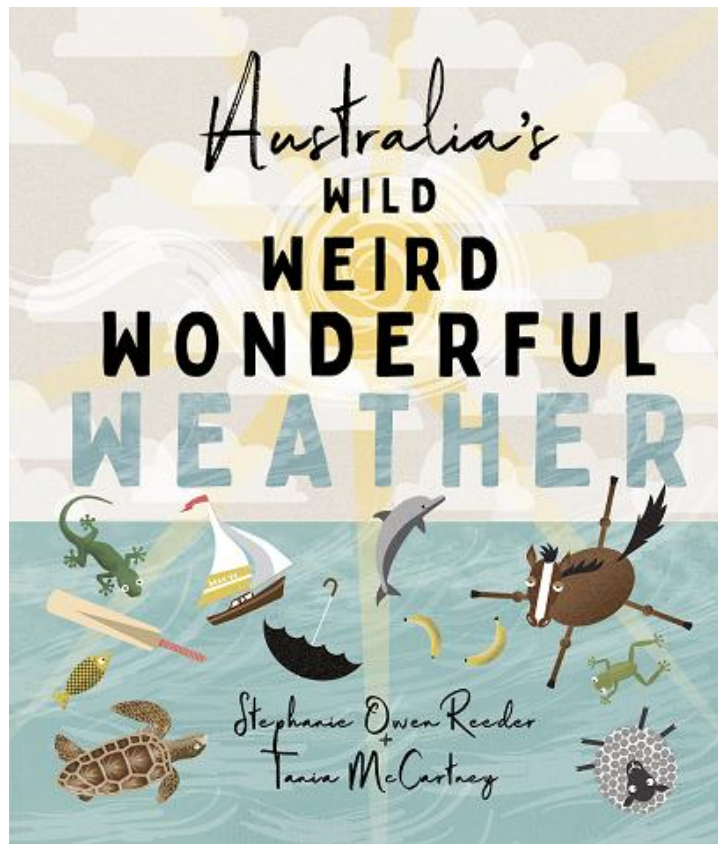


TEACHERS' NOTES

Australia's Wild Weird Wonderful Weather

by Stephanie Owen Reeder
illustrated by Tania McCartney



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Recommended Year Levels: Years 1–6

About the Book

Did you know that in 2009, a massive dust storm in Australia blew red dust and sand all the way to New Zealand, where it turned the glaciers pink? That in 1899, Cyclone Mahina plucked dolphins out of the ocean in Far North Queensland and deposited them on cliff tops? Or that it snowed on Uluru in 1997?

In *Australia's Wild Weird Wonderful Weather*, readers are introduced to the wide range of weather in Australia, with bite-size pieces of information presented alongside graphic illustrations to entice young readers. Older readers will enjoy the detailed explanations about everything weather, from what causes certain phenomena to reading weather maps, exploring the climate of the past and preparing for the climate of the future.

With sections about Australia's extreme weather and the effects of climate change, *Australia's Wild Weird Wonderful Weather* gently introduces young readers to the challenges of a warming planet and encourages them to be mindful of the impact their actions have on the environment.

A resource section and a glossary of weather words at the back of the book enable parents, teachers and older readers to satisfy the deeper interest in weather that the book is sure to stimulate.

Author: Stephanie Owen Reeder stephanieowenreeder.com



Award-winning author Dr Stephanie Owen Reeder is a passionate advocate for Australian history and children's literature. As well as history books, she writes and illustrates picture books for young children. Stephanie has worked as a secondary school teacher, a librarian, a university lecturer and a Hansard editor at federal parliament in Canberra. She was the 2019 recipient of the CBCA (ACT) Laurie Copping Award for Distinguished Service to Children's Literature.

Stephanie's award-winning Heritage Heroes series, published by the National Library of Australia, includes *Lost! A True Tale from the Bush*, shortlisted in the CBCA Book of the Year Awards 2010; *Amazing Grace: An Adventure at Sea*, winner of the Young People's History Award in the NSW Premier's History Awards 2012; *Lennie the Legend: Solo to Sydney by Pony*, shortlisted in the NSW Premier's History Awards 2015 and winner of the Eve Pownall Award for Information Books in the CBCA Book of the Year Awards 2016; and *Marvellous Miss May: Queen of the Circus*, shortlisted in the NSW Premier's History Awards 2018 and a CBCA Notable Book 2019.

