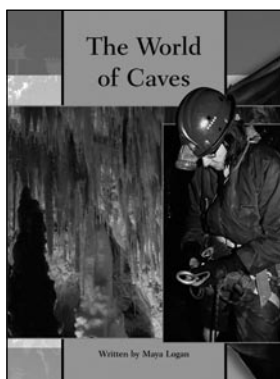


# The World of Caves

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

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.



## THE WORLD OF CAVES

**Middle level fact**

**Text type: Information Report  
(Description)**

**Reading age 9.7**

**Word count 2,028**

### Before Reading

Activate prior knowledge by asking students what an information report is. Tell students that an information report is an explanation. The subject of the report is introduced at the start, and the rest of the book contains information, pictures and photos, with labels or captions that describe the subject or topic.

The information in these reports is true and accurate and not just one person's opinion.

Show students a range of texts. Include a narrative, advertisement, information report, procedure, biography, and a recount. Discuss the features that identify each text type. Ask students to identify the information report.

### COVER

#### Before Reading

Read the title and examine the cover photograph. Discuss what the book may be about. *What do these photographs and the title suggest about this book? What does the title The World of Caves mean? Discuss each of the photographs from the front cover.*

*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 caves.

*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 Cave Formations?* 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 to read the book.

## INTRODUCTION

### During Reading

*What do you notice first about this page?*  
Guide students to discuss the information contained in the photo and caption. *What do you notice about this photo? Why do you think visitors would come to see this cave?*

Prompt students to notice the words in bold text on page 4. Discuss the meanings of these words and navigate quickly to the glossary to check. Tell students that it is helpful to revisit the glossary during reading, to build an understanding of these words in their sentences.

*Read page 4 and be ready to discuss what a cave is and what they look like.*

### After Reading

*What is a cave? How large must it be to be considered a cave? How many chambers make a cave? What is a cave with many chambers joined together called?*

*What causes a cave to form? How long does this take? Where are caves found? Why are they dark inside? If they are dark, damp and cool, what might it be like to live in caves?*  
Invite inferences.

## TYPES OF CAVES

Limestone Caves

### During Reading

*What do you notice about this page? Read the caption and examine the photo on page 6.*

*Discuss why the water may have shaped the cave in this way. Discuss the diagram on page 7. Turn to page 8 to examine the photo and discuss the caption.*

*What do you notice about the text on page 6?* Students should notice the bold text on *carbon dioxide*. Invite prediction and then direct students to the glossary and ask students to read the definition aloud.

*As you read pages 6 to 8, take note of what a limestone cave is and how it is formed. Jot down some notes ready to discuss.*

### After Reading

*What is limestone? Are limestone caves common? How does a limestone cave form? Discuss the process of carbon dioxide reacting with rainwater to form an acid, which slowly dissolves the rock to leave a hollow space.* Direct students to reread sections of the text on page 6 to locate the answers.

*How is an underwater cave formed?* Visit page 8 to check the answer.

*Where is the longest known limestone cave? How long is it?*

## TYPES OF CAVES

Sea Caves

### During Reading

*Read the title and look at the photo and caption. What is a sea cave? Why do you think the Painted Cave got its name?*

*Read page 9 and find out how sea caves are formed. Think about the sorts of places that you would expect to find sea caves, and the sorts of places that would not form sea caves.*

### After Reading

*How are sea caves formed?* Discuss the

constant crashing waves that cause cracks that grow larger over time.

