

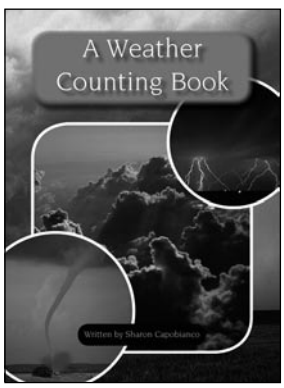


# A Weather Counting Book

| | Text Type | Lower<br>1500–1800 words<br>RA 8.8–9.2 | Middle<br>1900–2400 words<br>RA 9.3–9.7 | Upper<br>2500–3000 words<br>RA 9.8–10.2 |
|---|---|---|---|---|
| Fact | **Procedure** | Build Your Own Easel | Making a Cheesecake | So You Want to Be a Cartoonist? |
| | **Recount** (Explanation) | Ten Milestones in Space | Rail Accidents | Three Terrible Hurricanes |
| | **Information Report** (Description) | Mythical Creatures | The World of Caves | Top Towers |
| | **Information Report** (Explanation) | A Weather Counting Book | Two Polar Regions | Seven Ancient Wonders |
| | **Interview** | Food Science FAQs | Hobbies | Fireflies and Glow-worms |
| | **Biography** | Ned Kelly | Mother Teresa: Saint of the Gutters | Edmund Hillary |
| | **Explanation** | How Forensic Scientists Work | How Musical Instruments Work | How Solar Energy Works |
| | **Procedural Recount** | How I Learned to Be a Nipper | How I Trained for the Junior Triathlon | How I Learned to Snowboard |
| Fiction | **Realistic Fiction** (Out of School) | Junkyard Treasure | Outback Betty's | Harry's Dream |
| | **Realistic Fiction** (In School) | On the Case | The Real-Life School Project | Ms McMahon |
| | **Historical Fiction** | The Wooden Horse Trick | Cheung Saves the Day | The Slave |
| | **Fantasy** | The Cloud Washerwoman | Sammy Stevens Sings | Finbar and the Long Trek |
| | **Science Fiction** | A New Source of Power | The Intergalactic Race | Eighth Moon |
| | **Humour** | The Upstairs Dragon | My Rhyming Grandpa | Catty Bimbar and the New-Age Pirates |
| | **Mystery** | Mystery Under the Big Top | The Mystery of Autoplane 500 | The Mystery of the Missing Food |
| | **Folktales** | The Wicked Witch of the Singing Sands | Gulnara | Momotaro, Little Peachling |

MACMILLAN

We have designed these lesson plans so that you can have the plan in front of you as you teach, along with a copy of the book. Suggestions for teaching have been divided into questions and discussion that you may have with students before, during, and after they read. You may prefer to explore the meaning and the language in more detail before students read. Your decisions will depend on the gap between students' current knowledge and the content, vocabulary, and language of the book they are about to read. The more information students have up front, the easier it will be for them to read the text.




# A WEATHER COUNTING BOOK

**Lower level fact**
**Text type: Information Report (Explanation)**
**Reading age 9.0**
**Word count 1,521**

## Before Reading

Activate prior knowledge by asking students what they know about the weather. *Which elements of the weather do you know about?* Brainstorm a list and record students' responses. Guide the interaction to build understandings that cyclones, hurricanes, tornadoes, snow storms, rainbows, etc, are aspects of the weather. *What sorts of things can influence the weather?*

*Do you think the weather is easy or difficult to predict? Can the forecast be rainy and the weather turns out to be sunny, or vice versa? Why do you think it is not easy to predict the weather?* Discuss that this is not an exact science. *Scientists make the most likely prediction based on the information available to them at the time.*

## COVER

### Before Reading

Read the title and examine the cover photograph. Discuss what the book may be about. *What things do you notice? What does this cover suggest? What are the names of these things? What is the relevance of the word* counting*?*

*Read the blurb. What additional information does this give you? What do you expect to find inside this book?* Guide the discussion to build understandings that this book will provide information about a variety of weather topics.