Illustrator: Tania McCartney taniamccartney.com



Tania McCartney is an author, illustrator and editor with over 30 years of experience in publishing. She has many titles to her name, including *Fauna: Australia's Most Curious Creatures*, *I Heart the World*, *Australia Illustrated*, *Mamie* and *Merry Everything*.

Tania is a passionate advocate for increasing children's literacy and is the founder of *Kids Book Review* and was an ambassador for the National Year of Reading 2012. Tania has received many awards and commendations for individual publications, but also for her broader contribution to the sector, including the Laurie Copping Award for Distinguished Service to Children's Literature (CBCA ACT) in 2017.

AUSTRALIAN CURRICULUM CONTENT

- Learning Areas
 - HASS (Geography)
 - HASS (Science)
- General capabilities
 - Critical and creative thinking
 - Intercultural understanding

Introductory Activities

These are activities to do before reading to prepare students for the concepts/themes explored in the book. They are not necessarily curriculum based. Other non-curriculum-based activities for all year levels are included at the end of these teachers' notes.

- Look at the cover of *Australia's Wild Weird Wonderful Weather* with the class. What do you think this book is about? What do you see that makes you say that?
- Discuss the broad themes of the book, covering students' understanding of:
 - what weather is
 - how weather is measured and recorded
 - how weather affects us.
- Ask students to share personal experiences of extreme or unusual weather events.

HASS—Geography

Year 1

Content description:

The weather and seasons of places and the ways in which different cultural groups, including Aboriginal and Torres Strait Islander Peoples, describe them ([ACHASSK032](#))

Elaborations

- describing the daily and seasonal weather of their place by its rainfall, temperature, sunshine and wind, and comparing it with the weather of other places that they know or are aware of
- comparing the Aboriginal or Torres Strait Islander People's seasonal calendar for the local area with one students are familiar with, such as the four-seasons calendar derived from Europe

Discussion/Inquiry Questions

- Pages 8 to 11 of *Australia's Wild Weird Wonderful Weather* explore the seasons in Australia, including Aboriginal seasonal calendars.
 - What are the four official seasons and where did they originate?
 - Are seasonal changes the same in different parts of Australia? For example, compare tropical northern Australia with temperate southern Australia.

- What are the main types of weather you experience where you live?

Activities

- Create a seasonal calendar for your area, similar to the one on pages 10 to 11 of *Australia's Wild Weird Wonderful Weather*.
 - Include the animals, insects, birds and weather events that you experience at different times of the year where you live.

Year 2

Content description

Sort and record information and data, including location, in tables and on plans and labelled maps ([ACHASSI036](#))

Elaborations

- sorting and recording written or pictorial information or survey results in tables under headings such as 'then/now', 'past/present/future', 'places near/far', 'places visited', 'purpose', 'frequency', 'distance'
- creating pictorial maps with annotations to show familiar local and/or historical sites, their features and location, and adding further information as extra sites are identified
- locating the places they are connected to (such as through family, travel, friends), or the places they visit for shopping, recreation or other reasons on a print, electronic or wall map
- making a map or plan of significant places in the community, incorporating symbols to show location of objects or significant features

Discussion/Inquiry Questions

- Pages 16 to 21 of *Australia's Wild Weird Wonderful Weather* deal with precipitation. Discuss the water sources and rainfall patterns where you live.
 - Where does your drinking water come from?
 - What rivers, streams, billabongs, dams and other waterways exist in your area?
 - How often do you get frost, hail or snow?
 - What is the average yearly rainfall where you live?
 - What water restrictions are in place in your area?

Activities

- Create a map of your suburb, town or geographical area.
 - Show major rivers, lakes, dams and other water sources.
 - Show how water from these sources ends up in your tap water, wells or water tanks.
- Create a brochure showing:
 - the current water restrictions where you live
 - suggestions on how to conserve water.

