

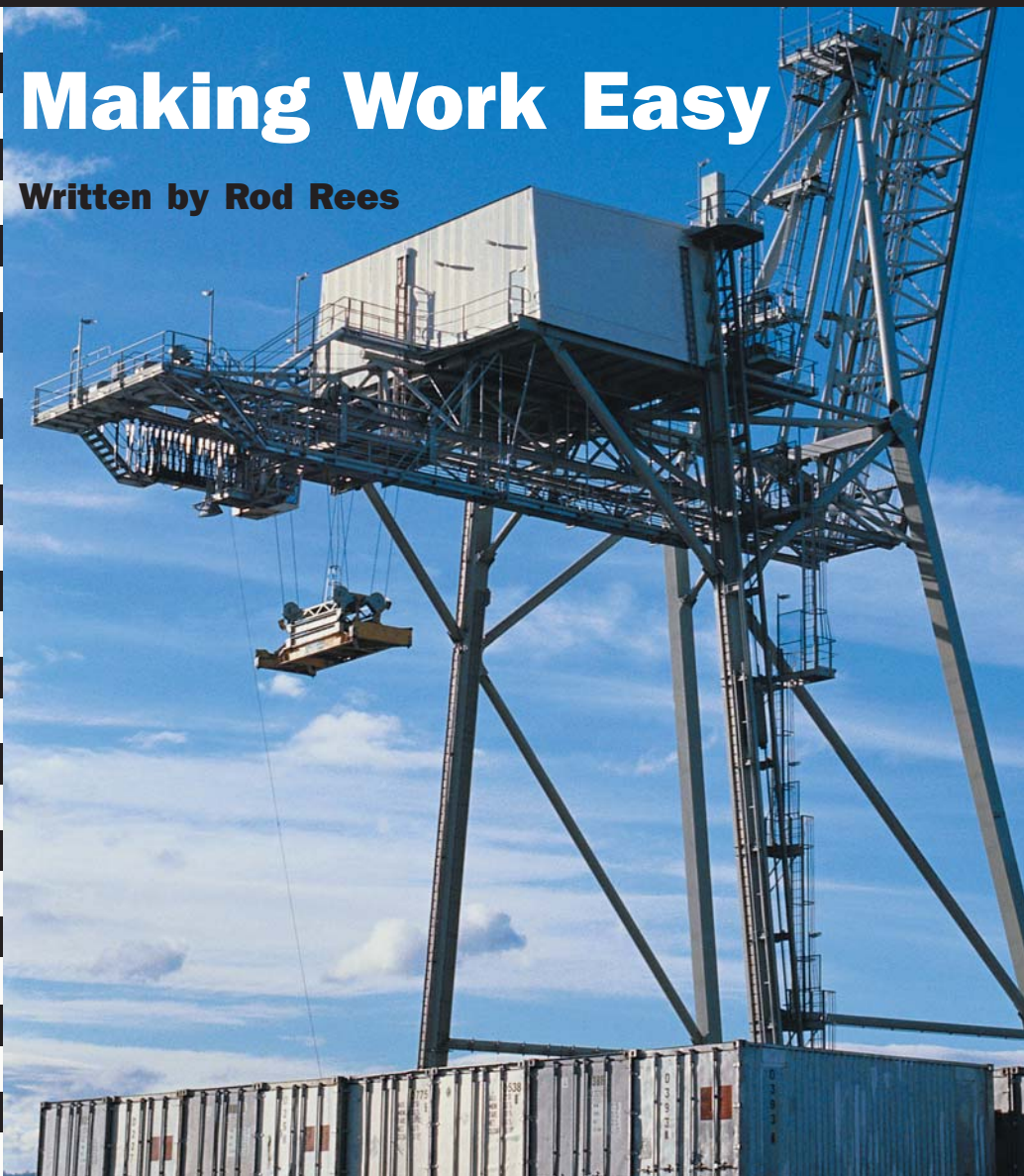


Teacher Edition

AlphaWorld

Making Work Easy

Written by Rod Rees



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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

- Introduction and conclusion
- Clear illustrations of pulleys and levers
- Puzzle page

Vocabulary

attached, cable, chain, crane, flagpole, groove, hand trolleys, levers, load, pulleys, pulley wheel, rod, safety harness, wheelbarrow

Setting the context

Discuss the children's personal experiences of moving and lifting heavy loads.

Have you ever seen anything heavy moved?

How was it lifted?

How would you lift a heavy object by yourself? Can it be done?

Background information

This book explains how pulleys and levers make doing work easier for people. The author uses questions to help the reader think about the types of problems people have solved through the invention and use of pulleys and levers. Diagrams are used to support and clarify aspects of the text.



