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Any day outdoors • Lesson 1 • Have a nice day

**Lesson 1**

**Launch**

**Year 1**

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| To read the most recent version of this task, download associated resources, and view embedded professional learning including classroom videos and work samples, visit:  [https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-1-have-nice-day](https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-1-have-nice-day?utm_source=docx&utm_medium=lesson_1&utm_campaign=ADO) |

# Lesson overview

Students are introduced to the concept of daily and seasonal changes. How might the weather impact planning and participating in a picnic?

## Learning Goals

Students will:

* represent their current understanding of the characteristics of weather and seasons.
* identify some of the characteristics of weather.
* recount their personal experiences of weather and how it changes over time.

Students will represent their understanding as they:

* record the characteristics of weather as drawings.
* participate in and contribute to discussions, sharing information, experiences and opinions.
* record ideas in a science journal.

## Assessment advice

In the Launch phase, assessment is diagnostic.

Take note of:

* How do students describe clouds and rain?
  + For example, are clouds described as bursting to produce rain?
* How do students describe wind?
  + Are moving trees the cause of wind?
* Are changes in the weather (daily or seasonally) noticed?
* Do students describe how the weather can affect their actions?
* Have students noticed how animals or plants are affected by the weather?
* What vocabulary are students using?

## List of materials

**Whole class**

* Individual science journal (digital or hard-copy)
* Materials to create a word wall

**Each student**

* Individual science journal (digital or hard-copy)
* Optional: Frames cut from sturdy materials such as ice-cream container lids, cardboard etc.

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| **Lesson Routine** | **Estimated time** | **Task type** |
| Experience and empathise | 15 minutes | Whole class |
| Elicit | 15 minutes | Whole class, Individual |
| Anchor | 10 minutes | Whole class, Individual |
| Connect | 10 minutes | Whole class |

# Launch

## Experience and empathise • Preparing to make observations

Ask students what they think it means (in terms of the weather) if someone says it is a ‘nice day’. Ask if they think today is a 'nice day', and if not, how they would describe it.

Discuss if frogs/cats/dogs/fish like the same types of days as humans. Suggest that the class could go for an observational walk outside to determine if it is a ‘nice day’ for people or frogs/cats/dogs/fish.

Discuss what ‘observation’ means and how it’s done. Refer to the five key senses (sight, hearing, touch, smell, taste). Brainstorm what students might expect to see and what they might look for, drawing out any comments related to weather.

## Elicit • Weather framing

Take students on an ‘observation walk’ around the school or local area. Stop at suitable locations so that students can make their observations. Encourage talk between students to support them to describe what they are observing, and the sensations they’re feeling because of the weather. Suggest students close their eyes to focus on how their skin feels (hot, cold, sticky).

Provide each student with a frame or ask them to form a frame with their hands and fingers.

Students use the frames to focus on specific areas of the environment, such as the sky, clouds or any things that might be moving with the wind. They describe what they can see in each frame. Use questioning to draw out words that describe the weather and record them for the word wall.

Note: Looking directly at the Sun can cause permanent eye damage. In rare cases this might occur without any pain. Warn students against looking directly at the Sun at any time.

Students represent what they have just experienced and/or already know about weather by drawing in their journal.  
  
Students share their drawings with the class. Record their ideas about the weather in the class science journal under the heading ‘What we think we know about weather’.

## Anchor • Sculpture gallery

Discuss if the weather observed today was the same yesterday/last week/on their last birthday etc., the different types of weather students have experienced, and changes in weather they may have observed.

**Potential discussion prompts**

* *What was the weather like today?*
* *What was it like yesterday/on the weekend/last week? Was it the same as today?*
* *What different types of ‘weather’ have you seen and experienced?*
* *How does weather change from day to day?*
* *What about over a longer time? Is the weather the same all year round?*

Students write a label or description for each picture in their [science journal](https://primaryconnections.org.au/using-science-journal-throughout-inquiry?utm_source=docx&utm_medium=lesson_1&utm_campaign=ADO).

## Connect • Discuss impacts of weather

Discuss how weather can impact what we can and can’t do sometimes, and what people do to plan and prepare for the weather.

**Potential discussion prompts**

* *Does the weather change what we can and can’t do outside sometimes?*
* *Do people usually go swimming when it is cold or raining? If they do, where might they swim?*
* *What about playing outside, or on play equipment on a really hot day?*
* *What about if we want to eat lunch outside, have a picnic, or go on an excursion? How might the weather impact that?*
* *What might people do if they have to go outside when it’s raining? Really cold? Really hot? Windy?*

Guide students to start thinking about the activity that they will be planning through this sequence (a picnic or a different school-related event, as is appropriate for your school).

Introduce the title ‘What we want to learn about weather’ in the class science journal.

Model and discuss the difference between making a statement (a claim followed by evidence) and asking questions. Model asking and recording questions about the weather, such as:

* *What types of weather do we have?*
* *Is the weather always the same?*
* *What can we find out about the weather?*
* *What are the seasons? What is the weather like each season?*
* *How does the weather affect what you wear or do?*

Students share questions they might have about the weather and record them in the class science journal. Record any questions related to seasons if they arise—this topic will be returned to in Lesson 6.

Refer to this question page after each lesson to see if any of the questions have been explored or answered through the activities and investigations in the unit, and to elicit and record further student questions about the weather.

**Reflect on the lesson**

You might:

* begin a class word wall or glossary, including the words from the lesson that students think would be useful to recall throughout the unit.
  + At this stage, the word wall should only include words that students have offered themselves during the lesson. The word wall is added to in subsequent lessons. Thus, new vocabulary is introduced in context.

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**Year 1**

Any day outdoors • Lesson 2 • Weather symbols

**lesson 2**

**inquirE**

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| To read the most recent version of this task, download associated resources, and view embedded professional learning including classroom videos and work samples, visit:  [https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-2-weather-symbols](https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-2-weather-symbols?utm_source=docx&utm_medium=lesson_2&utm_campaign=ADO) |

# Lesson overview

Students explore the symbols used to talk about weather and begin a daily weather chart.

## Key learning goals

Students will:

* discuss how symbols are used to communicate information.
* create symbols that represent weather.
* explore symbols used in newspaper and television weather information reports.
* discuss why people want to know about the weather.
* participate in ongoing observation, recording and discussion of daily weather conditions.