Year 4

Content description

The use and management of natural resources and waste, and the different views on how to do this sustainably ([ACHASSK090](#))

Elaborations

- identifying some of the resources produced by the environment and where they come from (for example, water, food and raw materials such as fibres, timber and metals that make the things they use)
- exploring how some natural resources are used and managed in sustainable and non-sustainable ways
- identifying renewable and non-renewable resources
- investigating where a particular renewable natural resource comes from, how it is used and sustainable management strategies (for example, recycling paper or planting more trees)
- exploring the work of groups and organisations which manage natural resources and/or waste

Discussion/Inquiry Questions

- Pages 52 to 53 of *Australia's Wild Weird Wonderful Weather* explore alternative energy sources. Research and identify renewable and non-renewable resources. Consider these questions:
 - What is the difference between renewable and non-renewable resources?
 - Which energy resources that we use on a daily basis are renewable?

Activity

- Select one of the renewable resources produced or used where you live and research to find out the following things:
 - Where does it come from?
 - How is it used?
 - Why should we use it rather than a non-renewable energy resource?
 - Why is it important that we increase the use of renewables?

Present your findings as a poster, brochure, newspaper article or blog post.

Year 5

Content description

Interpret data and information displayed in a range of formats to identify, describe and compare distributions, patterns and trends, and to infer relationships ([ACHASSI100](#))

Elaborations

- interpreting data presented in a line, bar, column or pie graph (for example, data about bushfires or floods, election results, common influences on the purchases of class members) to identify the likelihood of an outcome or the probability of an event reoccurring
- analysing visual and written sources to infer relationships (for example, examining photographs to see how people responded to droughts in enterprising ways; interpreting maps of Aboriginal and Torres Strait Islander trade routes to propose how ideas, technology and artefacts travelled across them; analysing a food web to reveal how plants, animals, water, air and people are connected)

- making inferences using sources, such as graphs and thematic maps, that show distribution (for example, the number of electors in some state or federal electorates to discuss representation; the distribution of primary resource industries in Australia and their proximity to cities; the spread of the cane toad across Australia and its threat to environments)
- interpreting graphs and tables of data collected from a survey to infer relationships or trends (for example, common influences on purchasing decisions of class members; the increase in social activism for social and environmental causes)
- interpreting and creating maps such as flow and choropleth maps, or plans for specific purposes (for example, a bushfire management plan)

Discussion/Inquiry Questions

- Discuss how illustrator and designer Tania McCartney has used diagrams, maps and other visual representations of the weather information in *Australia's Wild Weird Wonderful Weather*:
 - What types of graphic representations has she used?
 - How do they work with the text to help you understand weather phenomena?

Activity

- Research the most significant bushfire, drought, flood, cyclone or storm events that have occurred over the last 50 to 100 years in or near your town.
 - Which type of natural disaster has occurred most often?
 - Why is your area more vulnerable to such disasters?
 - Create a wall chart using diagrams and illustrations to show:
 - the number of such events
 - the dates on which they occurred
 - the number of people affected, including how many died
 - the number of buildings and/or the amount of land affected
 - the effect on animals and the environment.

Year 6

Content description

The impact of bushfires or floods on environments and communities, and how people can respond ([ACHASSK114](#))

Elaborations

- mapping and explaining the location, frequency and severity of bushfires or flooding in Australia
- explaining the impacts of fire on Australian vegetation and the significance of fire damage on communities
- researching how the application of principles of prevention, mitigation and preparedness minimises the harmful effects of bushfires or flooding

Discussion/Inquiry Questions

- *Australia's Wild Weird Wonderful Weather* deals with disastrous weather on pages 32 to 36. Discuss how fire and flood behaviours have changed over time, including:
 - how they have changed
 - what has contributed to the higher incidence of these extreme weather events
 - what the implications are for living in Australia
 - how we can ameliorate those changes.

