Lesson Plan – Prep to Grade 6

07/25 – Version 1

Flushed!

Learning Objectives

Students will:

- Know what sewage (wastewater) is and how it is treated before returning to the environment.
- Understand that sewage (wastewater) treatment is an essential service that we all need.
- Consider how we are all responsible for what goes 'does the drain'.

Inquiry Questions

- What happens to the water we have used?
- What is wastewater?
- Why do we need to 'clean' the water that we use?
- Is managing our wastewater essential?
- What responsibility do we have for what goes down the drain?

Time	Approx 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: - how places and environments are changed and managed by people VC2HG6K01
Key Vocabulary and Terms	• Sewage • Wastewater • Treatment • Water Reclamation Plant • Water Cycle • Environment

Teaching and Learning sequence	Resources
<u>Orientation</u>: **Activity:** How do you use water? **Time**: 5-10mins. **Purpose**: challenge students to think of all the ways they 'use' water in order to make wastewater relevant to them. Build a mind map of all the ways that students use water in their life. It could be drinking it, laundry, washing a car etc. Record these answers where they will be visible for the rest of the lesson and can be referred back to.	Use provided slides to support all activities. Record answers on whiteboard.
<u>Body</u> **Activity**: Story of a Sewage Pipe **Time**: 15mins. **Purpose**: Build on the mind map activity by reinforcing how: - We all create wastewater; - We should take care with what we send down the drain. *Note: There is a bit of prep involved with activity, but it is a fantastic way to demonstrate how we all create wastewater. Please dispose of your 'wastewater' thoughtfully once complete.* Starting with a jug/container of clean water, nominated students are given a character from the story (Resource A). As the teacher narrates the story, each character/student will come forward and add their 'pollutant' to the water. At the end of the story we have a pretty foul mixture, demonstrating concretely what wastewater is made up of: an aggregate of all our activity and usage. Take time to reflect on and emphasise these conclusions: - We use and pollute water in many ways – resulting in the need to clean it. - In modern towns and cities, we create a lot of wastewater. - We need to clean this water for the benefit both our health and the environment. This is also a relevant time to highlight a Local Traditional Owner perspective on water.	**Resource A**: Story of a Sewage Pipe and Character Cards. Prepared small containers of: A. Milk B. Wet wipe and ear buds C. Coffee mixed with water D. Soapy water E. A bit of colourful paint mixed with water F. 'Spew' – a mix of milk and cornflakes will do. G. A small amount of cooking oil H. 'Wee' – water with yellow food colouring
Activity: So, what do we do with it? How a Water Reclamation Plant works. . **Time**: 5-10mins. **Purpose**: Using Epsom Water Reclamation Plant as an example, students build an understanding of how their wastewater is treated by exploring a map of the Plant (Resource B) and watching a short video (Resource C).	**Resource B**: Map of Epsom Water Reclamation Plant (WRP) **Resource C:** Video of Divers at Epsom WRP
Activity: Was it always this way? **Time**: 10-15mins. **Purpose**: Using stimulus material to help reflect on the history of sewerage treatment and how important it is to our modern society. Split class into four groups. Give each group one of the Stimulus Images below from Resource D. 1. Typhoid Nightman illustration 2. Cesspan advert 3. Back yard outhouses	**Resource D**: Stimulus Images

4. Bendigo night soil truck. Give each group 5 mins to do the following: - Describe what they think the image is of. - Think about how it might relate to the history of wastewater treatment in Australia. - Be prepared to report back to the class. Bring class together and discuss each image in order. Students will hopefully reflect on how we can be grateful that we no longer manage our waste in such a way!	
Activity: True or False **Time**: 5 mins Note: You may like to do this activity as a 'heads and tails' game. **Purpose**: reflect on the objectives of the lesson and consider how we are all responsible for what goes 'down the drain'	
Activity: Revisit Learning Objectives **Time**: 5 mins. **Purpose**: Revisit learning objectives reworded as statements – gauge student understanding. Finally, revisit the Traditional Owner's perspective, which neatly summarises how we should be thinking about how we should respect water.	