Students will represent their understanding as they:

* identify some characteristics of weather.
* identify symbols used to represent the characteristics of weather.
* observe and record the characteristics of weather.

## Assessment advice

In this lesson, assessment is formative.

Feedback might focus on:

* Are students able to use common words (cloudy, stormy, rain, sunny, and windy) to describe the weather?
* Are students able to recognise common symbols and describe what they mean?
* Are students able to describe how their behaviour might change in different weather conditions?

## List of materials

**Whole class**

* Class science journal (digital or hard-copy)
* Material to create a word wall
* Demonstration copy of **Symbols in my world Resource sheet**
* Demonstration copy of **Weather symbols in forecasts** **Resource sheet**
* Optional: A video of a local weather report
* Optional: Photographs of symbols used in everyday life or around the school
* Optional: Clips of different weather sounds (rain, wind, thunder etc.)
* Optional: Computer and appropriate software for students to draw symbols
* Optional: The Peppa Pig episode ‘Weather Station’

**Each student**

* Individual science journal (digital or hard-copy)
* 4 small pieces of paper, approximately 8 cm x 8 cm
* Device that connects to the internet (may be shared between students)

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| **Lesson Routine** | **Estimated time** | **Task type** |
| Re-orient | 5 minutes | Whole class |
| Question | 20 minutes | Whole class, Individual |
| Investigate | 15 minutes | Collaborative teams, Whole class |
| Integrate | 15 minutes | Whole class |
| Investigate (ongoing) | 15 minutes | Whole class |
| Integrate | 5 minutes | Whole class |

# Inquire

## Re-orient

Recall the previous lesson, focusing on the pictures students drew after the observation walk. Discuss what they drew, and why they choose to draw it that way. For example, if they drew the sun, they may have drawn a yellow/orange circle with 'light rays' coming out of it. This is a common symbol for the sun that students may have encountered before.

## Question • Symbols and their meaning

Review the questions students asked about the weather in the Launch phase. Refer to a student question (if one has been asked) as a jumping off point for the following investigation about the way weather is recorded/forecast. For example: *How do we write or draw to show what the weather is like?* If students haven’t asked this question themselves, add it to the list of class questions and discuss that answering this question will be the centre of today’s investigation.

Discuss how, sometimes, pictures/symbols give us information and instructions.

Use the **Symbols in my world Resource sheet** to discuss what symbols are, what each symbol displayed means, and any other symbols students might know. You may need to introduce the word ‘symbol’ to students.

**Potential discussion prompts**

* *What pictures/symbols have you seen that tell you information, or give you instructions?*
* *Can you describe them?*
* *Where do you see them?*
* *Why do we need these symbols?*
* *How are these symbols helpful?*

**Ask:** *What symbols might we use to tell people what the weather is like?*

Recall student drawing and labels/descriptions from the previous lesson. Brainstorm words used to describe different types of weather and add them to the word wall. For example: rainy, snowy, frosty, cloudy, sunny, stormy, humid, windy.

Students draw four symbols for different types of weather, with each symbol on its own small piece of paper.

A close-up of several symbols

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Group together students’ drawings for each type of weather. Examine each group in turn and discuss the similarities and differences in the symbols that the students have drawn.

You might need to further group the drawings in each category. For example, for ‘rainy’ some students might have drawn a cloud, some might have drawn rain drops, and others an umbrella or raincoat.

**Potential discussion prompts**

* *What weather type do these symbols represent?*
* *How are they the same? How are they different?*
* *How do they relate to the weather type being described?*
* *Which of these symbols could be used to describe today’s weather?*

**Optional:** Students recreate these weather symbols in their science journals.

## Investigate • Exploring weather symbols

Invite students to explore weather information reports from websites ([WillyWeather](https://www.willyweather.com.au/) or [Bureau of Meteorology](http://www.bom.gov.au/)) to learn about the symbols used.

Allow students time to explore a weather app or website with a partner, discussing the symbols that have been used and other things they notice.

Discuss what students noticed about the symbols used in the weather app/website, the similarities and differences between the symbols used there and the ones they drew, and anything else they noticed.

**Potential discussion prompts**

* *What is the same about the symbols used on the app, and the ones we drew? What is different?*
* *How do the symbols relate to the weather type?*
* *What other information did you notice?* 
  + Students might have noticed the numbers that indicate temperature, possible colours (blue or red) to indicate high or low temperatures, or hourly updates for the expected weather for the day. Discuss each thing they have noticed.
* *Which symbols gives us the ‘best’ information about the weather type?* 
  + For example, raindrops or a cloud with raindrops, would be the most appropriate for rain, because it represents what happens. A cloud is ambiguous because it can be cloudy without rain, and umbrellas are often used on sunny occasions to provide shade.

As a class, agree on a symbol to represent each weather type for the rest of the teaching sequence. Draw and label the selected symbols in the class science journal. You might also include a drawing of each symbol next to the appropriate word on the word wall, and/or ask students to draw and label these symbols in their individual science journals.

**Optional:** Watch a television weather report. After viewing the report discuss:

* the types of weather reported.
* how it might have been different from place to place.
* why the weather might be different across Australia.
* comparisons between First Nations calendars from different parts of Australia.

## Integrate • What do we already know about the weather?

Discuss why people would want to know about the weather, what weather information is useful, and the kind of information weather reports provide. Link to the discussion in the Launch phase about how some activities are impacted by the weather.

**Potential discussion prompts:**

* *Why do people want to know about the weather?*
* *What information do people want to get from weather reports?*
* *Do weather reports give us helpful information?*
* *Why do you think they use symbols?*
  + Information can be gathered ‘at-a-glance’, you don’t have to be able to read etc.
* *Why would it be helpful to know what the weather might be if you were planning a day at the beach, or a camping holiday etc.?*

## Investigate • Watching the weather (ongoing)

Explain that students are going to become ‘weather watchers’: the class will regularly observe the weather and compile its own weather report table. An example table has been included below, but should be customised to suit the days and times when your class will make their observations.

**A screenshot of a weather watch

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Introduce the recording table and symbols that your class will be using. Discuss the purpose and features of a table: we use a table to organise information. It has a title, columns with headings and information organised under each heading.

Explain that at the selected time on the selected days, the class will go outside to observe what the weather is like. These observations will be recorded in the table.