Activity

- Select an incident of either bushfire or flood from the last 50 to 100 years. Research the event to find out:
 - where it occurred
 - what extent of area it covered
 - its immediate effect on properties, lives, animals and the environment
 - its long-term effects
 - what could have been done to prevent it.

Present your findings to the class using maps, images, first-hand accounts, newspaper reports and other resources.

Content description

The growth and survival of living things are affected by physical conditions of their environment ([ACSSU094](#))

Elaborations

- investigating Aboriginal and Torres Strait Islander Peoples' knowledge and understanding of the physical conditions necessary for the survival of certain plants and animals in the environment
- investigating how changing the physical conditions for plants impacts on their growth and survival such as salt water, use of fertilizers and soil types
- observing the growth of fungi such as yeast and bread mould in different conditions
- researching organisms that live in extreme environments such as Antarctica or a desert
- considering the effects of physical conditions causing migration and hibernation

Discussion/Inquiry Questions

- *Australia's Wild Weird Wonderful Weather explores* disastrous weather on pages 32 to 36. Discuss the effect of natural disasters on the environment, including:
 - what happens to the land during a bushfire, flood, drought or cyclone
 - what effect such devastating events have on vegetation, waterways and animals
 - the ways such events can have positive as well as negative effects on the environment

Activity

- Research the negative and positive effects of either a bushfire, a flood, a drought or a cyclone on the native plants and trees in your area and create a poster presenting your findings

- Choose a particular plant or tree and draw a diagram showing how it responds to bushfires, floods, droughts or cyclones.

Science

Year 2

Content description

People use science in their daily lives, including when caring for their environment and living things ([ACSHE035](#))

Elaborations

- investigating how Aboriginal and Torres Strait Islander Peoples use science to meet their needs, such as food supply
- monitoring information about the environment and Earth's resources, such as rainfall, water levels and temperature
- exploring how different cultures have made inks, pigments and paints by mixing materials
- identifying the ways humans manage and protect resources, such as reducing waste and caring for water supplies
- recognising that many living things rely on resources that may be threatened, and that science understanding can contribute to the preservation of such resources

Discussion/Inquiry Questions

- Pages 18 to 19 of *Australia's Wild Weird Wonderful Weather* explore the water cycle, while pages 13 and 32 to 35 show what can happen when we have too much or too little water. Discuss the importance of water, including:
 - where it comes from
 - why we need it
 - how we find it
 - what happens when there is not enough
 - what happens when there is too much.

Activity

- Choose an aspect of water to research. Your topic could be:
 - how the water cycle works in nature
 - the effects of drought on people, animals and places
 - how to survive in a flood
- Create a poster or a brochure using images, captions and diagrams to explore your topic.

Year 3

Content description

Science involves making predictions and describing patterns and relationships ([ACSHE050](#))

Elaborations

- researching how knowledge of astronomy has been used by some Aboriginal and Torres Strait Islander Peoples
- making predictions about change and events in our environment
- considering how posing questions helps us plan for the future

Discussion/Inquiry Questions

- *Australia's Wild Weird Wonderful Weather* demonstrates how weather plays a big part in our daily lives. Discuss the role of weather, including:
 - the events in our lives that are affected by weather
 - how to use weather forecasts
 - coping with changes in the weather
 - the impact of global warming and climate change on our daily lives

Activity

- Write a story, create an artwork or make a timeline showing how disastrous or dangerous weather has affected your life. Include the following:
 - what the event was (e.g. a sporting match, a family gathering, a picnic, a birthday party)
 - how you planned for the event, including whether you checked the weather forecast and/or had a back-up plan
 - the type of weather that affected your event
 - how you coped with or adapted to the weather
 - what you learnt from the experience.

Content description

Science knowledge helps people to understand the effect of their actions ([ACSHE051](#))

Elaborations

- researching Aboriginal and Torres Strait Islander Peoples' knowledge of the local natural environment, such as the characteristics of plants and animals
- considering how heating affects materials used in everyday life
- investigating how science helps people such as nurses, doctors, dentists, mechanics and gardeners
- considering how materials including solids and liquids affect the environment in different ways
- deciding what characteristics make a material a pollutant

Discussion/Inquiry Questions

- Pages 12 to 13, 32, and 34 to 37 of *Australia's Wild Weird Wonderful Weather* explore how a warming environment is affecting the frequency and intensity of bushfires. Discuss the following:
 - How do bushfires start?
 - What weather conditions contribute to severe bushfires?
 - How do we fight bushfires?