*Are there any more clues to help us with the word* counting? Students may notice the number ten mentioned in the blurb.

Give the students a minute or two to browse the book to search for clues about the word counting. *Do you have any idea what it refers to?* Students should have observed the counting pattern throughout this text.

*What is the purpose of this book?*

## CONTENTS PAGE

*Open the book.* Discuss the features of the

contents page. *Where would I go to read about Four Seasons?* Students should quickly respond with the page number. Repeat for other pages. Encourage quick responses. *What do you know about information books?* Students should indicate that the reader can choose where they'd like to start.

Students should mention the terms *glossary* and *index*. Ask students to explain what each term means. Visit each of these pages to clarify that the glossary provides meanings for new or tricky words about the topic, and the index provides the page numbers to help the reader locate particular things in the book.

Revisit the contents page. Discuss the term *introduction*. *What does this mean?* Lead students to acknowledge that an introduction will provide background information about the topic that will help us read the book.

## INTRODUCTION

### During Reading

*What do you notice first about this page?* Guide students to discuss the information contained in the visual imagery. Ask students to read the captions and look at the pictures on pages 4 and 5. *What is the atmosphere?* Explain that around Earth is a layer of gases, and these form the atmosphere. *Where does weather take place? Reread the caption on page 4 to check. What is the sun? Check the caption to answer.*

*Read page 4 and find out what weather is. Jot down the sentence that tells you. Find out what causes changes in the weather and what these changes are. List them ready to discuss.*

*Knowing what the weather will be like helps us in our daily lives. Jot down some ways it helps us.*

### After Reading

*What is the weather?* Ask a student to read the sentences from the text. Clarify that the blanket of air is the atmosphere. *Why do you think it is described as being a* blanket *of air? Discuss the way it envelopes Earth.*

*What causes the changes in the weather? Do we know what kinds of changes occur in the atmosphere yet? What sorts of changes occur to the weather?* Direct students to reread the last sentence in the first paragraph to check if needed. *How can the weather be described?*

*Why is it helpful to know about the weather? How does this help us on a day-to-day basis? Check the text if needed.*

*What does it mean to* forecast *the weather? Do you think this is easy to do? Give reasons.*

## ONE SUN

### During Reading

*What do you know about the sun?* Invite students to brainstorm what they know.

*Locate the glossary words on page 6. Before we read, let's visit the glossary to find out what they mean. Have students predict and then check meanings in the glossary.*

*Read pages 5 and 6, and be ready to share some extra information about the sun. Jot down some of the finer details that you didn't know before.*

*What impact does the sun have on Earth's weather? As you read, take note of how the sun directly affects our planet. Be thinking about how the shape of Earth influences how the sun's rays affect different places at different times. Relate this to what you know happens each day. Be ready to explain your observations.*

### After Reading

Invite students to share new things they have learned about the sun. Make sure the conversation covers:

- that it is the nearest star to Earth
- it gives heat and light
- the temperature is about 15 million degrees Celsius at the centre

*How do you think scientists can work out how hot it is at the centre?*

*What is the axis of Earth?*

*How does the sun affect Earth? Invite students to explain. As they explain, demonstrate the relationship between Earth and the sun using two spherical objects. Probe students for additional information to support the demonstration. How does the curved surface of Earth affect the way heat and light occur? Demonstrate using the spheres.*

## TWO POLES

### During Reading

*What do the heading, illustration, and caption tell us this page is about? What are the two poles? Where is there life?*

*Read page 7. Find out why the poles are so cold. Be ready to show using the spheres what happens when Earth rotates and how this affects the polar regions.*

### After Reading

*How does Earth's axis affect the temperature at the North and South Pole? Hold the sphere representing the sun and ask someone to explain, placing a skewer through the sphere representing Earth and showing its rotation in relation to the sun.*

*So what happens at the two poles?* Students should explain that no direct sunlight touches the polar region. This means that little heat reaches Earth at the poles. *What does it cause?* Students should explain that it causes the area to ice up and freeze.

