water cycle.
- Understand that a changing climate will impact water security in the future.

Inquiry Questions

- Why is water precious?
- Do we change our environment?
- Why do we change our environment?
- Where does our drinking water come from?
- Is the water that comes to us clean? How does it get to our homes?
- What is a drought?
- How do we use water?
- How do we prioritise water use in a future where there may be less water?

Time	Approx 45-60 minutes
Curriculum Alignment	**Science > Science Understanding > Levels 3 and 4** **Science Understanding > Earth and Space Sciences** Students learn: - water is an important Earth resource that originates from various sources; water cycles through the environment by moving through the sky, landscape and ocean, and involves processes including precipitation, evaporation, transpiration, condensation, melting, freezing, crystallisation, infiltration and run-off. VC2S4U07 - weather events and climate have impacts on the land, air, water and living things; human activity can affect climate. VC2S4U08 **Humanities > Geography > Levels 3 and 4** **Geographical Knowledge and Understanding > Diversity of places and environments** Students learn: - the importance of environments, including natural vegetation and water sources, to people and animals in Australia and on another continent. VC2HG4K03 **Humanities > Geography > Levels 5 and 6** **Geographical Knowledge and Understanding > Management of places** Students learn: - the specific geographical and other characteristics that shape their place, how their place is changing and how change is managed VC2HG6K03

Key Vocabulary and Terms	• Urban water cycle. • Stormwater. • Water treatment. • Wastewater. • Climate change. • Prioritise. • Drought. • Water uses.

Teacher and Learning sequence	Resources
Orientation: **Activity:** How much water is there? **Time**: 5mins. **Purpose**: demonstrate to students that fresh, accessible water is rare and precious. Use a bucket of water, glass of water and one drop of water (you can use a dropper or simply dip your finger in the glass) to demonstrate the scarcity of easily accessible fresh water on the planet.	Use provided slides to support all activities. Bucket, glass and dropper. All filled with water.
Activity: Think Pair Share **Time:** 5 mins. **Purpose**: reflect on how essential this rare resource is to our existence. Have students do a 'Think, Pair Share' about how they would finish the sentence: "Water is precious because…." Bring together student conclusions as a class and then highlight the following: - our bodies need it to survive - all animals and plants depend on fresh water - our industry (places that have jobs) use it - we can't grow food without it - it keeps us clean and healthy This is also a good opportunity to reflect on the perspective that local Traditional Owners have on water.	
Body: **Activity:** What is the Urban Water Cycle? **Time**: 10-15mins. **Purpose:** Build student understanding of how we change the natural water cycle to suit our needs. Begin by reviewing aspects of the natural water cycle before comparing the urban water cycle. Asks students to think about the ways we interrupt the water cycle. Use slides to support discussion. A catchment model or topographic map of your area is useful here. Students should know: - We capture water in reservoirs. - We direct storm water.	

- We create wastewater and pollution. - Also, that we remove vegetation for agriculture and industry. Students can be given **Resource A** at this point. **Extension: Where does our water come from?** This is also a good opportunity to reflect on the perspective that local Traditional Owners have on water. This is a good opportunity to have students investigate where their water comes from. Use this link: https://connect.coliban.com.au/our-water-supply. Students can locate their town on the map and then access details of how their drinking water is supplied.	**Resource A**: Comparison of Water Cycles Diagram. Catchment model or topographic map if available.
Activity: A Changing Climate – Water Use Tournament **Time**: 15-20mins. **Purpose**: Using a tournament bracket, students prioritise how we should use water in a future with declining rain fall. Firstly, set the scene, using the slide: 'What do we know about the future?'. The key message is that we have an increasing population and should expect lower rain fall and periods of drought. This is a good time to highlight the *Millennium Drought* to help students understand the perilous state that our water supply can reach at times – and in recent memory. After setting the scene, begin the *Water Use Tournament*. This can be done individually, in pairs or in small groups. Explain and briefly demonstrate the concept of a tournament bracket, which may be unfamiliar to students. You may also need to unpack some of the water uses. Students play the role of a Community Advisory Group, who are giving Coliban Water advice about how water should be used in an upcoming drought. What water uses should have priority? Take care not to dictate criteria, students should reach their own conclusions. The bracket is a tool to help decide their priorities. Bring students together and ask them to share their top priorities for water use. What does this tell us? If done in groups, students could send up a member to record their top priority on the board. The conclusion we should reach is that there are many competing demands for water, and that we need to sustainably manage this for the future of our region, especially under drought conditions. This means: - Conserving water in our homes and businesses. - Reducing the need for water: smart gardens and efficient appliances. - Recycling water for irrigation and parks and gardens. - Protecting our water ways and catchments.	**Resource B:** Water Use Tournament Bracket
Activity: Focus Questions **Purpose**: These three questions check understanding of the Lesson Objectives, and represent the minimum understandings that students should take away from the lesson Students could write down answers or discuss with a pair or in small groups. - Why is water so precious? - What are four things that make up the urban water cycle? - Can we expect more or less rain in the future?	

Continue learning and extension	Resources
Explore ways to save water: Students can learn further about saving water in the home here: Saving water in the home - Smart Approved WaterMark (smartwatermark.org) This includes a *Home Water Calculator* and the *Blue House,* a visual interactive exploration of a suburban home focused on saving water.	