

YEARS 1-2

Keeping our Classroom Warm

Kia Mahana ō tātou Akomanga



OVERVIEW

In this activity, students to find out about heat energy, how their classroom is heated and how to keep it warm. What is heat energy? How do we keep warm and heat our spaces?

NZ CURRICULUM LINKS

LEARNING AREAS:	ACHIEVEMENT OBJECTIVES:	LEVELS:	YEARS:
Science: Physical World: Physical inquiry and physics concepts	Explore everyday examples of physical phenomena, such as electricity and magnetism and light.	1-2	1-4
Science capabilities	Gather and interpret data, Use evidence, engage with science	1-2	1-4
English: Speaking, writing and presenting	Acquire and begin to use sources of information, processes and strategies to identify, form and express ideas	1-2	1-4
Mathematics	Geometry and measurement	1-2	1-4

TEACHER INFORMATION:

Learning sequence



INTRODUCING
KNOWLEDGE



EXPLORE AND
INVESTIGATE



CREATE AND
SHARE



REFLECT AND
EXTEND



MAKE A
DIFFERENCE

Learning intentions

Students are learning to:

- Understand what heat energy is and the meaning of the terms: hot, warm, cool and cold.
- Explain how we can keep ourselves warm and heat a room.

Success criteria

Students can:

- Explore and compare the temperatures of objects and spaces.
- Share ideas about how to keep warm.

Resources needed

[Heating our spaces](#) slideshow

[Exploring energy and electricity](#) slideshow

Additional Support

Science Learning Hub article: [Heat energy](#)

Science Learning Hub: [Teacher PLD](#)

Vocabulary

Energy, electricity, heat, heater, heat pump, space, cool, cold, hot, warm.

Any text highlighted in orange represents a link to further material. If you have printed this resource, please return to schoolgen.co.nz/for-teachers/resources to access the linked material.

LEARNING EXPERIENCE

Note: These are suggestions only and teachers are encouraged to adjust the activity to suit the needs and interests of their students.



INTRODUCING KNOWLEDGE

Allow approximately 15 minutes

- Introduce heat energy vocabulary and concepts using the **Heating our spaces** slideshow
- Share prior knowledge about heat. Discuss the resulting questions.
- How do you know if you are hot?
- What does a person look like if they are warm?
- How do we act when we are cold?
- Take turns acting out how people look and feel at different temperatures, e.g: hot, warm, cool or cold. See if students can guess which temperature the person is acting.



EXPLORE AND INVESTIGATE

Allow approximately 20 minutes

- How warm does it feel in the room you are in?
 - Do you think it is cold, cool, warm or hot?
 - Why is this?
 - What is keeping your room warm or cool?
- Students could touch different objects to find and label them: cool, cold, warm or hot using the labels below, e.g. melting ice cubes, water, warm wheat bag, hot water bottle.
(Note: ensure all items are safe to touch and not too hot or cold).

THINKING LIKE A SCIENTIST:

Discuss the clues our bodies give us, e.g: sweating, goose bumps, shivering.

Extra extension activity: Measuring temperatures






Equipment needed: thermometers (non-mercury), or temperature reading devices or apps,
worksheet: hot, warm, cool or cold? (see below)

- Temperature is a measurement of how hot or cold something is.
- Do you think that it is the same temperature inside as it is outside? Let's find out!

Use the following guide to help you with your observations and measurements:

Hot, warm, cool or cold? Sensing and measuring heat

Name:

<p>What is the weather like today?</p> <p>Sunny </p> <p>Cloudy </p> <p>Rainy </p> <p>Stormy </p> <p>Very cold </p>	<p>Date:</p> <p>Time:</p>
<p>Using words, describe what you can see and feel:</p>	
<p>Location: describe where you are and what the temperature is like:</p>	
<p>Any other important observations:</p>	

[Google Docs version](#)

Teaching points:

- Temperatures are measured using whole numbers (degrees Celsius in New Zealand). Whole number temperatures are easiest for teaching younger students.
- Temperatures can be compared, for example: 16°C is cooler than 20°C.
- A thermometer is a tool that can collect data to measure temperature.
- Heat can pass from one place to another.
- Heat energy naturally moves from a hot place to a cooler place.



CREATE AND SHARE

Allow approximately 15 minutes

- Students can share their ideas about how to keep themselves and their classroom warm. Write a set of instructions about how to keep warm for someone visiting a cold place.
- Explore warm and cool colours with art works.



REFLECT AND EXTEND

Allow approximately 10-20 minutes

- Reflect on how your spaces are heated. Draw a picture of how to efficiently heat your room and keep the heat in (see slideshows in resources for ideas).
- What other questions do students have about heating and house design.



MAKE A DIFFERENCE

Allow approximately 15-30 minutes

- Use your findings from the activities above to find out how you could keep warm or heat your space more efficiently, e.g. wear warmer clothing, reduce drafts, increase insulation.

We hope you have enjoyed this educational STEM resource.

School-gen is a Genesis community initiative to get kaiako, tamariki and whānau enthused about STEM.

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