*What would you expect to happen as you move from the poles closer to the equator?* Students should indicate that the temperature would rise.

## THREE STEPS IN THE WATER CYCLE

### During Reading

*Look at page 9. What does the information on this chart tell us?* Give students a moment to study the water cycle to infer what is happening. Discuss. Tell students that a flow chart carries information that needs to be read, just like the words on the other page. Reading the words on page 8 and the flowchart will help you understand how the water cycle works.

*Read page 8. As you read you may wish to look at the flowchart to refer to each step as it occurs. Jot down a few ideas that will help you understand. Be ready to explain the water cycle with the help of the flowchart.*

### After Reading

Clarify any challenging sections of the text. Ask students what they know about the water cycle. Ask students to quickly tell you the three steps in the water cycle.

Now ask students to look at the flowchart on page 9 and explain what is happening. Ask one student to begin explaining. Offer support during the explanation to add clarity and detail and enhance comprehension.

Questions to ask:

- *How does the sun's heat cause the water to rise?*

- *How does the water stay in the air?*
- *What is transpiration?*
- *What makes clouds form?*
- *What causes rain?*
- *What do you know about the amount of water on Earth?*

## FOUR SEASONS

### During Reading

*What do you know about the four seasons? What are some characteristics of each? Discuss. What do you think might cause the summers? Winters? Knowing what you do about the sun, what would you expect to cause the seasonal changes?*

*Read page 11 and find out some extra information. The information may be a little difficult to picture, so use the diagrams on page 10 to help you. Jot down a few points to discuss at the end.*

*What will you need to do when you come to the bold word?* Students should suggest that they need to check the glossary.

### After Reading

*What do you know about the four seasons?* Invite students to share their understandings of the seasons.

Write the seasons up for the students to see. Next to each, categorize its seasonal change, eg. Summer – hot, Autumn – warm changing to cool, Winter – cold, Spring – cool changing to warm.

*What does the word* revolves *mean? Let's look at how Earth revolves with our models.* Show how Earth revolves around the sun, while spinning on its own axis. As you demonstrate, ask students to think about the seasonal changes that would be occurring. Using the information written up, students infer which seasons would be occurring on the model.

*Direct students to the diagrams and link the demonstration to the visual literacy.*

## FIVE KINDS OF PRECIPITATION

### During Reading

Revisit the word *precipitation* and remind students that it is the step in the water cycle in which water falls back to Earth as rain or snow.

Instruct students to read the heading and use the picture to predict what the five kinds of precipitation are.

*Read page 12. As you read, find out about each kind of precipitation. Jot down a few words to describe each and be ready to share them.*

*Think about where you may find each kind of precipitation. List the ones you have seen. Jot words down to describe your experiences.*

### After Reading

*What are the five kinds of precipitation?*

*What do you know about rain?* Invite students to share that rain is water droplets. *What is light rain called? What might we say when there is lots of rain falling? When do the largest raindrops fall? What do you like about light drizzles? What do you like about heavy rain? Describe what it feels like.*

*What do you call water droplets that freeze and fall as flakes? What is it called if the raindrops don't freeze until they hit the ground? Has anyone seen snow? Describe how it looks, feels, and tastes.*

*What is sleet? What does it look like? Has anyone seen sleet? What does it feel like? What does it feel like to walk on it?*

*What is hail? Has anyone seen hail? What does it look like and feel like? How big is it?*

## SIX SIDES TO A SNOW CRYSTAL

### During Reading

Ask students what a snow crystal is. *What does the title* Six sides to a snow crystal *mean*? Invite discussion and inferences from students.