*In what sorts of places would you expect to find sea caves? Why? Where wouldn't you expect to find sea caves? Discuss shore lines that do not have rock faces and cliffs, and those that do not have rough waves.*

## **TYPES OF CAVES**

Lava Tube Caves

### **During Reading**

*Examine the photo on page 10. What is interesting about a lava tube cave? Think about the name and predict how they are formed. Discuss. Examine the diagram on page 11. Discuss how a lava tube is formed.*

*Read pages 10 and 11. Jot down words from the book that describe how these caves are formed, and be ready to discuss the extra things you learn.*

### **After Reading**

*When do lava tube caves begin to form? Describe the way this happens. Support students to clarify that the tube forms as the outside dries, and the liquid lava inside continues to flow until it drains away. The hollowed inside dries out and the result is a long empty tube that forms a cave.*

## **TYPES OF CAVES**

Glacier Caves

### **During Reading**

*What does the photo suggest to you about glacier caves? Where is this photo taken? What do you know about Antarctica? Discuss what students understand a glacier to be. Besides Antarctica, where else might you find glaciers? Invite prediction.*

*Read page 12 and find out what a glacier is, and how a glacier cave forms. Jot down the ways that a glacier cave is different from the other caves so far, and find out the areas where these caves may be found.*

### **After Reading**

*What is a glacier? How is a glacier cave formed? Prompt students to revisit the text to find the answers: glacier caves form quickly, but they can be destroyed quickly also. What can destroy them? Discuss.*

*How is a glacier cave different from an ice cave? Revisit the second paragraph if needed to locate the answer.*

## **TYPES OF CAVES**

Ice Caves

### **During Reading**

*Look at the photo and read the caption. What do you know about an ice cave? Remind students that an ice cave is formed by rock but filled with ice. Do you think an ice cave is always filled with ice? Invite prediction.*

*Prompt students to notice the bold word cavern. Invite prediction of this word and visit the glossary to read the definition.*

*Read page 13, and be ready to share what you learn about ice caves. Take note of the special feature that traps the cold air in the cave to form the ice. Be ready to chat about why this cave stays cold all year.*

### **After Reading**

*Where do ice caves form? How does an ice cave begin its life? Why is the special shape of the cavern important? What is the feature that ice caves need to enable ice to form?*

*Why do these caves stay cold even in the*

*summer months?* Direct students to reread about the heaviness of the cold air.

*What is the temperature inside an ice cave?*

## CAVE FORMATIONS

### Before Reading

*Examine the picture on page 15. What is the difference between a stalagmite and a stalactite?* Invite prediction. Guide students to notice where the formations extend there.

Prompt students to notice the bold word *deposits*. Invite prediction of this word and visit the glossary to read the definition.

*Read pages 14 and 15 and find out about cave formations. Be ready to discuss how cave formations continue to change with time, and what causes the changes. Jot down some notes about how the changes occur. Find out more about stalagmites and stalactites.*

### After Reading

*What are cave formations? What is another name for these formations?* Discuss the pronunciation of the word *speleothems*.

*What are some interesting formations shaped like? Describe what they look like. In which caves are these icicle-like formations commonly found? What are these called?*

*What causes stalagmites and stalactites to form?* Revisit the second paragraph on page 14, read it aloud, and discuss.

*What can stalagmites and stalactites form if they grow long enough to join? Where else do we find pillars or columns?*

*Describe the formations that can form in ice caves. What can bend the icicles or curve them sideways?*

## CAVES PROVIDE SHELTER

*What do the pictures and captions suggest to you? Why might caves be a good place to make shelter? Why would they have been a useful shelter thousands of years ago? Do you think animals would find caves a useful shelter? Describe the house on page 17. Do you think people make houses in caves?*

*Turn to pages 18 and 19 to examine the photos and the captions. Were you correct about animals living in caves?* Prompt students to notice the bold word *guano*. Check the glossary.

*Read pages 16 to 19. Jot down the main points about caves as shelter. Be ready to share the factors that make some caves an ideal home for people or animals.*

### After Reading

*What makes a cave a suitable place to live?*

Discuss these points:

Caves are cool in summer and warm in winter (cave temperatures remain more constant than the air outside).

Caves provide shelter from bad weather.

Caves provide protection from wild animals.

Caves are suitable for nocturnal animals.

Some animals shelter near cave entrances.

*How do caves support a variety of life forms?*

Revisit the last paragraph on page 19 to discuss. *Would you like to live in a cave?* Discuss.