Take students outside for their first observation and model the first entry, using the weather symbols that were agreed on earlier in the lesson.

Discuss that the ‘Daily review’ section will be completed after the second observation of the day as the class recounts what happened with the weather for each day.

**Over the following days**

As you lead discussion about each day’s weather and record the daily summary, discuss the types of clothing and activities that might be suitable for those particular weather conditions. Suggest that this will help with the planning for the picnic/other event (what clothes to wear for the different conditions).

You might like to have dolls and a range of seasonal clothing and accessories so students can adjust their clothing and accessories to suit daily weather conditions.

**Optional:** Students keep individual records in their science journals. Using a copy of the recording table they might use photocopied versions of the class weather symbols or draw their own.

## Integrate • Review and add to students’ questions

Review the students’ question page in the class science journal and add any new questions students might have.

**Optional:** Watch the Peppa Pig episode ‘Weather Station’.

**Reflect on the lesson**

You might:

* add to/review the class word wall.
* review the agreed upon weather symbols and what they mean.
* make predictions about tomorrow's weather.

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**Year 1**

**lesson 3**

**INQUIRE**

Any day outdoors • Lesson 3 • Cloud cover

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# Lesson overview

Students identify and describe cloud cover, explore how clouds might predict rain and consider how this can affect everyday life.

## Key learning goals

Students will:

* identify clouds as a feature of the sky.
* describe how much of the sky is covered by cloud.

Students will represent their understanding as they:

* discuss their experiences of observing and recording the weather.
* make observations of the sky.
* discuss language used to describe the amount of cloud cover.
* represent observations of cloud cover and label appropriately.

## Assessment advice

In this lesson, assessment is formative.

Feedback might focus on:

* Can students record observations through text, drawing or digital photography?
* Are students able to observe and use a varied vocabulary to describe the sky?
* Are students able to informally compare the amount of cloud cover in the sky?
* Are students able to use their observations of the sky to predict rain?

## List of materials

**Whole class**

* Class science journals (digital or hard-copy)
* Word wall
* ‘Weather watch’ class table
* Demonstration copy of **Eye to the sky** **Resource sheet**
* Factual texts about the weather
* Optional: photographs of the sky
* Optional: digital camera or iPads

**Each student**

* Individual science journal (digital or hard-copy)
* Frame from Lesson 1

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| **Lesson Routine** | **Estimated time** | **Task type** |
| Re-orient | 5 minutes | Whole class |
| Question | 15 minutes | Whole class |
| Investigate | 15 minutes | Whole class |
| Integrate | 25 minutes | Individual, Whole class |

# Inquire

## Re-orient

Review the weather watch table and add today's entry. Discuss what the class has observed and recorded about the weather.

Review the previous lesson. Focus on the weather symbols for clouds: both the ones students created and the ones used by weather apps/websites.

## Question • Cloud cover predictions

Discuss how students know about the day’s weather. Encourage them to consider that looking at the sky often helps us predict or know about the weather, and that when observing the sky it is important to see as much of it as possible.   
  
**Ask students:** *Do you think we will see clouds in the sky on a day like today? What sort of clouds might we see? Why do you think that?*

## Investigate • Describing cloud cover

Take students outside to an open space and provide each student with a frame, as used in Lesson 1. Encourage the students to view and describe the sky by looking in front, to the right, to the left and behind. Through discussion, they might learn that the sky can look different from different directions.

Note: Looking directly at the Sun can cause permanent eye damage. In rare cases this might occur without any pain. Warn students against looking directly at the Sun at any time.

**Discuss:**

* how these four views can be used to build a picture of what the sky is really like and can more accurately describe the sky.
* different words we can use to describe the sky, such as ‘empty sky’, ‘blue sky’, ‘grey sky’, 'lots of clouds' or 'white clouds'. Record student ideas.
* how much cloud cover students think there is. You might like to introduce the scientific descriptions of cloud cover if you feel it is appropriate for your students: clear (no cloud), cloudy (more cloud than clear sky), scattered cloud (smaller clouds scattered over the sky) and overcast (total cloud cover). Some students might also make a connection between the amount of cloud cover in the sky and brightness.

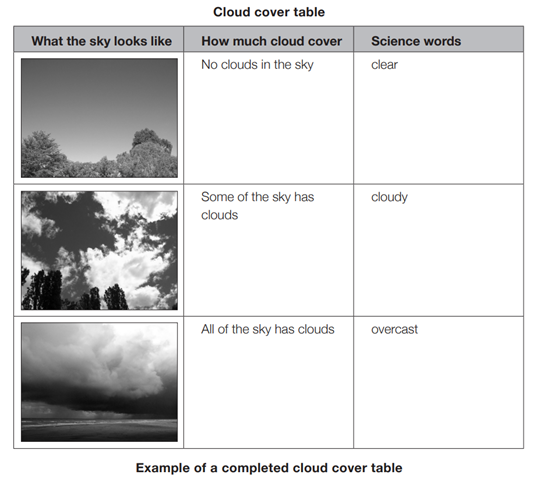
Make recordings of the cloud cover.

* LOW TECH: Use a digital camera to record the cloud cover.
* HIGH TECH: Use student iPads or digital devices to record the cloud cover.

Discuss and list observations in the class science journal.

Create a class table to describe different levels of cloud cover. Review the purpose and features of a table.

Discuss the headings and what information will go into each column.



## Integrate • Drawing cloud observations

Invite students to use their science journals to draw a picture of the sky as they observed it and to write a caption (or for you to scribe) that describes the cloud cover.

**Discuss:** *Does every cloud bring rain?* Emphasise that clouds are made up of tiny water droplets. When the drops start joining together, they become heavy and fall as rain.

Add the new vocabulary to the word wall. If possible, include photographs of the sky as a cue for students reading the words.

Review the question page in the class science journal for questions on clouds.

Link the discussion of clouds back to the Launch phase by asking students if the type of clouds in a sky will affect the picnic (or other outdoors event). Explain that some weather might affect how they plan for the picnic, and that there are a lot of decisions to be made when going on a picnic.

As a class, build a list of decisions that will need to be made in preparation for the event. For example:

* the food to take.
* what to wear.
* where to go.
* what to do if it rains.
* what to do if it is too hot.
* whether the class pet can come, and what it may need.

