

Year 4 – HASS and Science

Teacher Guide: Our water catchments

About 90 billion tonnes of rain, hail and snow (precipitation) fall on Tasmania each year.

Some of it falls on low-lying or coastal areas, some soaks into the ground (**groundwater**) and some is returned to the atmosphere through evaporation.

However, a large percentage falls in the high altitude areas of central and western Tasmania. The water (both rainfall and snow melt) then runs off into mountain streams, rivers and lakes (**surface water**) where it is stored. This run off area is called a **catchment**.

A catchment is an area of land where water is collected by the natural landscape. Everyone is connected to a catchment area, each time you turn on a tap, flush the toilet or go swimming.

Hydro Tasmania relies on catchments to store large volumes of water. Hydro Tasmania uses this water to generate electricity which is supplied to homes, schools, business and industry.

All human activities including agriculture, industry and recreation can impact the health of a catchment area, its water quality, flora and fauna.

Environmental protection and research is a core part of Hydro Tasmania's business. Hydro Tasmania actively monitors their operations in catchment areas to preserve the health of these shared areas and resources.

Hydro has seven catchment areas; **yingina / Great Lake–South Esk, Derwent, Mersey–Forth, Gordon–Pedder, Pieman, King and Yolande**.

You can explore these on the Hydro Tasmania website.

<https://www.hydro.com.au/clean-energy/our-power-stations>

Learning sequence

Lesson Plan 1 - Exploring our water catchments.

Lesson Plan 2 - Looking after our water catchments.

Australian Curriculum

Learning Area HASS	Content Descriptions
AC9HS4S01	Develop questions to guide investigations about people, events, places and issues
AC9HS4K05	The importance of environments, including natural vegetation and water sources, to people and animals in Australian and on another continent.
SCIENCE	
AC9S4U02	Identify sources of water and describe key processes in the water cycle, including movement of water through the sky, landscape and ocean: precipitation; evaporation; and condensation
AC9S4I01	Pose questions to explore observed patterns and relationships and make predictions based on observations
AC9S4H01	Examine how people use data to develop scientific explanations
AC9S4I03	Follow procedures to make and record observations, including making formal measurements and using digital tools as appropriate.
Cross curriculum	Sustainability
General Capabilities	Literacy, Critical and Creative Thinking

Learning goals

Know:

- Water is one of Earth's most precious resources.
- Water is used in a variety of ways.
- People use science every day to look after our catchment areas.

Understand:

- It is important to look after our catchment areas.
- Everyone and everything within a catchment is connected.

Learning goals (continued)

Do:

- Students identify and describe how they are connected to their catchment area..
- Students describe how water is used

Achievement standard

Science

By the end of Year 4 students

... identify key processes in the water cycles and describe how water cycles through the environment.

HASS

....describe the importance of environments, and sustainable allocation and management of resources.

Adjustments / strategies to include all students

	Enabling	Extending
Content:	As required explore the water catchment poster in advance with students and identify key vocabulary	Explore the interactive and schematic maps on the Hydro Tasmania website
Process:	Guide students one-to-one where necessary i.e. by explaining the language used in the unit	Use open questions to engage students to think about our local waterways i.e. what if...
Product:	Example catchment image provided and explained	Students choose an item in their daily routine to monitor and record

Assessment

Refer to *Options for assessment and extension* in each Lesson Plan

Evidence of student learning

- Students write sentences and create illustrations or use another form of media to represent how they are connected to a catchment.
- Students identify how monitoring activities helps to track progress and learn.

Group reflection

Refer to *Elaborate and Review* in each Lesson Plan

Teaching and learning resources

Hydro Tasmania Incursion Program

Book an incursion with our Education team to understand hydropower.

Online Resources

Explore our seven catchment areas on the Hydro Tasmania website www.hydro.com.au/home

- <https://www.hydro.com.au/clean-energy/our-power-stations>
locate power stations in your catchment area
- <https://www.hydro.com.au/things-to-do>

locate sites on our find a site interactive map

- <https://www.hydro.com.au/watermap/>

locate monitoring sites on our water map

Materials

Item	Number
Smart board or projector	1
Internet connection	1
Poster – Water catchment	1 (display)
Poster – Water catchment	1 each
Blank character worksheet	1 (display)
Blank character worksheet	1 each
Model making option	
Sand pit / baking tray and modelling materials	
Tarp / gladwrap	
Water	
Watering can (or similar)	

Feedback

If you would like more information or to provide feedback please contact our Education Coordinator at education@hydro.com.au