## STUDYING AND EXPLORING CAVES

### During Reading

*Read the title. What do the photos and*

*captions tell you? What is a speleologist?*

Prompt students to notice the bold word *archaeologists*. Visit the glossary to read the definition. *What do you think archaeologists hope to find? Why?*

*Read pages 20 and 21 and find out what scientists hope to learn from the caves. Jot down some notes about what they may find and what it will tell them.*

## **After Reading**

*Why do people study caves?*

*What is Earth's crust? What can be learned by examining the layers of rock? What makes the layers of rock? Discuss and explain. Why do scientists want to find out how and when caves were formed? What can this tell them? Explain that it can provide a time line to human life in the cave if it is discovered.*

*What makes scientists think that caves are a good place to look for signs of human life? What signs of human life might they find in caves? Revisit page 21 to check.*

*Why do other people like to visit caves?*

## **FAMOUS CAVES**

*Mammoth Caves, US*

### **During Reading**

*What do the photo and caption tell you?*

*Where is Mammoth Cave? Why do you think it might be called Mammoth Cave? What does the word mammoth suggest? Invite prediction.*

*Read page 22 and find out how big Mammoth Cave is. Jot down its length and any other interesting information to share.*

### **After Reading**

*Which state is Mammoth Cave in? Were you*

*correct? Is it large? How long is it? What other interesting features does it have? Discuss the five levels of passageways and tunnels, the river running through it, the lakes, and waterfalls.*

## **FAMOUS CAVES**

*Carlsbad Caverns, New Mexico*

### **During Reading**

*Examine the photo and read the caption. What do you notice about Carlsbad Caverns? Invite description. Where is it? Where is New Mexico?*

*Read page 23 and be ready to chat about what makes this cave system famous. Jot down some interesting features ready to share.*

### **After Reading**

*Why is this cave system famous? Discuss that it is the world's oldest, most famous system.*

*How old is it? How big is it? What do you know about its chambers? What interesting features do the chambers contain? What lives in the deepest chambers?*

## **FAMOUS CAVES**

*Lascaux Cave, France*

### **During Reading**

*Examine the photo and read the caption. What does this tell you about this cave? Who might have done this painting? How old might the painting be?*

Prompt students to notice the bold word *engravings*. Invite prediction of this word and visit the glossary to read the definition. *What do you think archaeologists hope to find? Why?*

*Read page 24 and be ready to share what you learn about this cave.*

**After Reading**

*What is this cave famous for? How many paintings are in the cave? How many engravings are there? What are the topics of the artwork? Is this the only cave with artwork like this? Where are the others? What type of artwork was found in the other caves? How old are the carvings? What does this tell us about human life?*

**FAMOUS CAVES**

Waitomo Caves, New Zealand

**During Reading**

*What do the photo and caption tell you about these caves? Where are these caves located? What are glow-worms? What is giving the illusion of a starry sky?*

*Read page 25 and be ready to share what you learn about these caves. Jot down what these caves are famous for and what you could expect to see if you went there.*

**After Reading**

*How old are these caves?*

Discuss the stalagmites and stalactites, and the glow-worms. *What type of environment do you think the glow-worms need? Discuss.*

*What do you think this cave would feel like to be inside?*

**FAMOUS CAVES**

Eisriesenwelt, Austria

**During Reading**

*Look at the photo and read the caption. What kind of cave is this? Describe this cave. Where is Austria? Read page 26 and find out what makes this cave famous. Jot down the interesting things you learn and be ready to share what you discover.*

**After Reading**

*What is this cave famous for? How many tunnels and caverns does it have? Invite prediction. How far do the tunnels and caverns extend? Describe the entrance to some of the caverns.*

*When was this system discovered? What sort of ice formations are featured in this cave system? Does the ice in this cave system melt at any time? Why? Discuss the temperature inside the cave system.*

**FAMOUS CAVES**

Jenolan Caves, Australia

**During Reading**

*Where are the Jenolan Caves? Read the caption and look at the photo. Describe this photo. What do you think might make these caverns famous?*