Explain that when there is a lot of information to think about, it might need to be sorted. A decision tree can help sort information and make decisions. Provide an example of a decision tree for where to eat lunch or to wear a hat (‘no hat, no play’), adapting based on your school rules.

A diagram of a diagram

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Invite students to make a decision tree to help them decide which day would have good weather for a picnic.

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Discuss if clouds or rain will stop a picnic. This is a good opportunity to reinforce that cloud cover do not always indicate that it will rain.

Review the students’ question page in the class science journal and review the questions related to clouds and rain. Add any new questions students might have.

**Reflect on the lesson**

You might:

* add to/review the class word wall.
* review the agreed upon symbol for clouds and determine if it/they cover all the different types of clouds discussed during the lesson.
* make predictions about tomorrow's weather.
* review the students’ question page in the class science journal and review the questions related to wind. Add any new questions students might have.

**Weather watch table**

From this point, when observing and recording daily weather for the weather watch class table, highlight details about the amount of cloud cover using scientific language where appropriate. Remember to discuss clothing and activities that might be suited to the season and the particular type of weather conditions.

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**Year 1**

Any day outdoors • Lesson 4 • Is it hot today?

**lesson 4**

**inquire**

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# Lesson overview

Students describe the sensations they feel when experiencing different temperatures.

## Key learning goals

Students will:

* identify that temperature is a distinctive characteristic of the weather.
* use a scale to describe temperature.
* identify that thermometers can be used to measure temperature.

Students will represent their understanding as they:

* discuss their experiences of observing and recording the weather.
* physically represent their understanding on a simple scale.
* follow instructions to describe temperature.
* use a simple temperature scale to describe temperature.

## Assessment advice

In this lesson, assessment is formative.

Feedback might focus on:

* Have students identified differences in air temperature?
* Have students used a variety of vocabulary words to describe the different temperatures.
* Have students shared examples of how different temperatures have affected the clothes they wear?
* Have students described how plants and animals are affected by different temperatures?

## List of materials

**Whole class**

* Class science journal (digital or hard-copy)
* Word wall
* Weather watch class table
* Demonstration copy of **Our temperature tool** **Resource sheet**
* A source of warm or hot hair
* A source of cold air (e.g. a freezer, a refrigerator, an air conditioner, a fan)
* Self-adhesive notes or cards/strips of paper to record temperature words
* Optional: bucket of ice cubes
* Optional: Images taken with a thermal camera
* String or chalk to mark physical temperature scale
* Optional: Different types of thermometers (e.g. colour-band, alcohol and digital thermometers)

**Each student**

* Individual science journal (digital or hard-copy)
* A paper fan or piece of card
* **Our temperature tool** **Resource sheet** on A4 thin card
* Coloured pencils, including red and blue
* Scissors
* Peg or large paper clip
* Optional: digital devices for recording a daily weather report for parents

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| **Lesson Routine** | **Estimated time** | **Task type** |
| Re-orient | 5 minutes | Whole class |
| Question | 10 minutes | Whole class |
| Investigate | 10 minutes | Whole class |
| Integrate | 5 minutes | Whole class |
| Investigate | 30 minutes | Whole class |
| Integrate | 10 minutes | Whole class, Individual |

# Inquire

## Re-orient

Review the weather watch table and add today's entry. Discuss what the class has observed and recorded about the weather.

Review the previous lesson, focusing on the decision tree that was created to decide if the cloud cover would impact our picnic plans.

## Question • Describing different temperatures

As in Lesson 2, explore weather information reports from websites ([WillyWeather](https://www.willyweather.com.au/) or [Bureau of Meteorology](http://www.bom.gov.au/)), this time focusing on the numbers that represent the predicted temperature for the day. Discuss what students think the numbers tell us about what the weather will be like that day. Discuss the word ‘temperature’ and what it means.

Highlight/recall the language about temperature that students have used in this and previous discussions about the weather. For example:

* *Do you remember when Aden said that it was cold this morning?*
* *Do you remember when Sascha told us it was hot after lunch on Monday?*

Link the idea that we use words to describe what the air feels like to us and how it makes our bodies feel, such as 'cold' and 'hot'. Brainstorm and record temperature words to describe how the air feels. Record these on cards or self-adhesive notes (to enable them to be moved later on).

## Investigate • Experiencing different temperatures

Explain that the students are going to investigate some different types of air to find out what it feels like.

Ask students to blow on their hand and share descriptions (adjectives) of how the air feels. Discuss if using pursed lips (colder) provides a different response than an open mouth (hotter due to the slower speed of the air). Record responses in the class science journal.

Have students walk past a source of warm or hot air. Share descriptions of how the air feels, noting if the terms students use have already been recorded on cards/self-adhesive notes, and recording them if they have not been.

Provide each student with a paper fan or piece of card. Ask students to fan themselves and share and record descriptions of how it feels, again noting if the terms students use have already been recorded on cards/self-adhesive notes, and recording them if they have not been.

Have students walk past a source of cold air to share and record descriptions of how it feels, again noting if the terms students use have already been recorded on cards/self-adhesive notes, and recording them if they have not been.

## Integrate • Ordering temperature words

Review the descriptions/words used for different air temperatures that you have recorded during the lesson on cards or self-adhesive notes.

As a class, order the descriptions/words from hottest to coldest and number them.

Conclude this Inquire cycle by adding the relevant vocabulary to the word wall.

## Investigate • What is today’s temperature?

You might like to lead the following discussion and observation about the current weather outside, if appropriate for your students and context.

**Potential discussion prompts**

* *How do you know it is hot/cold?*
* *What do you feel that makes you think it is hot/cold?*
* *Why do you think it feels hot?*
* *What do you think is making it feel cold?*
* *How do your pets/dogs/cats behave when it is hot/cold?*
* *How do you think the local animals are affected by the hot/cold?*
* *Can we tell if a plant is too hot?* 
  + Wilting leaves etc.

Make a line with string or chalk to create a physical temperature scale, long enough for all students to place themselves along. Ask students to hold each of the temperature cards created, with ‘hot’ at one end of the line, ‘cold’ at the other end, and the other cards spaced appropriately in between.

**Optional:** Discuss with students to determine the appropriate placement of each of these cards. For example, if they have used the word 'freezing' they may decide that is actually colder than 'cold', reorganise appropriately.