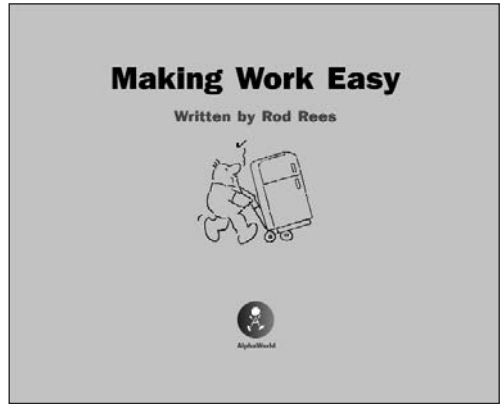
Front cover

Show the front cover.

This book is called Making Work Easy.

What can you see on the front cover?

Does the picture help you to predict what the book might be about?



Title page

Turn to the title page.

Read the heading and author's name together.

What can you see in the picture? How is the man lifting the fridge by himself? Do you think this can be done in real life?

Predict

Read through the contents page together and discuss any words that the children have difficulty with.

What do you think this book is about?

Do you know what a pulley or a lever is?

Turn to page 4.

This is the introduction. There are two questions in this introduction. How do people move heavy things? How do people reach high things?

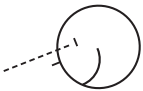
What do you think are the answers to these questions?

Read to the end of page 5.

Reflect

What helps people to move heavy things and reach things that are up high?

What section are you most looking forward to reading? Why?



Observe and support

Can the child explain the purpose of an introduction?

What is this page called? What is it for? What will it tell us about?



Contents

| | |
|--------------------------|----|
| Introduction | 5 |
| What is a pulley? | 6 |
| Using pulleys | 8 |
| What is a lever? | 12 |
| Using levers | 14 |
| Using pulleys and levers | 18 |
| Conclusion | 20 |
| Puzzle | 22 |
| Index | 24 |



Introduction

Some things are very heavy. How do people move them?

Some things are up very high. How do people reach them?

Pulleys and levers help people move things that are heavy and reach things that are up high.

They make hard work easier.



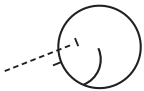
Predict

This page has the heading 'What is a pulley?' A pulley is made up of a rope, cable or chain. There is a groove in the wheel and the rope, cable or chain fits into this groove. Look at the diagrams and pictures on this page. How do you think this pulley wheel helps people to lift heavy loads?

Read to the end of page 6.

Reflect

*Once a heavy load is attached to one end of the rope, how is it lifted?
Who do you think would use a pulley in their work?*



Observe and support

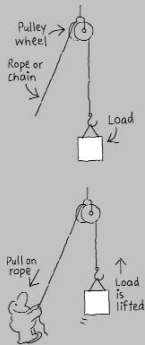
Can the child explain how a pulley works?
Tell me in your own words how a pulley works. Re-read this page or have another look at the diagrams and pictures if you are unsure.

What is a pulley?

A pulley is made up of a wheel and a rope, cable or chain. There is a groove in the wheel. The rope, cable or chain fits into the groove.

If heavy things need to be moved, they can be attached to one end of the rope. When the other end of the rope is pulled, the wheel moves and helps to lift the load.

Pulleys can help people move loads up, down or sideways. Pulleys help to make moving heavy things easier.



Predict

Read the heading together.

Look at the photos of the people working on some tall buildings. What do you think stops them from falling off the rope?

Turn to page 10.

Look at the diagram on page 10. How do you get a flag to the top of a flagpole?

Look at the photos of the yachts on page 11. How do you raise and lower sails on a yacht?

Read to the end of page 11.

Reflect

How do rock climbers and workers on tall buildings keep safe? How do pulleys help them?

Tell me something you discovered about pulleys from reading this section.



Observe and support

Ask one child to read aloud to you while the rest are reading silently.

Does the child pay attention to the punctuation to support fluent reading?

Point to a full stop. *What is the purpose of a full stop? What do you do when you come to a full stop? Read this section so I can hear what you do.*

Using pulleys

How do people move up and down the outside of tall buildings?

People who clean windows and repair the outside of tall buildings wear safety harnesses. The safety harness is attached to a rope that runs over a pulley at the top of the building. When the worker pulls down on one end of the rope, the pulley helps the worker to move up and down.



How do rock climbers stay safe?

Rock climbers also wear safety harnesses. The harness is attached to one end of a rope. The rope runs over a pulley at the top of the rock climbing wall. Someone standing on the ground holds the other end of the rope. If the rock climber slips, the pulley makes it easy for the person on the ground to pull on the rope and stop the climber from falling.



Using pulleys

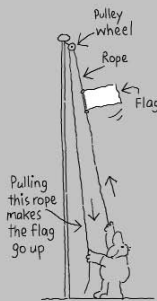
How do you get a flag to the top of a flagpole?

A flagpole has a pulley.