Activity

- Make a series of posters showing:
 - the ways in which a bushfire can start (e.g. lightning, hot car exhaust pipes, welding, cigarette butts, falling powerlines, arson)
 - what happens during a bushfire, including
 - how it spreads
 - how it is fought
 - what effect it has on people, places and the environment
 - how we can ensure that our cities, towns, farms and homes are as fireproof as possible.

Year 4

Content description

Living things depend on each other and the environment to survive ([ACSSU073](#))

Elaborations

- recognising how Aboriginal and Torres Strait Islander Peoples perceive themselves as being an integral part of the environment
- investigating how plants provide shelter for animals
- investigating the roles of living things in a habitat, for instance producers, consumers or decomposers
- observing and describing predator-prey relationships
- predicting the effects when living things in feeding relationships are removed or die out in an area
- recognising that interactions between living things may be competitive or mutually beneficial

Discussion/Inquiry Questions

- Pages 40 to 41 of *Australia's Wild Weird Wonderful Weather* explore how animals and plants are sensitive to changes in the weather and have adapted to living in extreme weather conditions.
 - Discuss how animals and plants can both contribute to and be affected by changes in the weather caused by global warming and accelerated climate change.
 - Discuss the effect of extreme weather—such as bushfires, floods and storms—on animals and plants.

Activity

- Create a brochure or poster identifying animals in your area that are threatened by changes in the climate and the accompanying increase in the frequency and severity of extreme weather. Possible creatures could include koalas, turtles, corals, fish, penguins, frogs or bees.

Content description

Earth's surface changes over time as a result of natural processes and human activity ([ACSSU075](#))

Elaborations

- considering how Aboriginal and Torres Strait Islander Peoples' fire management practices over tens of thousands of years have changed the distribution of flora and fauna in most regions of Australia
- collecting evidence of change from local landforms, rocks or fossils
- exploring a local area that has changed as a result of natural processes, such as an eroded gully, sand dunes or river banks
- investigating the characteristics of soils
- considering the effect of events such as floods and extreme weather on the landscape, both in Australia and in the Asia region

Discussion/Inquiry Questions

- Discuss the reasons why, in recent times, Australia has been subjected to more of the natural disasters covered in *Australia's Wild Weird Wonderful Weather*.
- Discuss the following:
 - What is climate change?
 - What is the difference between natural and human-accelerated climate change?
 - What are the factors that have led to accelerated climate change?
 - How can we survive more frequent and more intense weather conditions?
 - What can we do individually, as a community, as a country and as an international community to ameliorate these changes?

Activity

- Create a poster, video or collage about one of the following:
 - renewable energy sources and how we can use them to slow down global warming
 - the ways that re-instating Aboriginal and Torres Strait Islander fire management practices could help prevent the severity and frequency of bushfires and protect flora and fauna

Year 5

Content description

Living things have structural features and adaptations that help them to survive in their environment ([ACSSU043](#))

Elaborations

- investigating Aboriginal and Torres Strait Islander Peoples' knowledge of the adaptations of certain species and how those adaptations can be exploited
- explaining how particular adaptations help survival such as nocturnal behaviour, silvery coloured leaves of dune plants
- describing and listing adaptations of living things suited for particular Australian environments
- exploring general adaptations for particular environments such as adaptations that aid water conservation in deserts

Discussion/Inquiry Questions

- As *Australia's Wild Weird Wonderful Weather* shows on pages 40 to 41, many native plants and animals have adapted to living in harsh conditions and are able to adapt to severe weather, such as drought. Discuss the ways in which some animals and plants survive, including:
 - hunting for food at night
 - hibernating
 - knowing where to find water
 - physical features that enable them to survive in harsh conditions (including the ability to store water or fat in their bodies).