Once the physical temperature scale is set up, ask the other students in the class to stand on the line closest to the card that best describes the current temperature. Ask students to give reasons why they chose to stand at that point, for example, ‘I feel cold because there’s a cold wind out here’ or ‘I feel hot because the Sun is hot’.

**A white paper with black text

Description automatically generated**Introduce different weather scenarios (for example at night, in different weather conditions or in a different season). Students place themselves on the scale according to how they imagine they would feel and give reasons for where they have chosen.

Discuss what other words might go on the scale between hot and cold and add those words to cards to be included in the scale.

Revise the word ‘temperature’ as a way of describing how hot it is.

Return to the classroom if needed and review the language recorded from the first inquiry cycle in this lesson.

**Discuss:**

* the words students could use to describe the outside temperature today.
* the different ways students might have seen temperature being measured, such as when they have been sick, using a thermometer at home or school.

Introduce **Our temperature tool** **Resource sheet** to show that there are four temperature words on the right-hand side that can be used to indicate the temperature.

**Optional:** You might like to create your own version of the temperature tool using the words offered by the students.

Discuss how colours can be used to demonstrate temperature.

**A temperature tool on a white board

Description automatically generatedPotential discussion prompts**

* *What colour might represent hot? Why do you think that?*
* *What about cold? Or warm?*
* *What colours do they use on hot and cold water taps? Why do you think they use those colours?*

Using the **Our temperature tool resource sheet**, students colour the boxes with the temperature words in them using appropriate colours, and draw pictures of activities and/or clothing suitable for the four temperatures in the boxes on the left-hand side.

Students add the temperature tool to their science journals, gluing along the left hand edge only. This will allow them to slide a peg or large paper clip up and down the right side of their temperature tool to mark the temperature each day.

Use the demonstration copy of the **Our temperature tool resource sheet** to create a version for the whole class and use it to describe the day’s temperature.

HIGH TECH: Use digital devices to record a daily weather report for sharing with parents.

Explain that the tool is a type of thermometer, using colours and words to describe the temperature. If possible, show students different types of thermometers, such as colour-band, alcohol and digital thermometers or the colours on a thermal image.

Measure the temperature in the classroom and outside and compare it to students’ descriptions.

## Integrate • How temperature impacts our choices

**Discuss:**

* how students know when their pets are hot/cold.
  + How do they behave? How can we help them?
* how temperature can affect:
  + what activities we can do.
  + the food we eat.
  + the clothes we wear.
* how temperature may affect the planning of the class picnic.

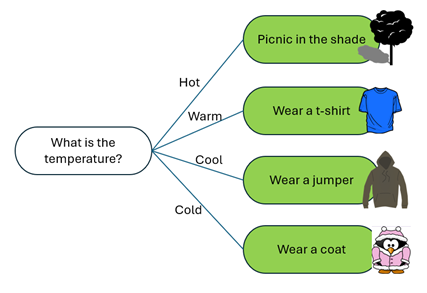
Provide students with examples of activities, food and clothing and ask them to use their temperature tools to show the temperature best suited to each example.

**Potential discussion prompts**

* *What would be a suitable temperature for wearing gloves?*
* *What would be a suitable temperature for going swimming outside?*
* *What traditional clothes might tell us about where people came from?*

Discuss students’ suggestions and reasons and use them to create a decision tree for determining temperature. Link the different temperatures to how they might plan for a picnic.

Allow students time to draw their decision tree in their science journals.



**Reflect on the lesson**

You might:

* add to/review the class word wall.
* review how temperature impacts on clothing and activity choices.
* make predictions about tomorrow's weather.
* review the students’ question page in the class science journal and review the questions related to wind. Add any new questions students might have.

As you continue to fill in the weather watch table, refer back to the details about temperature explored in this lesson.

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**Year 1**

Any day outdoors • Lesson 5 • Is it windy?

**lesson 5**

**inquire**

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| To read the most recent version of this task, download associated resources, and view embedded professional learning including classroom videos and work samples, visit:  [https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-5-it-windy](https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-5-it-windy?utm_source=docx&utm_medium=lesson_5&utm_campaign=ADO) |

# Lesson overview

Students identify and describe the impact of wind and test the level of wind in different parts of the school.

## Key learning goals

Students will:

* identify wind strength as an important characteristic of weather.
* observe the effect of wind on different materials.
* use a selection of materials to investigate wind around the school.
* use a wind meter to observe the strength of the wind.

Students will represent their understanding as they:

* discuss ideas and experiences of wind.
* record and report on an investigation of the wind.
* use language to make distinctions, speculate and question.

## Assessment advice

In this lesson, assessment is summative.

Students working at the achievement standard (science inquiry) should:

* be able to use their experience to predict windy places in the school.
* be able to make and record informal wind measurements.
* be able to compare their observations with those of others and the predictions that were made.

Refer to the Australian Curriculum content links on the [Our design decisions tab](https://primaryconnections.org.au/teaching-sequences/year-1/daily-and-seasonal-changes?utm_source=docx&utm_medium=lesson_1&utm_campaign=ADO) for further information.

## List of materials

**Whole class**

* Class science journal (digital or hard-copy)
* Word wall
* Weather watch class table
* Range of differently weighted materials cut to the same size (e.g. 8 x 15 cm), including:
  + lightweight materials that do not tear easily (thin card, calico, plastic from plastic bags)
  + heavyweight materials (heavy card, balsa wood, linoleum)
* Demonstration copy of **Moving materials** **Resource sheet**
* Demonstration copy of **Wind investigation planner Resource sheet**

**Each group**

* Hand-held fan (made from thin pleated cardboard or similar)
* 2 Pegs
* Coat hanger
* **Moving materials** **Resource sheet**
* **Wind investigation planner Resource sheet**

**Each student**

* Individual science journal (digital or hard-copy)
* Frame from Lesson 1

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| **Lesson Routine** | **Estimated time** | **Task type** |
| Re-orient | 5 minutes | Whole class |
| Question | 10 minutes | Whole class |
| Investigate | 20 minutes | Whole class |
| Integrate | 5 minutes | Whole class |
| Investigate | 25 minutes | Collaborative teams, Whole class |
| Integrate | 10 minutes | Whole class |

# Inquire

## Re-orient

Review and add today's entry to the weather watch table. Discuss what the class has observed and recorded about the weather.

Review the previous lesson, focusing on the decision tree that was created to decide how temperature impacts our clothing and activity choices.

