

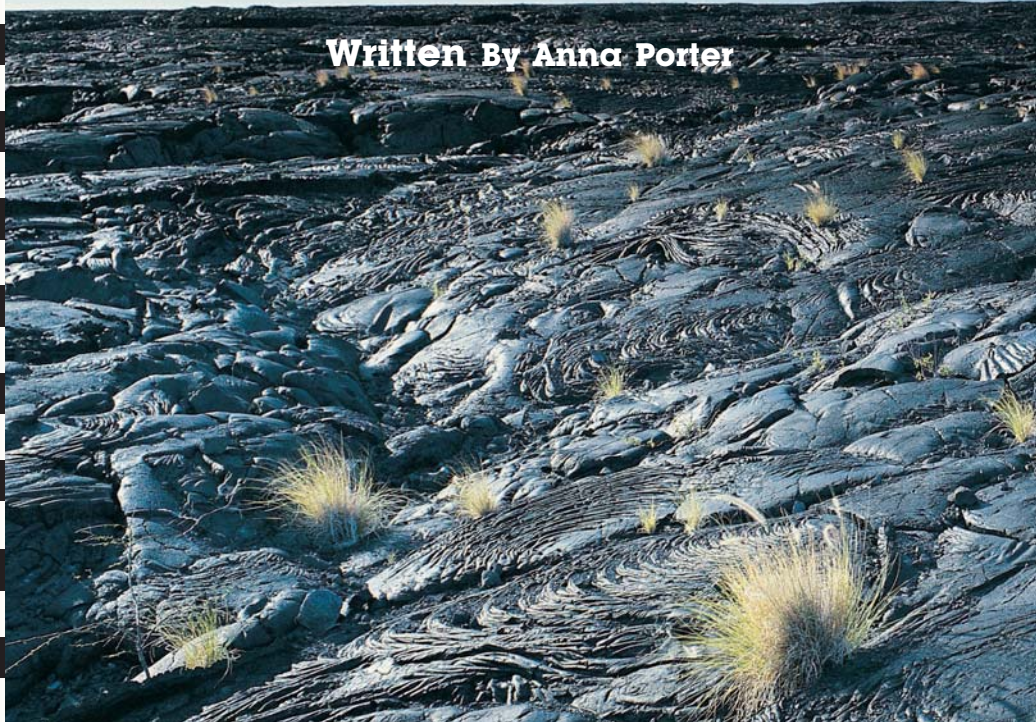


Teacher Edition

AlphaWorld

How Do Plants Grow Here?

Written By Anna Porter



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How to use this book

The AlphaWorld teacher editions support teachers as they guide children's reading and thinking during one or more guided reading sessions. Teachers can observe children as they read and choose from the given suggestions to suit individual needs.

Before reading

Setting the context, front cover and title page:

The suggestions help teachers to set the scene and prepare children for reading the book. Prompts help to determine children's prior knowledge. Where necessary, background information is provided. Teachers are encouraged to check that children understand the vocabulary listed and to discuss the meanings and/or the structures of these words. Previous experiences with similar text types may also be discussed.

During reading

Predict, Read, Reflect:

Questions encourage children to engage with the text by making predictions. The children then read a section of the text and reflect on what they have read. The focus is on the content, language and text features of the book.

Observe and support:

Prompts help teachers to focus on the strategies children use as they read. Teachers can then select from and adapt the suggestions according to the needs of the individual child. The suggestions aim to develop a child's reading abilities. Interruptions to the child's reading should be minimal.

After reading

A selection of reading and writing activities:

The last pages of the teacher edition provide follow-up activities and include the assessment focus.

Selected text features

- Contents page
- Introduction and conclusion
- Colour photographs and diagrams support the text
- Index

Vocabulary

deserts, energy, grow, lava, mangroves, plants, roots, salt, seeds, soil, stems, stores, survive, thaw, volcanoes

Setting the context

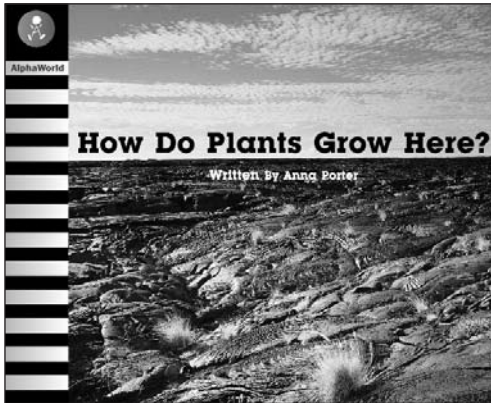
Talk to the children about what plants need to grow and discuss any plants that the children have grown.