*Read page 27 and find out what the Jenolan Caves are famous for. Jot down some interesting facts about these caverns and be ready to share what you learn.*

**After Reading**

*Where are the Jenolan Caves located?*

*Why are these caverns famous? Why do you think the largest cavern is called the Cathedral? Discuss what a cathedral is and relate it to the cavern. How high is this cavern?*

*What may these caves have been used as in the 1930s? What is an outlaw? Do you think this would be a good place to hide? Why?*

*Why has a law been passed to prevent damage to the caves? Why do you think people broke pieces off to take home?*

## FAMOUS CAVES

Krubera, Georgia

### During Reading

What does the map on pages 28 and 29 tell you? Discuss the key on page 28 and what students can locate on the map.

Read about Krubera, and be ready to share why this cave is famous. Jot down the interesting things you learn, ready for the discussion.

### After Reading

Why is this cave famous? Where is it located? How deep is it? What is significant about this depth? How many cavers went into the cave?

Was this the first group of cavers to go into Krubera? Who were the first group? What did the first group carry with them? Invite inferences. The inferences should include explosives. How did the first group keep in touch with people on the surface of Earth?

Would you like to go on a caving expedition like this? Explain.

### CODE BREAKER

Endings on words can modify word meanings and change the word type. For example, the word *teach* is a verb, but if we add -er to the end, it becomes the name of someone who *teaches*, a *teacher*.

*Caving* means to go into caves. The person who *caves* is a *caver*.

*Spelunking* is another word for caving. The person *spelunking* is a *spelunker*.

Who is the person who:

builds   works   sings   rides  
fixes   reads   dances   bakes

explores   writes   speaks   waits

These verbs will double the last letter, before adding -er:

runs   shops   skips   digs

### MEANING MAKER

What is *ecotourism*? Explain that this is a nature-based approach to tourism. It combines tourism with education, to teach tourists about the natural environment they visit and ways to care for and sustain these environments. By teaching people about the natural environment, it is hoped that people will learn to care about protecting these special places so future generations can also enjoy them.

Discuss the local environments in your area that students may visit regularly. Include local features like parks, parkland, streams, beaches, etc. Ask students to think of what is special about these areas. *What can you do in these places? What creatures live in these areas? What are some things that may damage these areas and the habitats of these creatures? Can you think of some ways to help visitors to these areas care for these environments?* Discuss.

### TEXT USER

Revisit the map on pages 28 and 29 of the book. How does this map help us learn about the caves in this book? Why do maps in books have a key? Discuss the key's purpose. *Why is a key used instead of having the names of all the caves labelled directly onto the map?*

*Why is the map in a book set out like this, when we know Earth is round?* Discuss.

*You will need a globe, adhesive putty and small pieces of paper numbered 1 to 14, or sticky notes for this activity. Using the book as a*



guide, support students to transfer the caves' locations from the map to the globe.

## ◎ TEXT CRITIC

Discuss the way that descriptions found in an information report are different from those found in a recount. Using one of the famous caves from the book, have students reread it aloud, and then locate the words or groups of words that are used to describe this cave.

Have students imagine that they have just been to see that cave. Model how a recount of the experience might sound. For example,

*When I went into the Waitomo Caves, I was amazed at the incredible stalactite and stalagmite formations. These fantastic formations were different to anything I had ever seen. The caves were also filled with tiny glow-worms, which made the dark and mysterious caves feel like the black night sky, littered with shimmering stars.*

## USING MULTIPLE INTELLIGENCES

Class activity

Begin by discussing what ecotourism is. Explain that this is nature-based approach to tourism, in which education, observing the natural environment, and helping to protect and sustain this environment are combined.

**Research:** Conduct some research about ecotourism. Find out about eco friendly ways to visit caves or other ecotourism sites in your area, eg. whales, rainforests, springs, etc. (N, V)

**Record:** a list of ecotourism sites and for each, list ways we can encourage tourists to protect and sustain these environments when they visit them. (N, V)

## 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.

# The World of Caves

Name \_\_\_\_\_

Take note of the main points as you read this book.