## Question • What is wind?

Recall the language about wind that students have used in previous discussions about the weather and when observing and recording for the weather watchers activity, using prompts such as *Do you remember when Yumi said it was windy yesterday morning?*

Invite students to wave their hands in front of their faces and to spin in a circle with their arms out to feel the movement of air around them.

**Ask:** *What can you feel?* Elicit the idea that they feel moving air. Discuss how when we experience moving air outside, it is part of the weather called ‘wind’.

## Investigate • Investigating wind strength

Discuss students’ experiences with wind, including:

* *What types of activities work well when there is wind?*
  + For example, flying kites, kite surfing, wind chimes, wind socks at airports.
* *How can you tell when there is wind?*
  + Possible answers or observations might include that they can hear it and they see things, such as moving tree branches, waving flags and flapping laundry on a clothesline.
* *How can you tell what direction the wind is coming from?*
  + Possible answers might include wind vanes, the direction hair/ribbons/streams move.
* *Are there different types of wind?* 
  + Give names/symbols to the different strengths of wind (light wind, gentle, moderate, strong, gale)
* *Where have you experienced wind around the school?*

Record students’ ideas in the class science journal.

**Pose the question:** *How can we measure if it is windy? And how can we measure how strong the wind is?*

Students suggest how they could investigate these questions. Record ideas in the class science journal.

Through discussion establish that a light/weak/gentle wind might move light objects, but couldn't move heavy ones.

**Potential discussion prompts**

* *Could a light/weak/gentle wind move an empty plastic bag?*
* *What about the lunch order box? Or a tub full of books?*
* *Why do you think that think that?*
* *Would a strong wind also move an empty plastic bag?*
  + *How far might it move in a strong wind as compared to a weak wind?*
  + *How fast might it move in a strong wind as compared to a weak wind?*

Discuss the idea that students could make a wind meter to investigate how strong wind is.

Show a lightweight material and ask students the strength of wind that would be required to move it. Use a manual hand-held fan to demonstrate, fan lightly to simulate a gentle wind. Repeat with a heavyweight material and strong wind.

Introduce the selection of lightweight and heavyweight materials that teams can test. Write material names in the class science journal or add to the word wall for students to refer to.

Students use hand-held fans to test up to six materials, to select the two 'best' ones use for their wind meter: one that moves with a light wind and one that needs a strong wind to move.

Introduce the table on the demonstration copy of **Moving materials Resource sheet** to record results. Teams will record items that move in a 'gentle' wind, and items that need a 'strong' wind to move them in the table.

**Optional:** Review the purpose of a table (to organise information so that we can understanding it more easily) and its features.

**Optional:** If students are working in collaborative teams for the first time, consider taking time to discuss/model the expectations and conventions of working in a team.

## Integrate • Discussing wind strength investigation

After the investigation, discuss what teams found out about the wind strength needed to move different materials.

Collate the results of the materials that moved in different wind strengths in the class science journal. Discuss/retest any materials that teams may have placed in different categories.

## Investigate • Is wind different in different places?

**Pose the question:** *Is the wind different in different places around the school?*

Record students’ ideas of different locations around the school in the class science journal.

Discuss how students could use materials to investigate wind strength in different places in the school, for example, by attaching the materials to a coat-hanger or length of bamboo and taking the wind meter to the different places.

Invite each team to select one material that moves in a ‘light’ wind and one that moves in a ‘strong’ wind to use for their wind meters.

A black swinger with blue tags on it

Description automatically generated

Example of a wind meter

Form teams and allow time for students to construct their wind meters.

After teams have constructed their wind meter, discuss how they will be able to tell how strong the wind is in different places.

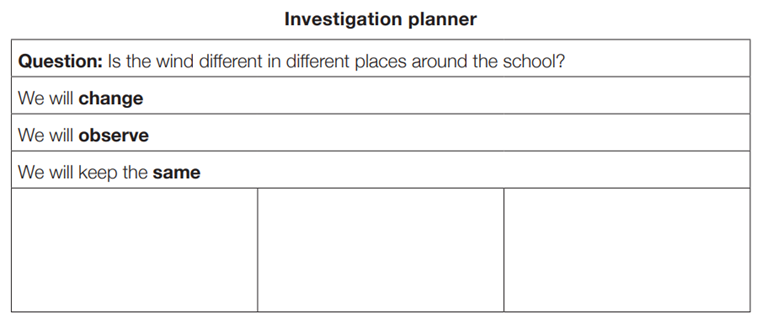
**Potential discussion prompts:**

* *Using your wind meter, how will you know the wind is blowing?*
* *What will happen if there is no wind?*
* *What will happen if there is a strong wind?*

Discuss what teams will:

* change: where the wind is tested.
* observe: how much the materials move.
  + For Year 1 learners the teacher provides the information for the ‘observe’ section, as this is usually the hardest part of the planner to decide.
* keep the same: the actual wind meter and the materials, the size of the materials, the way the materials are attached to the coat-hanger or bamboo, the height at which the wind meter is held.

Record ideas on **Wind investigation planner Resource sheet** or in the class science journal.



Model how to attach materials to the coat-hanger or bamboo.

Discuss why it is important to change only one thing at a time to keep the investigation fair.

Brainstorm places around the school where teams could test the wind. Discuss how to be safe when testing the wind around the school.

Discuss how teams will be able to find out if there is no wind, a light wind or a strong wind using their wind meters.

Record their predictions about wind strength in different areas in the class science journal.

Move outside so teams can use their wind meters to observe the strength of the wind in three different places.

## Integrate • Will wind affect our picnic?

Invite students to record their findings. For example, students might:

* draw a picture of the wind meter at each place, showing how much the materials moved.
* write the names of the places and the wind strength observed in each place.
* annotate copies of photographs taken in the different locations.

Discuss the teams’ investigation findings and why it can be important to know about the wind when planning for a picnic. Discuss the impact of a strong wind (e.g. falling trees, food blowing away, erosion of soil, throwing a ball).

Prepare a decision tree of what to do if their picnic is a windy day. Discuss if the direction of the wind will be important (if playing games or if there is protection in one direction).

