WEATHER AND CLIMATE

Activity Pack -- FREE Resource

Ages 6-10 | No Prior Reading Required
Classroom, Library and Home Use

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Weather or Climate?

'Climate is what you expect. Weather is what you get.' Weather is what the air is doing right now. Climate is the usual pattern of weather in a place, measured over 30 years or more.

Activity 1: Sort It Out

Statement	Weather	Climate
It is hailing right now	[ ]	[ ]
Summers here are usually hot and dry	[ ]	[ ]
Today is 22 degrees and partly cloudy	[ ]	[ ]
This town gets lots of rain every winter	[ ]	[ ]
A storm is coming this afternoon	[ ]	[ ]

Activity 2: The Water Cycle

Number the steps from 1 to 4 to show the water cycle.

Step	Order
High up, the vapour cools into tiny droplets that make clouds.	____
The sun warms water, and it rises into the air as invisible vapour.	____
The water flows back to the rivers and the sea.	____
The drops grow heavy and fall as rain, hail or snow.	____

Think About It

* Can you give an example of weather and an example of climate where you live?

* Why does the water cycle never stop?

Reading the Rain Gauge

Weather scientists read their instruments every day and write everything down. That's how every weather record started -- people with notebooks, writing down what they saw.

Activity 1: One Week of Rain

Day	Rain (millimetres)
Monday	**0**
Tuesday	**12**
Wednesday	**3**
Thursday	**0**
Friday	**8**

1. Which day had the most rain? _____

2. How many days had no rain? _____

3. Total rain for the week: _____ mm

Activity 2: Weather Puzzles

1. The hailstorm started at 3:10 and lasted 8 minutes. What time did it stop? _____

2. The forecast said 22 degrees. The next day was 30 degrees. How much warmer? _____ degrees

3. A '10% chance of rain' means rain on about _____ days out of 100 like this one.

Think About It

* Why do weather scientists write down the weather every single day?

* Was the forecast wrong if it said 10% chance of rain and it hailed?

Build a Weather Station

You can build a weather station from everyday things: a rain gauge from a cut plastic bottle, a wind vane from card and a pencil, a shady box for a thermometer, and a barometer from a jar, a balloon and a straw.

Activity 1: What Does It Measure?

Write the letter of what each instrument measures.

Instrument	Letter	Measures
Rain gauge	____	A. Air pressure
Wind vane	____	B. How hot or cold the air is
Thermometer	____	C. How much rain has fallen
Barometer	____	D. Which way the wind is blowing

Activity 2: Design Your Weather Station

DRAW YOUR WEATHER STATION. LABEL EACH INSTRUMENT AND WHAT IT IS MADE FROM:

I would put it: _____ because _____

Think About It

* Why should a thermometer be kept out of the sun?

* If the barometer's straw drops day after day, what might be coming?

When the Weather Changes Plans

Note to students:
This worksheet explores personal feelings. There are no right or wrong answers -- your thoughts are your own. Sharing is always optional. If any question brings up big feelings, please talk with a trusted adult.

Sometimes the weather ruins our plans, or damages something we worked hard on. It's normal to feel upset. Getting ready, and rebuilding, can help us feel stronger.

Activity 1: Feeling Check-In

Circle the words that show how you feel.

When something I worked on gets damaged, I feel:
Sad Cross Shocked Okay Other: _____

When there is a big storm, I feel:
Scared Excited Curious Calm Other: _____

When I'm ready for what's coming, I feel:
Safe Calm Proud Strong Other: _____

Activity 2: Weather Changed My Plans

DRAW A TIME THE WEATHER CHANGED YOUR PLANS:

What I did instead: _____

Think About It

* What helps you feel calm during a storm?

* Why might it help to keep a record when something goes wrong?

Same Weather, Different Consequences

The same storm can affect people very differently. A family with tools, savings and help nearby can rebuild quickly. Others may lose a harvest or a home. Where you stand when the weather changes makes all the difference.

Activity 1: If I Find a Problem I Didn't Cause...

Tick the things that would help. Cross the ones that wouldn't.

I Could...	Helps	Doesn't help
Learn more about the problem	[ ]	[ ]
Ignore it, because it isn't my fault	[ ]	[ ]
Tell other people what I learned	[ ]	[ ]
Help people who are affected	[ ]	[ ]
Make small changes, like saving energy	[ ]	[ ]

Activity 2: Our Be-Ready Plan

Three ways my family or class can get ready for a storm or a very hot day:

1. _____
2. _____
3. _____

Think About It

* If you discover a problem, are you responsible for helping to fix it -- even if you didn't cause it?

* If you could ask a climate scientist one question, what would it be?

My Weather Detective Goals

We can't stop the weather. But we can watch it, understand it -- and be ready. Here is a challenge: be a weather detective and record the weather every day.

Activity 1: My Weather Goals

Write or draw one goal for each time.

Goal Tier	My Goal	How I Will Do It	When I Will Start
THIS WEEK			
THIS TERM			
THIS YEAR			

Activity 2: Weather Detective Tracker

Colour a star each day you do it.

I did it!	Mon	Tue	Wed	Thu	Fri
I recorded the weather	*	*	*	*	*
I compared the forecast with what happened	*	*	*	*	*
I helped get ready for the weather	*	*	*	*	*
I learned something about climate	*	*	*	*	*
I saved energy (lights or screens off)	*	*	*	*	*

Think About It

* How did a barometer help get ready for a storm?

