Year 3: Science, Mathematics 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/inside/index.shtml?ref=hdr

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 and the resulting water vapour rises up through the atmosphere. 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 Year 2, Unit 1, The water cycle poster.

Australian Curriculum

Learning Area Science	Content Descriptions
ACSHE050	Science involves making predictions and describing patterns and relationships
ACSIS054	With guidance, plan and conduct scientific investigations to find answers to questions, considering safe use of appropriate materials and equipment
ACSIS057	Use a range of methods including tables and simple column graphs to represent data and to identify patterns and trends
ACSIS060	Represent and communicate observations, ideas and findings using formal and informal representations
Mathematics	
ACMSP069	Collect data, organise into categories and create displays using lists, tables, picture graphs and simple column graphs, with or without the use of digital technologies
ACMSP070	Interpret and compare data displays
HASS	
ACHASSI053	Locate and collect information and data from different sources, including observations
ACHASSI054	Record, sort and represent data and the location of places and their characteristics in different formats, including simple graphs, tables and maps using discipline-appropriate conventions
ACHASSI057	Interpret data and information displayed in different formats, to identify and describe distributions and simple patterns
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.

Achievement standard

By the end of Year 3, students

Science

... follow procedures to collect and record observations and suggest possible reasons for their findings, based on patterns in their data … and they use diagrams and other representations to communicate their ideas.

Mathematics

... interpret and compare data displays.

HASS

... pose questions and locate and collect information from sources, including observations, to answer these questions.

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

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.

Teacher reflection

- What went well?
- What could be improved?
- How might you deliver this lesson differently next time?

Feedback

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