A diagram of a diagram

Description automatically generated

**Reflect on the lesson**

You might:

* add to/review the class word wall.
* share a text about wind, for example *The wind blew* by Pat Hutchins.
* make predictions about tomorrow's weather.
* discuss what students learned about working in a team.
* relate the new information about wind to the decisions that will be made about the picnic.
* review the students’ question page in the class science journal and review the questions related to wind. Add any new questions students might have.

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Description automatically generated with medium confidence

**Year 1**

Any day outdoors • Lesson 6 • Seasons

**lesson 6**

**inquire**

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| To read the most recent version of this task, download associated resources, and view embedded professional learning including classroom videos and work samples, visit:  [https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-6-seasons](https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-6-seasons?utm_source=docx&utm_medium=lesson_6&utm_campaign=ADO) |

# Lesson overview

Students identify changes that occur in the world around them and classify the changes according to the length of time.

## Key learning goals

Students will:

* identify that changes in weather and seasons can be observed and described.
* describe seasonal patterns can be observed and described.

Students will represent their understanding as they:

* discuss ideas and experiences of change.
* identify how phenomena can change at different rates.
* use language to make distinctions, speculate and question.

## Assessment advice

In this lesson, assessment is summative.

Take note of:

* Are students able to order images of changes across a time scale?
* Are students able to identify the conditions that signify a change in seasons?
* Are students able to recognise the extensive knowledges of daily and seasonal changes in weather patterns and landscape held by First Nations Australians?

Refer to the Australian Curriculum content links on the [Our design decisions tab](https://primaryconnections.org.au/teaching-sequences/year-1/daily-and-seasonal-changes?utm_source=docx&utm_medium=lesson_1&utm_campaign=ADO) for further information.

## Resources

**Whole class**

* Class science journal (digital or hard-copy)
* Weather watch class table
* Enlarged demonstration copy of **Natural changes** **Resource sheet** cards, individually cut out
* **Natural changes Resource sheet** cards, individually cut out
* Three signs showing the words 'Yes', 'No' and 'I don't know'
* Enlarged demonstration copy of **Calendar Wheel** **Resource sheet**
* **Optional:** two photographs of different features around the school at the potential locations for the picnic that you think will have seasonal change.
* Time-lapse videos of natural and constructed changes. These could include:
* the sky changing from night to day, e.g. [March 12 Farm Sunset Timelapse](https://www.youtube.com/watch?v=UxYJkxx3NuU).
* a construction site, e.g. [Construction Time-Lapse: Single Family Home Built in 5 Months](https://www.youtube.com/watch?v=CMrpeNaNh84).
* tree changing with the seasons, e.g. [One year in 2 minutes](https://www.youtube.com/watch?v=KkY3JGDqMT8).
* ants building a nest, e.g. [Busy Ants Timelapse](https://www.youtube.com/watch?v=gYq8a3dXw80).
* a spider building a web, e.g. [Spider Net Building Timelapse.](https://www.youtube.com/watch?v=L284iD585rQ&t=23s)
* a flower unfurling, e.g. [Time lapse Dandelion flower to seed head.](https://www.youtube.com/watch?v=UQ_QqtXoyQw)
* [How do you know when rain is coming? video](https://www.abc.net.au/education/for-the-juniors-how-do-you-know-when-rain-is-coming/13605556) by the ABC

**Per student**

* Individual science journal (digital or hard-copy)
* **Calendar wheel Resource sheet**

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| **Lesson Routine** | **Estimated time** | **Task type** |
| Re-orient | 5 minutes | Whole class |
| Question | 15 minutes | Whole class |
| Investigate | 30 minutes | Whole class, Collaborative teams |
| Integrate | 10 minutes | Whole class |

# Inquire

## Re-orient

Review the weather watch table and add today's entry. Discuss what the class has observed and recorded about the weather in the context of what they have learned so far about clouds, rain, temperature and wind.

Discuss how the weather has changed over the days/weeks of the weather watch journal.

## Question • Is the weather the same all year round?

**Pose the question:** *Is the weather always the same at Christmas, your birthday, Easter, every holiday?*

Discuss, adapting to suit the context and experience of your students. The goal is to encourage students to realise the commonalities and differences in weather at certain times of the year.

* *Is it always hot/wet at Christmas?*
* *Do you go swimming in the summer/New Year holidays? Why do you go swimming at that time of the year?*
* *What did you do in the June/July school holidays?*
* *Did you do the same thin in the Christmas holidays? Why or why not?*
* *What was the weather like at 'Jack's' birthday party this year? What clothes did you wear to the party in January/June?*
* *What was the weather like at 'Jill's' party?*
* *How does the weather change at different times of the year?*

Show students the time-lapse videos of different changes and discuss.

**Potential discussion prompts**

* *What did you see happening?*
* *What changed? Why did the changes happen?*
* *How do you think the videos were made?*

**Optional:** Introduce the photographs of different features around the school or for the potential location of the picnic. Ask students where they think the photographs were taken.

Ask students to suggest if they think anything will change between now and the time of the picnic.

Record students’ thoughts in the class science journal.

## Investigate • What changes around us?

View and briefly discuss each enlarged card from **Natural changes Resource sheet**, including the change (before and after), and how long it takes for the change to happen. Explain that students will work in collaborative learning teams to answer questions about one of the cards.

Ask one member of each team to collect one natural change card. Allow time for teams to read and discuss their card.

Place the ‘Yes, ‘No’ and ‘I’m not sure’ signs in different locations around the classroom. Ask a question, for example, *Does your card show a change that takes minutes to happen?* Ask teams to stand in front of the sign that matches their answer. This provides an opportunity to assess students' understanding of their cards.

Invite students to compare their change cards with those of other students standing in front of the same sign. If students are standing in front of the ‘I’m not sure’ sign, discuss their cards to help them decide if they should move to the ‘Yes’ or ‘No’ sign.

Repeat with the following questions:

* *Does your change take hours to happen?*
* *Does your change take days to happen?*
* *Does your change take weeks or years to happen?*
* *Does your change happen in the sky?*
* *Does your change happen because of things animals do?*
* *Does your change happen because of things plants do?*
* *Does your change happen in our school?*

**Optional:** Encourage students to come up with their own questions about the change cards.

Create a timeline by asking students to group cards according to how long the change takes.

Discuss why it might be important to know how long a change takes, for example, knowing how quickly rain clouds can develop might help to prepare for wet weather.

