Year 4: Science and HASS

Teacher Guide: Rainfall in Tasmania

Hydro Tasmania relies on rainfall to fill their lakes. The water stored in lakes is used to produce energy. Hydro Tasmania's dams are built in locations where it rains regularly.

How do we know this?

For many years, daily rainfall across Tasmania has been measured and documented. Precipitation (rain, drizzle, sleet) is collected in rain gauges across the state. The rain gauge records the amount of rain that has fallen within a period of time.

Hydro Tasmania and the Bureau of Meteorology have a number of monitoring sites across the state. See: https://www.hydro.com.au/clean-energy and http://www.bom.gov.au/tas/tas-observations-map.shtml

Why is it important to record this information?

Engineers and scientist use this data to study patterns and make forecasts. The knowledge that they gain from this data is used to guide decisions.

Where does it rain?

It rains everywhere in Tasmania. However, the quantity of rain that falls varies in different regions of the state. One of the factors that influences where it rains is the topography of the land. It rains more over mountains because the air temperature at the top of the mountain is cooler than at sea level.

Due to this fact, a large percentage of Tasmania's rainfall falls in the high areas of central and western Tasmania.

Why does it rain?

Water at the earth's surface absorbs heat energy from the sun. This energy causes evaporation. Condensation takes place and clouds form. As the clouds move across the land they rise up over the mountains and sometimes precipitation occurs. Not all clouds make rain.

Refer to the water cycle poster.

Australian Curriculum

Learning Area Science	Content Descriptions
AC9S4U02	Identify sources of water and describe key processes in the water cycle, including movement of water through the sky, landscape and ocean.
AC9S4H01	Examine how people use data to develop scientific explanations.
AC9S4H02	Consider how people use scientific explanations to meet a need or solve a problem.
HASS	
AC9HS4K05	The importance of environments, including natural vegetation and water sources, to people and animals in Australia and on another continent.
AC9HS4K06	Sustainable use and management of renewable and non-renewable resources, including the custodial responsibility First Nations Australians have for Country/Place
AC9HS4S03	Interpret information and data displayed in different formats
General Capabilities	Literacy, Numeracy, Critical and Creative thinking

Learning goals

Know:

- Data can be presented in different formats.
- People use data to inform their decisions.

Understand:

- Rainfall varies across the state but some areas have higher rainfall than others.
- Rainfall is measured in millimetres.

Do:

- Build a rain gauge and engage in scientific procedures.
- Observe and record findings.
- Present information in simple column graphs or picture graphs.

Strategies to include all students

	Enabling	Extending
Content:	Expose students to language that will be used during this unit.	Have students compare and contrast rainfall maps with other maps i.e. topographical maps.
	Have students use colour to show differences in rainfall on maps of Tasmania.	Students provide explanations as if they were giving a weather report
Process:	Guide students through one-to-one teaching, flashcards, visuals or other strategies to suit particular student needs	Include a research activity on the heritage listed Lake Margaret site
Product:	Invite students to represent what they know about rainfall in a format of their choice	Have students develop a PowerPoint presentation about rainfall in Tasmania for Year 1 students

Teaching and learning resources

- Hydro Tasmania water map https://www.hydro.com.au/water/rainfall
- Bureau of Meteorology http://www.bom.gov.au/tas/?ref=hdr
- LISTmap https://maps.thelist.tas.gov.au/listmap/app/list/map

Materials
Smart board or projector
Activity 1: Colour-by-code
Activity 2: Recorded rainfall
Activity 3: Let's build a rain gauge Materials per group:
• 2 litre plastic bottle
• Scissors
• Modelling clay
• Strong adhesive tape
• Sticky tape
• Ruler with millimetres
• Black marking pen
Activity 4: Rainfall results

Assessment

Refer to the *Options for assessment and extension* in the Lesson Plan.

Evidence of student learning

- Students create simple tables to record their observations.
- Students interpret data displayed in tables and record their observations in another format, such as a script.

Group reflection

Refer to the *Elaborate and Review* in the Lesson Plan.

Feedback

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