What do plants need to grow?

Write the information so that it can be referred to during the reading of the book.

Background information

Some plants have developed remarkable features that allow them to grow in harsh conditions. The plants described in this report can grow in environments such as rocky cliffs, brittle lava, dry sandy soil, snow and ice and salty water that would kill other plants.



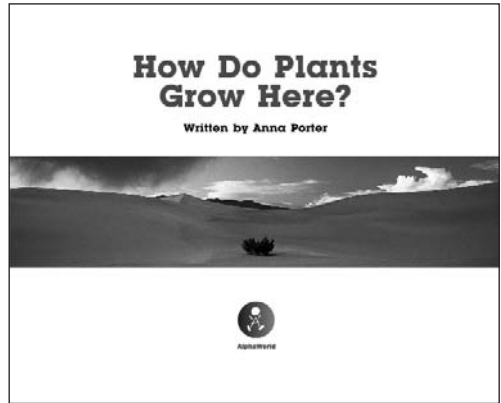
Front cover

Show the front cover.

The title, How Do Plants Grow Here? is posed as a question. Why?

What sort of book do you think it will be?

This book investigates some special plants that can grow in very harsh places.



Title page

Turn to the title page.

Look at the photo. Discuss the plant and the environment in which this plant grows.

Why do you think there is only one plant growing in this photo?

What does the environment look like?

● **Predict**

This is a contents page. What does the contents page tell us? Let's read it to find out what this book is about.

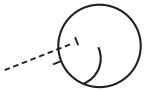
● **Read** to the end of page 3.

● **Reflect**

What information do you think is in the book? Discuss the children's responses.

What page is that information on?

You might like to point out that a contents page helps you to choose where to start reading and that you don't have to start at the beginning of the book.



Observe and support

Can the child explain the purpose of a table of contents?

What is this page called? What is it for? Can you tell me where I would find the chapter about rocky places?



Contents

Introduction	4
Plants in rocky places	6
Plants in salty water	10
Plants in hot, dry deserts	14
Plants in very cold places	18
Conclusion	22
Index	24

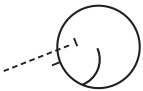
● **Predict**

This is the introduction. It explains that some plants can grow in places where other plants would die. How do you think these plants get the water, food, warmth or sunlight they need to survive?

● **Read** to the end of page 4.

● **Reflect**

What did the introduction tell you?



Observe and support

Is the child able to make predictions about the contents of the book? If not, refer to the picture on page 5 and the list you compiled of what plants need to survive.

Does this plant have all the things needed to survive?

Does it have light, food and water?

Introduction

Some plants can grow in places where most other plants would die.

How do these plants get what they need to survive?



Predict

Most plants need soil to survive. Look closely at the pictures on pages 6 and 7. How could plants grow in these rocky places?

Turn to page 8 and 9.

When a volcano erupts lava runs down the side of the mountain. When this lava cools it becomes hard and rocky. How would some plants grow in these lava cracks?

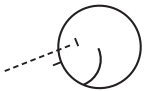
Read to the end of page 8.

Reflect

Tell me something you discovered by reading this section?

Did anything surprise you? Why?

Can you explain what the diagram on page 6 is showing?



Observe and support

While the children are reading each section silently ask a child to read aloud to you.

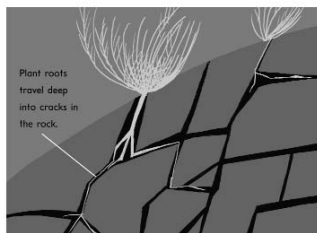
Can the children monitor their own reading for fluency?

I liked the way you read this. Why do you think I enjoyed listening to you read?

Plants in rocky places

Some plants can grow in rocky places where there is very little soil.

The wind blows small amounts of soil into cracks in the rock. Rain runs into the cracks. The plants use this soil and water to grow.



When a volcano erupts, molten lava runs down the sides of the mountain. When the lava cools down, it becomes hard and rocky.