Show students the video [How do you know when rain is coming?](https://www.abc.net.au/education/for-the-juniors-how-do-you-know-when-rain-is-coming/13605556) and discuss.

**Potential discussion prompts**

* *Which types of clouds tell you that rain is on the way?*
* *What did the four people say about how they know rain is coming? Have you noticed any of these things yourself?*
* *Which animals change their behaviour (what they do) when it is going to rain?*

Record students’ responses in the class science journal.

Discuss what other natural changes might give people useful information and/or whether predicting them would be helpful. Compare the weather at significant events for students. For example, ask *Is it usually hot or cold on your birthday?* or *Does it sometimes rain on your birthday?*.

Introduce the term ‘seasons’ to describe how particular types of weather or special events occur. Compare European seasons (summer, autumn, winter and spring) to a local/state Aboriginal and Torres Strait Islander Peoples seasons calendar.

## Integrate • Seasonal calendar

Invite students to create their own season calendar based on the weather (using the words on the word wall) and the important things that happen in the local environment.

Display an enlarged copy of the **Calendar Wheel Resource sheet** with the ‘Western seasons’ displayed. Add the local Aboriginal and Torres Strait Islander Peoples calendar if it is known. Discuss why these events were important to the local Peoples and how the events will vary in different parts of Australia and its islands.

Brainstorm a list of things that occur locally at the same time every year. Single events (1 day-1 week) can be marked in the month, but encourage students to consider things that happen over long periods of time (more than 1 month).

Discuss which of these could become part of the Year 1 season calendar. Encourage students to reach a consensus of the key season events and include these on the calendar wheel.

**Reflect on the lesson**

You might:

* add to/review the class word wall.
* display the calendar wheel in the classroom.
* make predictions about tomorrow's weather.
* relate the new information about the current season to the decisions that will be made about the picnic.
* review the students’ question page in the class science journal and review the questions related to wind. Add any new questions students might have.

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**Year 1**

Any day outdoors • Lesson 7 • Planning a picnic

**lesson 7**

**ACT**

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| To read the most recent version of this task, download associated resources, and view embedded professional learning including classroom videos and work samples, visit:  [https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-7-planning-picnic](https://primaryconnections.org.au/teaching-sequences/year-1/any-day-outdoors/lesson-7-planning-picnic?utm_source=docx&utm_medium=lesson_7&utm_campaign=ADO) |

# Lesson overview

Students apply their learning to predict what weather might occur during their picnic, and how they might modify their plans in response.

## Key learning goals

Students will:

* describe characteristics of weather such as cloud cover, temperature, wind and rain.
* identify that weather changes.
* identify clothes and activities that suit various weather conditions.
* use a decision tree to identify the equipment that will be needed for a picnic.

Students will represent their understanding as they:

* complete a picnic planner that is appropriate for predicted weather.
* participate in and contribute to discussions, sharing information, experiences, and opinions.

## Assessment advice

In this lesson, assessment is summative.

Students working at the achievement standard should be able to:

* notice how daily weather indicators and seasonal patterns help to make plans for their daily lives.
* use predictions of weather to make clothing recommendations.
* consider how the weather may change over the day.
* compare the difference between everyday and scientific vocabulary when describing the weather.
* use drawings, symbols, or digital photographs to document changes in weather over a series of days or weeks.

Refer to the Australian Curriculum content links on the [Our design decisions tab](https://primaryconnections.org.au/teaching-sequences/year-1/daily-and-seasonal-changes?utm_source=docx&utm_medium=lesson_1&utm_campaign=ADO) for further information.

## List of materials

**Whole class**

* Class science journal (digital or hard-copy)
* Word wall
* Weather watch class table
* Demonstration copy of **Picnic plannerResource sheet**
* Calendar wheel created in Lesson 6

**Each student**

* Individual science journal (digital or hard-copy)
* **Picnic plannerResource sheet**

NOTE: Consider how you will organise the picnic with your class, for example, if excursion forms are required, or extra parent helpers. Students may be able to have the picnic in the school grounds. Try to plan the picnic for the 30 minutes before the rest of the school are having their lunch/recess.

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| **Lesson Routine** | **Estimated time** | **Task type** |
| Re-orient | 5 minutes | Whole class |
| Anchor and Connect | 20 minutes | Whole class |
| Design | 15 minutes | Whole class |
| Communicate | 25 minutes | Whole class, Individual |

# Act

## Re-orient

Review the weather watch table and add today's entry. Discuss what the class has observed and recorded about the weather.

Review the class science journal, focusing on the decision trees that have been created and how people make choices based on the weather.

## Anchor and Connect • Pre-picnic planning

Remind students that it is time to plan for the class picnic. Suggest that the class will need to look at the seasons to identify what to expect at this time of year.

Use the calendar wheel to discuss the type of weather that can be expected.

Remind students that the weather can change each day. Revisit the weather watch class table to look for patterns in the last few weeks. Discuss if the weather is likely to follow the same pattern.

Remind students that the weather can change during the day. Suggest that the class check the weather forecast to see what the scientists expect the weather to be like on the day of the picnic.

## Design • What might we decide for our picnic?

Once the expected weather has been identified, display the decision trees to plan for the picnic. Ask the questions on the decision trees to help the students plan for the picnic.

* *Will it be cloudy?*
* *Will it rain?*
* *What is the temperature?*
* *Is it windy?*

Discuss the following plans:

* where the picnic will be held
* what the students will wear
* what food they should bring
* what games they can play
* whether the class pet will go to the picnic

## Communicate • Complete the picnic planner

Show the **Picnic planner Resource sheet** and explain to students that they will plan a picnic and share their plan with the class. Provide students time to complete their **Picnic planner.**

A picnic planner with black text

Description automatically generated

Students share their plans with the rest of the class to discuss what they might need to include in a 'whole class plan' to present to the school principal to ask for ‘permission’ for the picnic.

Optional: a delegation of students could present the plan to the principal to receive permission for the picnic.

The individual Picnic Planners could be used to write a letter to parents for the picnic.

Go on the class picnic.

### Reflect on this sequence

You might:

* Review the sequence with the class.
* Prepare a report that described the weather at the picnic and how the class prepared for it, including photos taken at the picnic.
* Discuss what students have learned and record their responses.
  + *Which activity helped you to learn something new?*
  + *Which activity did you enjoy? Why?*
  + *What did you learn about working with a partner?*