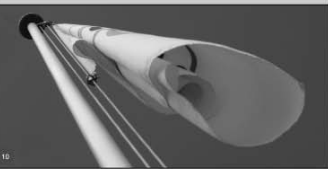
A rope runs over the pulley wheel.

The flag is attached to the rope.

When the rope is pulled, the flag can be moved up or down the flagpole.



Pulleys are used to raise and lower flags.




How do you raise and lower sails on a yacht?

Pulleys are also used to raise and lower sails. The sails are attached to ropes that run over pulley wheels. By pulling on the ropes, the sails can be raised or lowered.



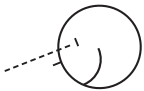
Predict

Look at the photos on page 13. They are all examples of levers. Look at the diagrams on page 12. The heading asks the question, 'What is a lever?' What do you think a lever is?

 **Read** to the end of page 13.

Reflect

*What do levers do?
How is a see-saw a lever?*



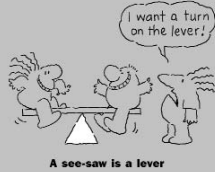
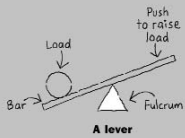
Observe and support

Can the child explain how a lever works?
Tell me in your own words how a lever works. Re-read this page or have another look at the diagrams and pictures if you are unsure.

What is a lever?

A lever is a bar or rod. Levers help people to move things that are heavy or difficult to lift.

A lever can be pushed down or pulled up to help lift and move things. A longer lever makes it easier to move heavy objects.



10

11

Predict

People use bottle openers to remove bottle tops. How do you think a bottle opener is a lever?

Scissors are just two levers joined in the middle. How do scissors work to cut paper or fabric?

Turn to page 16.

Look at the diagram on this page. How do people move heavy boxes or furniture?

How do people move things around in a garden? Yes, they use a wheelbarrow. How would a wheelbarrow be a lever?

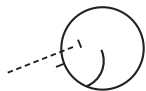
Read to the end of page 17.

Reflect

What did you learn about levers by reading information about bottle tops and scissors?

How are hand trolleys and wheelbarrows alike?

Does the diagram on pages 16 and 17 help you to understand how people can lift and move heavy things? How?



Observe and support

Can the child identify questions and statements?

Turn to pages 14 and 15.

Can you point to a question on this page? How do you know it is a question? What is a question?

Can you point to a statement on this page? How do you know it is a statement? What is a statement?

Using levers

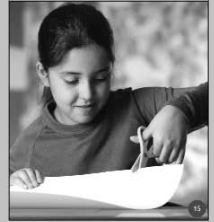
How do you get the top off a bottle?

People use bottle openers to remove bottle tops. A bottle opener is a lever. By pulling up one end of the bottle opener, it is easy to lift off the bottle top.

A bottle opener is a lever.



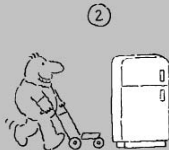
Two levers make a pair of scissors.



Using levers

How do people move heavy boxes or furniture?

People use hand trolleys to move heavy boxes or furniture. A hand trolley is a lever. The longer the handles of the trolley, the easier it is to lift a heavy load. The wheels make it easy to move the load.



How do people move things around in a garden?

People use wheelbarrows to move sand, soil, pot plants or rocks. The handles of the wheelbarrow are levers. The levers make it easy to lift things in a wheelbarrow. The wheel makes it easy to move things around.



Predict

This section is about using pulleys and levers. Read the question on page 18 together and discuss why it is a question.

People use cranes to move heavy loads on and off ships. Cranes have pulleys and levers. Look at the photos and the diagram. Where are the pulleys and levers on a crane?

Turn to page 20.

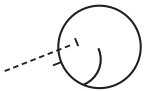
This is the conclusion. The conclusion provides a summary of the book. It says that pulleys and levers are used to lift and move things. What else could it say?

Read to the end of page 21.

Reflect

How does a crane work?

Do we use pulleys and levers a lot in our everyday life? Why do you think so?



Observe and support

Does the child understand the purpose of the text?

How does seeing close-up photos of a crane help you to understand how the crane works?

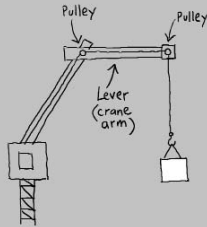
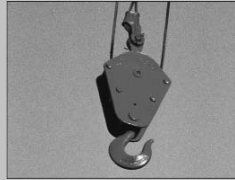
Using pulleys and levers

How do people move heavy boxes on and off a ship?

People use cranes to move heavy loads on and off ships. Cranes have pulleys and levers.

When a load is attached to the pulley, the load can be moved up and down.

The arm of the crane is a lever. It can move the load up and down or from side to side.



Conclusion

Pulleys and levers are used to lift and move things.