Introduction		
Types of Caves	Famous Caves	
Cave Formations	Caves Provide Shelter	Studying and Exploring Caves



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# The World of Caves

Name \_\_\_\_\_

Multiple Intelligences (verbal-linguistic, intrapersonal)

Imagine that you could visit some caves from the book. What would you like to see?

What to see	What it looks like	Why I am interested



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# The World of Caves

Name \_\_\_\_\_

True or False? Circle the correct answer. Use your book to help you.

Caves can be made up of one or more chambers. True/False

Most caves take less than a thousand years to form. True/False

All caves are large. True/False

Caves are always dark, damp, and cool. True/False

Caves do not get much light from the sun. True/False

Sea caves are formed by fish crashing into the rock. True/False

Lava tubes are formed by volcanic eruptions. True/False

Glacier caves are formed in ice. True/False

The temperature inside ice caves stays cold even in summer. True/False

Some people live in caves. True/False

Write a True or False statement for four caves in the book. When you are finished, give your sheet to a friend to solve.

1. \_\_\_\_\_

\_\_\_\_\_ True/False

2. \_\_\_\_\_

\_\_\_\_\_ True/False

3. \_\_\_\_\_

\_\_\_\_\_ True/False

4. \_\_\_\_\_

\_\_\_\_\_ True/False



# The World of Caves

Name \_\_\_\_\_

Oops! Some of the contents are jumbled. Use the book to help you unjumble them.

aaLv uTeb avCes \_\_\_\_\_

veCa taFriomons \_\_\_\_\_

iesoLmtne eaCvs \_\_\_\_\_

cle aCves \_\_\_\_\_

avCes rodPvie hetrSle \_\_\_\_\_

eaS eaCvs \_\_\_\_\_

leJnona savCe \_\_\_\_\_

aiWootm aCves \_\_\_\_\_

Correct the spelling. Circle the incorrect word and write the correction on the line. Use your book to check.

1. The action of waves on rocks froms sea caves. \_\_\_\_\_
2. A cave is a holow space beneath Earth's surface that is large enough for a human to enter. \_\_\_\_\_
3. Most caves take thuosands of years to form. \_\_\_\_\_
4. Caves can be small or spread over a grate area. \_\_\_\_\_
5. Most caves are limestone caves. \_\_\_\_\_
6. Lava tubes are formed as a result of volcanic eruptions. \_\_\_\_\_
7. Glaceir caves form very quickly. \_\_\_\_\_
8. The formations on the roof of a cave are called stalacites. \_\_\_\_\_



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# The World of Caves

Name \_\_\_\_\_

Use the book to help you complete the details about these caves.

Cave Name	Location	Interesting Features
Mammoth Caves		
Carlsbad Caverns		
Lascaux Cave		
Waitomo Caves		
Eisriesenwelt		
Jenolan Caves		
Krubera		



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# The World of Caves

Name \_\_\_\_\_

The purpose of this book is to provide information. If the purpose of this book was to advertise these caves to tourists, it would contain a lot of describing words, such as mystical, mysterious, dark, spectacular, stunning, remarkable, eerie, etc. Use the book to help you write about the features of three caves so that tourists would want to see them.

Cave \_\_\_\_\_

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---

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Cave \_\_\_\_\_

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---

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Cave \_\_\_\_\_

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Draw and label your caves below.

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# The World of Caves

Name \_\_\_\_\_

Write an information report about the Blue Grotto. Reread some examples of famous caves from the book to get the feel of how the report should sound.

Name: Blue Grotto

Location: Capri, Italy

Features: Sea cave with natural light

The light makes the chamber appear blue when the sun shines through the water

Famous for the spectacular blue reflections

Rounded ceiling, drops freshly distilled water from the ceiling, which feels like the fresh drizzle of early rain

Visitors to the cave use small rowing boats

To fit through the narrow opening to the cave, visitors must lie down in the boats

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Draw what you think this cave would look like.