Some plants can grow in cracks in the lava. The wind blows dust and seeds into the cracks. Plants grow from the seeds. The dust becomes their soil and food. As the plants grow, they trap more dust to use.



Predict

Most plants need fresh water to survive. These mangrove plants grow along the coast in salty water.

Turn to page 12.

This rounded noon flower can grow in sand and mud near the sea. This seaweed grows in salty water.

How would these plants get the water they need to survive?

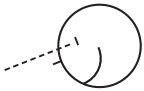
Read to the end of page 13.

Reflect

How do mangroves keep out or get rid of salty water?

Would rainwater be salty? How do you know?

It says that seaweed can change energy from the sun into food to help it to grow? What do you think this means?



Observe and support

Does the child monitor their own reading? Do they notice when they make an error?

What did you notice?

Why did you read that again?

How do you know that you are right this time?



Plants in salty water

Although salt kills most plants, some plants can grow in salty water.

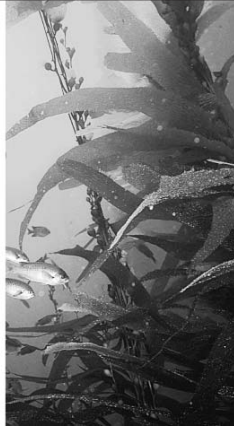
Mangrove plants grow along the coast. They have roots that are like filters. The roots keep out some of the salt in the sea water.

Some salt is stored in the leaves of the mangrove plant. The plant gets rid of the salt by dropping its leaves.



The rounded noon flower can grow in sand or mud near the sea.

It stores rainwater in its thick leaves and uses it to grow.



Seaweed grows on rocks or in sand under salty water. It does not need fresh water to survive.

Seaweed changes energy from sunlight into food to help it grow.



Predict

Most plants die if they don't get the water they need. How could plants in hot, dry deserts get the water they need to grow?

Look at the cactus plants on page 16. What do they look like? Yes, they have thick stems that can collect and store water.

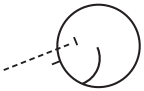
Read to the end of page 17.

Reflect

What do the tiny hairs on some plants do?

What do some desert plants do after it rains? Why?

Would there be lots of plants growing in a desert? Why do you think so?



Observe and support

Can the child interpret the diagram on page 17?

Why do cactus plants have long roots that grow close to the surface? Where did you find that out?

Plants in hot, dry deserts

Some plants can grow in hot, dry deserts and still get the water they need.



Some of these plants have tiny hairs on their leaves. These hairs trap rainwater.

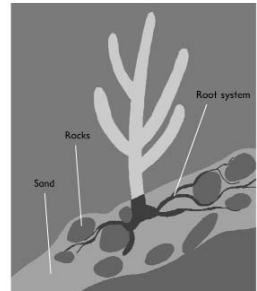
After it rains, the plants produce seeds. The seeds are blown to other parts of the desert. When it rains again, these seeds grow very quickly into new plants.

16

Cactus plants have thick stems. When it rains, the stems can collect and store water for the plants to use later.



Cactus plants have long roots that grow close to the surface. These roots help the plants to absorb as much water as possible after heavy rain.



17

● **Predict**

Most plants need warmth to survive.

Look closely at the pictures on pages 18 and 19. What do they tell you about plants that grow in very cold places?

Yes, they do not grow very big. They grow in low clumps.

Turn to page 20.

Melting snow makes pools of water on the ground. How would some plants use this water to grow?

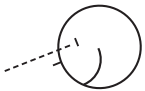
● **Read** to the end of page 20.

● **Reflect**

Why can't the plants grow very big in thawed ground?

How can plants grow in melted water?

Is there any part that you didn't understand? Let's talk about it.



Observe and support

Can the children use their knowledge of letter-sound relationships to support their reading?

What letter does that word start with? What sound might it make? Can you think of a word that starts with 'a' that would fit there?

Plants in very cold places

Some plants can grow in very cold places where the ground is frozen for most of the year.

In summer, the snow melts and the top of the frozen ground starts to thaw. The roots of the plants grow down as far as they can in the thawed ground.

The plants grow in low clumps. This helps to protect them from the wind and the cold.



Melting snow makes pools of water on the ground. Some plants use this water to grow. They get food from small amounts of soil in the water.

Some plants cling to and spread across the sides of rocks and mountains. The leaves of these plants collect energy from the sun and change it into food.