Direct students to look at the illustration. *What do you notice about the snow crystals?* Students should observe that they are all different. *What does the caption tell you?*

*Read page 14. Find out about the six sides. Jot down some notes about what snowflakes are and how they are made.*

*Take note of some interesting features of snow crystals that you didn't know before. Be ready to describe what they look like, what shape they are, and how large or small they are. After you read the last sentence, think of a word that describes snowflakes.*

### After Reading

*Discuss what you have learned about the six sides to a snow crystal. What does this mean? What else do you know that has six sides? Does a snow crystal resemble this? In what ways is the snow crystal different?*

*What have you learned about snow crystals?* Invite students to share information about their size and shape. *Where do some of the smallest crystals occur?* Direct students to the second paragraph to check if needed.

*What is special about the shape of snow crystals? What did the last sentence suggest to you about snow crystals?* Share words that the students thought of. Prompt them to the word *unique* if it is not suggested.

## SEVEN COLOURS IN A RAINBOW

### During Reading

*What are the colours in a rainbow?* As students suggest them, jot them on the board. *What makes a rainbow? What is a rainbow?* Invite discussion and inferences.

*Why are they called rainbows? What does the name suggest?*

Prompt students to look at the illustration on page 15. Give them a moment to study this diagram and then ask them what they think it represents. Share students' understandings of the diagram. Assist them by providing clarification during the discussion.

*Read page 15 to find out how rainbows are explained in the book. Be ready to discuss what you understand.*

### After Reading

*When can rainbows be seen? What occurs that enables us to see a rainbow?* Invite students to explain that it is the bending of light that makes the colours of the rainbow. Support their explanations by consolidating that sunlight is white and raindrops are round. Because raindrops are round, when the sunlight passes through them, the light bends. It is the bending of the light that makes the colours. When we see a sky of raindrops we see a band of colour in the sky that makes the rainbow.

## EIGHT KINDS OF SEVERE STORMS

### During Reading

Ask students to examine the heading, photographs, and captions. *What do you think this section of the book will be about? What is a* severe *storm? Read the caption on page 16.*

*What kind of storm is this? Read the caption on page 17. What kind of storm is this? Describe what you know about hurricanes and tornadoes.* Invite discussion.

*Read pages 16 and 17. As you read, make a list of the eight kinds of severe storms. Jot down some information about these storms. Be ready to share what you learn about their similarities and differences.*

### After Reading

*What are the eight kinds of severe storms?* Invite students to suggest what they are.

*What do you know about them?* Encourage students to share their responses. Direct them to the text to attend to finer detail if needed. During the discussion, link to storms that may have occurred in or around students' home countries. Discuss how news reports, photographs and images show the devastation these storms bring.

*How would it feel to be in one of these storms? Would it be a good idea to be out and about on your bike or in a car during a storm like this? Why?* Explain the safest places to go in these types of storms.

## NINE CAMERAS STUDYING WEATHER

### During Reading

*What does the heading suggest to you? Look at the picture on page 18. What does the caption tell you? Where is this picture taken from? Why do you think satellites are used to photograph the weather?* Invite inferences.

Direct students to check the words that are in the glossary. Discuss their meanings.

*Read page 18. Take note of which satellites are carrying weather cameras. How are the cameras set up and what type of information is gathered? Be ready to share how using nine cameras helps scientists to understand the weather. How does this information help us?*

### After Reading

*Where are the weather cameras? How many satellites are carrying the cameras? Why do scientists need nine cameras? Wouldn't one camera do the job?* Encourage students to explain that the nine cameras enable scientists to see Earth from nine different angles. *Why do you think this is important? What are the cameras taking pictures of?*

*Why do you think pictures of types of clouds would be helpful to scientists?* Tell students that the next section will give us more information about clouds.

*How might pictures of the gases and sunlight help scientists?* Invite inferences.

*How is this type of information useful? Why do people rely on the information gathered about the weather?* Discuss*. Does anyone in your family watch the weather report?*

## TEN TYPES OF CLOUDS

### During Reading

Direct students to look at the photograph, read the caption and the title. *What do you know about clouds?* Students should indicate that there are ten types and that cirrus clouds look like thin streaks.