Activity

- Research a native animal that has adapted to living in the Australian desert (e.g. dunnarts, bilbies, emus, dingoes, red kangaroos, marsupial moles, burrowing frogs or bearded dragons). Present your research findings as a poster or a picture book, including the following information:
 - a map showing where the animal lives in Australia
 - a description of the animal, its habits and life cycle
 - a description of its habitat
 - details about how it is able to survive in harsh condition.

Include images, photographs and diagrams.

Year 6

Content description

Sudden geological changes and extreme weather events can affect Earth's surface ([ACSSU096](#))

Elaborations

- researching Aboriginal and Torres Strait Islander peoples' cultural stories that provide evidence of geological events
- investigating major geological events such as earthquakes, volcanic eruptions and tsunamis in Australia, the Asia region and throughout the world
- recognising that earthquakes can cause tsunamis
- describing how people measure significant geological events
- exploring ways that scientific understanding can assist in natural disaster management to minimise both long- and short-term effects
- considering the effect of drought on living and non-living aspects of the environment

Discussion/Inquiry Questions

- Pages 32 to 37 of *Australia's Wild Weird Wonderful Weather* explore rogue and extreme weather in Australia and how to prepare for it. Discuss extreme weather, including firestorms, floods, cyclones and thunderstorms:
 - What causes this kind of weather?
 - Are they increasing in frequency and intensity?
 - How have you been affected by them where you live?

Activity

- Split the class into four groups to study firestorms, floods, cyclones and thunderstorms. Ask them to research each type of weather, and in particular to find out:
 - what causes that weather phenomenon
 - what is the scientific explanation for what happens in these weather conditions
 - how it affects people, animals, the environment and towns and cities
 - how we can prepare for and survive such events.

Groups could present their findings in one of the following formats:

- oral presentation (e.g. PowerPoint, speech, interviews)
- written presentation (e.g. newspaper articles, blogs, letters)
- theatrical presentation (e.g. play, video, musical, poetry)
- visual art presentation (e.g. posters, artwork, mural, sculptures)

Concluding Activities

Seasonal Weather (pages 8–13)

- **Talking about the weather**
 - Choose five weather-related sayings (e.g. ‘breaking the ice’, ‘right as rain’, ‘fair-weather friend’, ‘raining cats and dogs’ and ‘every cloud has a silver lining’).
 - Explore their origins and meanings.
 - Create a poster or a brochure to illustrate these sayings and explaining their meaning.
- **Weather folklore**
 - Select five sayings related to predicting the weather (e.g. ‘lightning never strikes twice’, ‘kookaburras laugh when it’s going to rain’, ‘a ring around the moon means rain coming soon’, ‘breezes bring on sneezes’)
 - Decide whether these sayings are true or false.
 - Create a poster or brochure showing graphically a selection of natural ways to predict the weather
- **How hot is hot?**
 - Place two identical thermometers outside, one in a shady place and one in full sunshine
 - Leave them there for half an hour
 - Write down the air temperature recorded by the two thermometers
 - Place both thermometers in the sun
 - cover one thermometer with a sheet of black paper
 - cover the other thermometer with a sheet of white paper
 - leave them in the sun for about half an hour
 - Write down the air temperature recorded by the two thermometers
 - Discuss the different temperatures you have recorded
 - What do they tell you about measuring air temperature?
 - Write a report of your findings

Precipitation (pages 16–21)

- **Reading the clouds**
 - Study pages 16 to 17 of *Australia's Wild Weird Wonderful Weather*:

- create a chart for recording the following information:
 - the main cloud types
 - the days of the week (Monday to Friday)
 - the daily weather
 - At the end of each school day, record the types of clouds you observed in the sky that day and the weather you experienced
 - Discuss the types of clouds you recorded and how they related to the weather each day
 - Write a report about how observing the clouds helped you to predict the weather
- **Water vapour**
 - Using pages 16 to 21 of *Australia's Wild Weird Wonderful Weather*, discuss the water cycle:
 - Where does the moisture in the air come from?
 - Where does it go?
 - What sorts of processes create water vapour (e.g. condensation, evaporation)
 - To test the role of plants in creating water vapour:
 - Fasten a clear plastic bag over the leaves on the end of a tree branch on a sunny day
 - Observe what happens over the course of an hour and discuss the results
 - To test the evaporation of water, leave a number of different-sized receptacles filled with water in the sun outside your classroom:
 - Time how long it takes for the water to evaporate in each receptacle
 - Discuss why some take longer than others and where the water goes to
 - To test how condensation works:
 - Tie a plastic sheet onto four poles anchored in a sandpit or a garden
 - Place a small stone in the centre of the plastic sheet, so it is shaped like a shallow cone
 - Place a measuring cup under the centre of the sheet and leave it overnight
 - In the morning record:
 - Where water has collected—in the sheet or in the cup
 - How much water has been collected
 - Discuss the implications of this process
 - To predict when rain is coming, place a pine cone on an outside window ledge
 - Record when the pine cone opens up and when it closes (see page 41 of *Australia's Wild Weird Wonderful Weather*) and what the weather was like at the time
 - Leave the pine cone on the windowsill for a week to see how accurate it is at predicting the weather
 - Create a class wall chart recording the results and findings of your experiments

Sound, Light, Movement (pages 24–29)

- **Lights in the sky**

- Which natural phenomena identified on pages 24 to 27 of *Australia's Wild Weird Wonderful Weather* (e.g. sheet or fork lightning, rainbows, moonbows, colourful sunrises) have you seen?
- Choose one of these phenomena and create a piece of artwork that captures the colourful effects of these phenomena and your emotional response to them
- Display your artworks in the classroom and discuss how they make you feel
- **Which way is the wind blowing?**
 - Using pages 28 to 29 of *Australia's Wild Weird Wonderful Weather*, discuss how wind is created and how you can measure it
 - Make a windsock or a windvane for your schoolyard, so you can work out which way the wind blows where you live
- **Wind speed**
 - Find out more about the Beaufort Scale, including what each level on the scale represents
 - Create a poster, with drawings and diagrams that graphically illustrate each measure on the scale

Disastrous Weather (pages 32–37)

- **Natural disasters**
 - Study pages 32 to 37 of *Australia's Wild Weird Wonderful Weather* and select one of the following activities:
 - Create a wall chart:
 - Cover a wall of the classroom with butcher's paper
 - Divide the wall into four vertical panels, with the following headings: Storm, Fire, Flood, Drought
 - Divide the class into four groups to create a series of visual images for each natural disaster using mixed media (e.g. paint, crayons, ink, collage, newspaper cuttings, quotes from poems, maps, keywords)
 - Create and perform a movement piece that:
 - expresses the emotional impact of a natural disaster using dance and music
 - Create a sculpture that represents a natural disaster
 - Plan, design and draw your sculpture before you begin construction
 - Discuss what it will represent and how it is related to the natural disaster
 - Select the appropriate material to construct your sculpture (e.g. plaster, wire, fabric, paper, modelling clay, cardboard boxes, paddle-pop sticks)
 - Give your sculpture a title and display it in the classroom

Weather Forecasting (pages 40–45)

- **Weather proverbs**
 - Research the following proverbs about the weather and create a poster or wall chart illustrating each proverb and indicating whether it is true or false:
 - Frogs croaking in a lagoon, rain will come soon

- Clear moon, frost soon
- Rainbow in the morning, sailors warning; rainbow at night, sailors delight
- Smelly drains mean teeming rains
- Dew on the grass, no rain will pass
- Clouds shaped like rocks and towers mean we'll be beset by showers
- A ring around the sun or moon means rain will be coming soon
- Red sky at night, shepherds' delight; red sky in the morning, shepherds' warning
- **Weatherproofing**
 - Study pages 36 to 37 of *Australia's Wild Weird Wonderful Weather*
 - Divide the class into four groups
 - Allocate each group a natural disaster: flood, bushfire, thunderstorm or cyclone
 - Research how to survive in each disaster scenario including:
 - Preparing your house
 - Wearing appropriate clothing
 - Finding the best shelter
 - Preparing a survival kit
 - Contacting emergency services
 - Create a poster or brochure summarising your findings