People use pulleys and levers every day to make lifting heavy loads easier.



Predict

This is a puzzle page. What sort of puzzle is it?

Read the questions together and work through the puzzle page by having the children discuss each picture. Ask them for explanations and reasons to support their claims.

Turn to page 24.

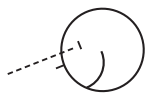
This is the index. What is an index? Can you show me how to use an index?

Read to the end of page 24.

Reflect

Was it easy to decide if the objects on the puzzle page were pulleys or levers? Why?

Would you have known the answers before you read this book?



Observe and support

Can the child support his or her ideas, when discussing the puzzle page, with evidence from the text?

What is this object? How do you know? Can you show me where it tells you this in the book?

Puzzle

How many pulleys
can you see?

How many levers?

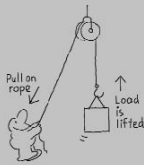


20

21

Index

- bottle opener 14
- crane 18
- flagpole 10
- hand trolley 16
- safety harness 8, 9
- sails 11
- scissors 15
- wheelbarrow 17



22

After reading

Being a meaning maker

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

How do people move heavy things?

How do people reach things that are up high? What is a pulley?

What is a lever?

Who uses pulleys and levers?

How do pulleys and levers make work easy?

Being a code breaker

Explore the following language features:

- Punctuation throughout the book: commas, exclamation marks, full stops, question marks
- The /er/ sound: climbers, easier, every, furniture, lever, lower, lowered, opener, worker

Being a text user

Focus on a range of text features found in the book. Ask children to provide explanations for each feature or take time to explain and use them if the children are unfamiliar with them.

What is a contents page? How do you use it?

What is an index? How do you use it?


What does the writing on the photographs tell us? When do you read it?


What do the arrows on a diagram mean? What do the numbers on page 16 mean? Why are they there? What is a puzzle page? Why has it been included?

Being a text critic


Do you think the diagrams were useful in this book? Why? Should there have been more of them? Where would you have included extra ones?

Responding to text

 Provide the children with construction materials suitable for making simple pulleys and levers. Have the children construct their own pulley or lever using the information in the book as a guide. They could demonstrate what they make to the rest of the group explaining what it does and why it is a pulley or a lever.

 Provide the children with some statements from the book and ask them to write a question to match each one. For example:

| Statements | Can you write a question to match? |
|--|------------------------------------|
| Pulleys help people move heavy things. | |
| Rock climbers wear safety harnesses. | |
| A flagpole has a pulley. | |
| A lever is a bar or a rod. | |


 The children could list words that have the /er/ sound. These could be grouped by the letters used to represent them:

| | | | | | |
|--------|-----------|------|-------|-------|-------|
| er | ur | ere | ir | or | ear |
| lever | furniture | were | first | world | earth |
| every | | | | | |
| worker | | | | | |


Possible assessment focus

Can the children:

- explain how pulleys and levers work using the diagrams and photographs to assist them?
- identify questions and statements?

 whole text activity

 sentence activity

 word activity

Writing links

Discuss the features of a labelled diagram. Point out the use of arrows, numbers, labels and captions. Show the children a picture of a crane. Add labels, arrows and captions to it to show how it uses pulleys and levers to work.

The children could draw their own diagram of an object with a pulley or a lever, for example, a wheelbarrow. They could include labels, captions, and arrows to explain how it works.

Making Work Easy

Topic: Technology/Inventions

Curriculum link: Physical Science

Text type: Explanation

Reading level: 19

Word count: 527

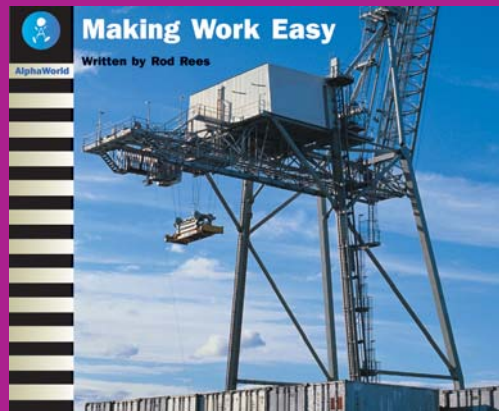
Vocabulary: attached, cable, chain, crane, flagpole, groove, hand trolleys, levers, load, pulleys, pulley wheel, rod, safety harness, wheelbarrow

Possible literacy focus:

- Understanding how pulleys and levers work.
- Recognising the difference between questions and statements.

ESL possibilities:

- Understanding subject-specific vocabulary: safety harness, lever, pulley, trolley, attached, groove.
- Using diagrams and photographs to explain how levers and pulleys work.



Summary

This book describes pulleys and levers and how they work. It provides examples of these two tools and shows how they are used to move and lift things.

AlphaWorld



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