Tell students to turn to pages 20 and 21 and look at the photographs. *Find the photo of the cumulonimbus cloud. What do you observe about it?* Invite descriptions. *Have you seen this type of cloud?* Repeat for each photograph.

*Read pages 19 and 22. Find out about the ten types of cloud and be ready to share what you learn. Read the table on page 22.*

## After Reading

*What do you know about clouds?* Ask students to explain the meanings of the words *cirrus, cumulus* and *stratus*.

*What are the words used to describe the height of clouds? Which clouds bring rain?* Direct students to the text to check if needed.

Ask students to infer how we arrive at ten types of clouds. *Look carefully at the names and consider that there are only three cloud shapes and two cloud heights, but ten types. How does this make sense?* Students should indicate that some clouds are a combination of height and shape, eg, altostratus, or two shapes combined, eg, cumulonimbus.

## CODE BREAKER

*A Weather Counting Book* may be challenging to read if you don't have any knowledge of weather and words associated with weather. This makes the glossary a very valuable feature of the text.

*Look through the book and find other words that could be added to the glossary. Once you have found them:*

- *write the words*
- *record their page numbers*
- *write what you think the words mean*
- *check the words in your dictionary.*

*When you have finished, compare your list to a friend's and see which, if any, words you have in common.*

## MEANING MAKER

Focus on reading the visual literacy in the cycle on page 9. Ask students to identify the parts of the diagram that give them important information. List them as they are identified: title, words, numbers, arrows, background image.

Discuss words that are new or unfamiliar. Students should identify evaporation, condensation, and precipitation. Discuss these words and read the text on page 8 to put them into context. Finally, link them to students' experiences, eg, the way grass dries off after being wet (evaporation), the way a cold drink container leaves a wet ring on the table (condensation), rain (precipitation).

*What do the numbers and the arrows show us?* Guide students to understand that this provides us with the direction to read. Discuss the way the cycle continues and doesn't stop at the final number. Reread the last sentence on page 8 and discuss the principle of a cycle. Talk students through the water cycle, pointing to what is happening as you explain. Ask students to have a go at explaining how the cycle works.

## TEXT CRITIC

Tell students that the illustrations and images chosen for information books are carefully selected to help readers to understand the text.

Turn to page 21 and discuss the way the labels on the photographs help us when we read. For example, when we read the word cumulonimbus, it helps us to make sense of the words when we have an idea of what the cloud looks like.

Turn to pages 16 and 17. Ask students to read the captions and look at the photographs. *How do these captions and photographs help us build our understanding of hurricanes and tornadoes?* Direct students to look at the tornado on page 17. *Just from the picture, what can we tell about a tornado?* Discuss. *Now read the caption. What does it tell you?* Explain that the more we know about a topic before we begin reading, the easier it is to read.

## TEXT USER

Explain that all authors write books for a reason. The purpose may be to entertain, to inform, or to persuade. Sometimes the purpose is clear, but at other times the purpose may not be clear. An information book may be written in such a way that only the facts are presented to the reader. Other information books may be written in such a way that the authors' feelings about the topic are communicated to the reader through the writing. This is called bias. Often the best way to get information is to *just get the facts*, or to get an unbiased account. That way the reader is not influenced by the authors' opinions or feelings.

Scan through this information book and find out whether this book just gives the facts, or whether the author's opinions or feelings about the weather are showing.

## USING MULTIPLE INTELLIGENCES

Class activity

**Monitor**: the weather forecasts each day for a month. (V)

**Chart**: the weather for each day. You need to sketch the clouds and weather conditions and write a brief description. In your description, include the temperature, type of day (sunny, light drizzle, heavy rain, snow, windy, gusty, type of cloud, etc). (N)

**Check**: to see if the forecast was correct. Show accurate forecasts with a tick. (N)

**Reflect**: at the end of the month by checking to see how many accurate forecasts there were that month. (L)

**Graph**: the number of sunny, rainy, windy, snowy days for the month. (L)

## MULTIPLE INTELLIGENCES

The theory of multiple intelligences was developed by Howard Gardner, a professor of education at Harvard University. Howard Gardner's theory suggests that the current view of intelligence, as measured by IQ tests, is far too limited and discriminates against students who think in different ways. He proposes taking a broader perspective and has identified eight different intelligences. These are:

- verbal-linguistic intelligence – word smart
- logical-mathematical intelligence – number/reasoning smart
- visual-spatial intelligence – picture smart
- bodily-kinaesthetic intelligence – body smart
- musical-rhythmic intelligence – music smart
- interpersonal intelligence – people smart
- intrapersonal intelligence – self smart
- naturalist intelligence – nature smart

Multiple intelligences have enormous potential as a tool in furthering reading and language development. Traditionally, the teaching of language and reading has focused mainly on two intelligences: logical-mathematical and verbal-linguistic. This means that many students who possess different intelligences do not receive the necessary opportunities, encouragement, instruction, or reinforcement to succeed with reading as well as they might.

# A Weather Counting Book

**Name** _____

Complete the cause and effect chart as you read A *Weather Counting Book*.

| Cause | Effect |
|---|---|
| | Different parts of Earth heat up. |
| | Some parts of Earth are hotter, e.g., the Equator. |
| | The days and nights are the same length along the Equator. |
| | The North and South Pole are very cold. |
| | It rains. |
| | The season changes four times a year. |
| | There are five kinds of precipitation. |
| | We see a rainbow. |

# A Weather Counting Book

**Name** _____

Multiple Intelligences (visual-spatial, naturalist)

Draw a picture that clearly shows each season. Think of three words to describe each season and three words for things to do in each season.

| Summer | | Autumn | |
|---|---|---|---|
| Describing words: | Fun things to do: | Describing words: | Fun things to do: |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

| Winter | | Spring | |
|---|---|---|---|
| Describing words: | Fun things to do: | Describing words: | Fun things to do: |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |
| _____ | _____ | _____ | _____ |

# A Weather Counting Book

**Name** _____

When have you had an interesting, exciting or fun weather experience? Draw and write a recount of this experience. Use describing words so that others can get the feeling of how interesting, exciting, or fun it was!

_____

_____

_____

_____

_____

_____

_____

_____

# A Weather Counting Book

**Name** _____

Use the table on page 22 to build sentences.
For example, here is the information in the table. The sentence is below.

| Cloud Name | Description | Precipitation |
|---|---|---|
| Cirrus | High, thin, wispy, and white in colour | Rarely brings rain |

**Cirrus clouds are high, thin, wispy, and white in colour, and rarely bring rain.**
Choose five clouds from the table on page 22, and build sentences using the information.

1. _____
_____
_____

2. _____
_____
_____

3. _____
_____
_____

4. _____
_____
_____

5. _____
_____
_____

# A Weather Counting Book

**Name** _____

The information on page 22 is easy to read because it is organized into a table. Organize the information about Five Kinds of Precipitation, pages 12–13, into a table.

| Type of Precipitation | Description | Drawing |
|---|---|---|
| Drizzle | | |
| Heavy Rain | | |
| Freezing Rain | | |
| Snow | | |
| Sleet | | |
| Hail | | |

# A Weather Counting Book

**Name** _____

Complete this table to indicate the weather job that you think would be the most and least interesting to do.

| Most interesting | Least interesting |
|---|---|
| Job and job description: | Job and job description: |
| Why I'd like to do it: | Why I wouldn't like to do it: |
| Draw this job: | Draw this job: |

# A Weather Counting Book

**Name** _____

A *Weather Counting Book* contains a lot of information. Books like this have special features to help us find and understand the information. This makes it easier for the reader to understand what they are reading.

| Feature | Where it is in the book | How it helps me read |
|---|---|---|
| Contents | | |
| Glossary | | |
| Index | | |
| Photographs | | |
| Captions | | |
| Diagram (e.g. page 6) | | |
| Flow Chart (e.g. page 9) | | |
| Pictures with labels | | |
| Table (e.g. page 22) | | |