* Write your own weather detective motto in 10 words or fewer.

Teacher's Companion

No Prior Reading Required
This pack is fully standalone. No book or characters are referenced. Any student can complete these worksheets without prior reading. Suitable for classroom, library, and home learning programmes. This pack is an excerpt of a full book-specific learning pack available with purchase at **learningsmart.au**

Australian Curriculum Alignment

Learning Area	Strand	Year Level	Content Description (summary)
Science	Earth and Space Sciences	Yr 1-4	Daily and seasonal weather; the water cycle; weather and climate (WS1)
Science	Science Inquiry	Yr 1-4	Use simple instruments to observe, measure and record data (WS2, WS3)
Mathematics	Measurement and Statistics	Yr 1-4	Read tables, total data, tell time and compare temperatures (WS2)
Design and Technologies	Design Processes	Yr 1-4	Design and make simple weather instruments (WS3)
HASS	Geography	Yr 1-4	How weather affects people and places differently (WS5)
Gen. Capabilities	Ethical Understanding	Yr 1-4	Fairness and responsibility for shared problems (WS5)
Gen. Capabilities	Critical and Creative Thinking	Yr 1-4	Interpret data and evaluate forecasts (WS2)

16 Key Weather and Climate Lessons

#	Lesson
1	Weather is what the air is doing right now, in one place.
2	Climate is the usual pattern of weather over 30 years or more.
3	Climate is what you expect; weather is what you get.
4	The water cycle: evaporation, clouds, rain or hail, then back to the sea.
5	Air presses down on everything: that's air pressure.
6	High pressure usually brings calm, clear days.
7	Low pressure lets air rise, which can build clouds and storms.
8	Hail grows layer by layer inside a storm, like an onion.
9	A forecast tells you what's likely, not what's certain.
10	Storms that grow in minutes are the hardest to predict.
11	Recording the weather every day creates real data.
12	A barometer can warn you that a storm may be coming.
13	One storm doesn't show climate change -- a change in the pattern does.
14	The same weather can affect people very differently.
15	Climate justice asks who causes a problem and who feels it first.
16	Big idea: We can't stop the weather, but we can understand it and be ready.

Answer Keys and Discussion Guidance

WS1 -- Weather or Climate? (Answers)
Weather: hailing now; 22 degrees today; storm this afternoon. Climate: summers usually hot and dry; lots of rain every winter. Water cycle order: 2, 1, 4, 3.

WS2 -- Rain Gauge (Answers)
Most rain: Tuesday. No rain: 2 days. Total: 23 mm. Puzzles: 1. 3:18; 2. 8 degrees; 3. about 10 days.

WS3 -- Weather Station (Answers)
Rain gauge = C; wind vane = D; thermometer = B; barometer = A. Thermometers are kept in the shade so the sun doesn't heat them directly.

WS4 -- Sensitivity Note for Educators
Some students may have lived through floods, fires or storms, and some feel anxious about climate change. Do NOT require sharing. Keep the focus on understanding and getting ready. If a student discloses a concern, follow your school's wellbeing and child safety protocol.

WS5 -- Problems I Didn't Cause (Answers)
Helps: learning more; telling others; helping people affected; small changes like saving energy. Doesn't help: ignoring it. Discuss gently -- children are not responsible for fixing climate change.

WS6 -- Challenge Tracker
There are no correct scores. Celebrate every attempt; any day left blank is a chance for a gentle reminder, not correction.

Upsell Note for Educators
This generic pack is based on the Learning Smart book series. The full book-specific learning pack -- which references the characters, story moments, and adventure narrative -- is available with book purchase or subscription at **learningsmart.au**. Book-specific packs significantly increase student engagement and reading motivation.

Differentiation Strategies

Level	Strategy	Example Application
Below Level (support)	Reduce written output; use sentence starters; allow verbal responses; pair with peer.	WS2: use counters to total the rain. WS4: use feeling faces instead of writing.
On Level (standard)	Complete all activities as written. Use discussion partner for Think About It sections.	Standard completion with class debrief of Think About It questions.
Extension (enrichment)	Build a jar barometer and record the straw's position and the weather for two weeks.	WS1: compare the climate of your town with a Pacific island town using Bureau of Meteorology data.

7 Discussion Questions

1. What is the difference between weather and climate? Can you give an example of each?
2. Why couldn't the forecast predict the hailstorm? Was the forecaster wrong?
3. How can a barometer help us get ready for a storm?
4. Why does the same storm affect some families more than others?
5. If you could ask a climate scientist one question, what would it be?
6. If you discover a problem, are you responsible for helping to fix it -- even if you didn't cause it?
7. What does our school do to get ready for very hot days or storms?

Classroom Display Ideas

Class Weather Station: Real instruments with a daily recording chart beside them.

Water Cycle Loop: A circular display of the four water cycle steps.

Weather vs Climate: Two columns of student examples: what we get and what we expect.

Forecast Check: Compare each day's forecast with what actually happened.

Be-Ready Plans: Display students' WS5 plans for storms and hot days.

Questions for a Scientist: A wall of students' questions for a climate scientist.

Want the Full Adventure?

This free activity pack is inspired by the **Learning Smart book series** -- everyday adventures about character, confidence and growing into a kind, capable leader.

The Full Book-Specific Learning Pack Includes:

* Worksheets tied directly to the book's characters and story moments
* Story-based Think About It questions that deepen reading comprehension
* A Teacher's Companion with book-specific discussion questions
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