Climate Change (pages 48–53)

- **Fighting global warming**
 - Discuss what students can do on a daily basis to help slow down climate change. This could include:
 - recycling to help reduce emissions
 - cutting down on the use of plastics
 - turning off appliances at home when they're not being used
 - walking, cycling and using public transport for travel
 - buying locally grown food and locally made products
 - using a clothesline rather than a clothes dryer
 - planting trees to absorb more carbon dioxide and create more oxygen
 - Create a number of wall charts with illustrations, diagrams and graphs showing what we can do to help fight climate change and cut down global warming
- **Renewable energy**
 - Research, identify and list the following:
 - Non-renewable energy (e.g. fossil fuels such as coal, oil and natural gas)
 - Renewable energy (e.g. solar, wind, wave, biofuels)
 - Discuss:
 - What type of energy do you use at home?
 - What type of energy do you use in your school?
 - What type of energy should we be using and why?
 - How could you reduce the use of non-renewable energy at home and at school?
 - Create a diagram of your house or your school identifying the non-renewable energy sources and showing the renewable energy sources that could replace them

Researching Weather (pages 56–63)

- What is a 'flash flood'?
 - Write a report about flash floods, providing examples of flash floods in Australia and the damage they have caused
 - Create a diagram of a flash flood, showing its affects
- Work with another student to create a television of a person who has experienced a natural disaster:
 - Choose your natural disaster
 - Listen to or read real-life interviews with survivors
 - Prepare a set of questions and possible answers
 - Record your interview as a video, making sure that both the reporter and the interviewee use appropriate body language, voice and gesture

Presenting the Weather

- Select your favourite double-page spread from *Australia's Wild Weird Wonderful Weather*
- Present the information contained in it using one of the approaches below:
 - **Written:**
 - A brochure providing rules, directions or instructions
 - A scientific report
 - A newspaper article
 - A letter to the editor of a newspaper
 - A weather blog
 - An advertisement
 - A fictional story
 - A memoir
 - **Spoken:**
 - A play or dramatization
 - A speech
 - A debate
 - A PowerPoint presentation
 - A song
 - A weather report
 - **Visual:**
 - A painting, collage or drawing
 - A comic or a graphic novel
 - A sculpture or a diorama
 - A weather map

Further Reading

Books

A number of weather-related books are included on page 62 of *Australia's Wild Weird Wonderful Weather*, including:

- Birch, Robin, *Weather and Climate: How Weather Works*. Melbourne: Macmillan Library, 2009
- Brasch, Nicolas, *Weather and Climate*. Melbourne: Echidna Books, 2005
- Burroughs, William J. et al, *An Australian Geographic Guide to Weather*. Sydney: Weldon Owen, 2004
- Colls, Keith and Whitaker, Richard, *The Australian Weather Book*. Sydney: Reed New Holland, 2012
- Day, David, *The Weather Watchers: 100 Years of the Bureau of Meteorology*. Melbourne: Melbourne University Publishing, 2007
- Elish, Dan, *Big Awesome Weather & Natural Disasters*. Bath, UK: Parragon, 2018
- Farndon, John, *Extreme Weather*. London: DK, 2007
- Healey, Justin, *Extreme Weather and Natural Disasters*. Sydney: Spinney Press, 2012
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Websites

A number of weather-related website addresses are listed on page 62 of *Australia's Wild Weird Wonderful Weather*, including:

- Bureau of Meteorology: bom.gov.au
- Cyclone names: bom.gov.au/cyclone/about/names.shtml
- Educational information: bom.gov.au/climate/data-services/education.shtml
- Heatwave information: bom.gov.au/australia/heatwave
- Indigenous seasonal calendars: bom.gov.au/iwk/calendars/gariwerd.shtml
- Indigenous weather knowledge: bom.gov.au/iwk
- Sunsmart information: sunsmart.com.au
- Weather radar: bom.gov.au/australia/radar