● **Predict**

This is the conclusion. A conclusion sums up what the book has already explained to us. How will this book conclude?

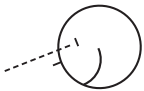
Turn to the index.

What is an index? Why do authors include an index?

● **Read** to the end of page 24.

● **Reflect**

Why would the photos on page 22 and 23 have been selected for the conclusion page? Does it support what has been written? How?



Observe and support

Does the child use a range of information to solve problems when reading?

What can you see that might help you work it out?

What could you try? What would make sense?

Conclusion

Plants can grow almost anywhere in the world. Some plants have ways of surviving even in places where other plants would not be able to grow.



7

Index

cactus plants 16, 17

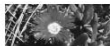
lava 8

mangrove plants 10

rounded noon flower 12

seaweed 13

volcano 8



8

After reading

Being a meaning maker

Encourage the children to support their answers with evidence from the book as they discuss these questions:

What do plants need to survive?

How can plants grow on lava?

Why can mangroves grow in salty water?

What does 'change energy from the sun into food' mean?

Why can't plants that grow in very cold places grow very big?

Being a code breaker

Explore the following language features:

- Compound words: anywhere, cannot, mangroves, rainwater, seaweed, sunlight
- The phoneme /s/: frozen, plants, salt, sea, seaweed, seeds, some, soil, stems, sun, sunlight, these

Being a text user

What kind of book is this? How do you know?

What did you learn about plants by reading the book?


Would you recommend this book to someone else?

Being a text critic


What did the author need to know to write this book? Where might she have found this information?

What other things could the author have included in the book?


Responding to text

 Give the children a ‘Talk for 30 seconds’ task. Guiding questions could be discussed before the children are given some planning time to think about what they might want to say. Some possible guiding questions could be:
What did you discover that you didn't know before?

What was the most interesting fact, plant, sentence in the book? Why?
How do plants survive in deserts or rocky places?

 The children could complete a true or false activity. Children could be given sentences that they need to decide are true or false.

Mangroves only remove salt through their leaves T/F
Cactus plants store water in their stems T/F

 Collect compound words from the text and list them as word sums.
rainwater = rain + water
seaweed = sea + weed

Writing links

Model filling in an ‘Interesting Word Chart’ to help children clarify unfamiliar words in the book. It could look like this.


Interesting words from ‘How do Plants Grow Here?’

Word	what you think it means?	explanation in the book	explanation in the dictionary
energy	don't know	heat	force, ability to do work
survive	keep growing, living even in tough places		

Possible assessment focus

Can the children:

- explain what plants need to survive in different locations?
- locate compound words?
- explain the meaning of words such as energy?
- monitor their own reading for fluency and accuracy?

 whole text activity

 sentence activity

 word activity

How Do Plants Grow Here?

Topic: Plants/Environment/Science

Curriculum link: Natural Science

Text type: Explanation

Reading level: 19

Word count: 489

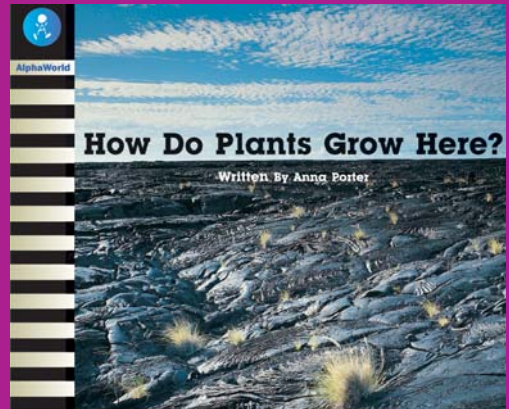
Vocabulary: deserts, energy, grow, lava, mangroves, plants, roots, salt, seeds, soil, stems, stores, survive, thaw, volcanoes

Possible literacy focus:

- Understanding the text at a literal level: What do plants need to survive in different locations?
- Locating compound words: rainwater, seaweed.
- Understanding the meaning of words such as energy, survive.
- Reading with fluency and accuracy.

ESL possibilities:

- Practising phrasing when reading longer sentences.
- Consulting the text to explain what 'here' refers to in the title.
- Understanding the moderating effect of 'some'.



Summary

This book explores four different harsh environments where plants grow and survive. If any other plants tried to grow here, they would die. How do these plants survive?

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