

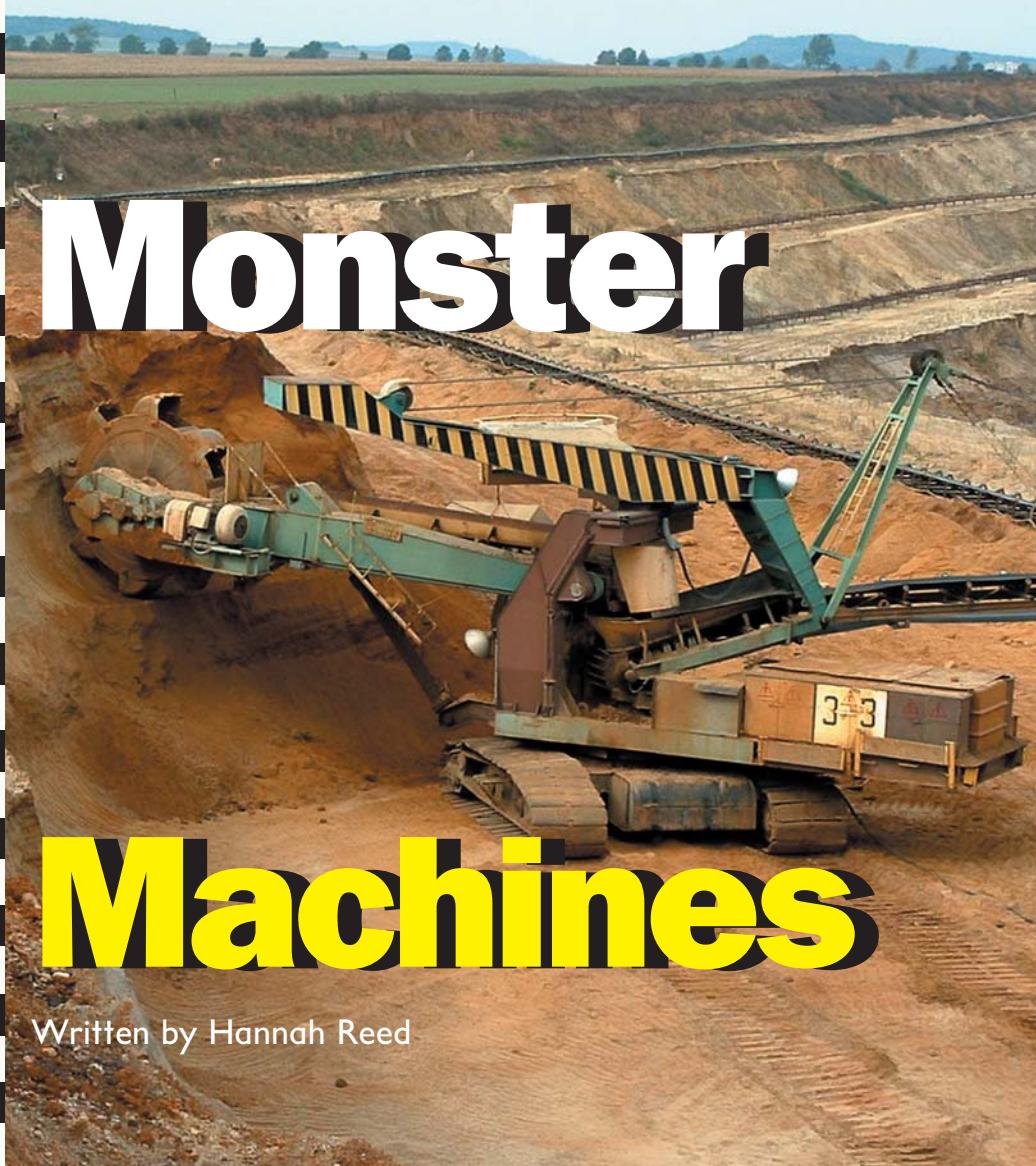


Teacher Edition

AlphaWorld

Monster Machines

Written by Hannah Reed



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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
- Headings and subheadings are used throughout the text

Vocabulary

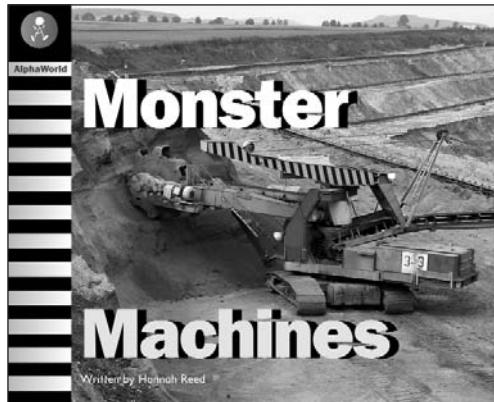
crops, dredgers, excavate, explosives, extract, foundations, freight trains, harvested, invented, machines, metals, mines, minerals, processing plant, road train, tonnes

Setting the context

Ask the children to brainstorm all the machines they know. List these on cards. Have the children classify these cards into two piles, ‘Large Machines’ and ‘Small Machines’.

Background information

This book discusses the ways that large machines are used for farming, mining, construction and transportation. The book examines how such machines enable a few people to do the work of many people. The book contrasts the size of the machines with the size of the people using them and outlines the specific tasks that different machines do.



Front cover

Show the front cover.

This book is called Monster Machines. What can you see on the front cover? What would be a ‘monster’ machine? Does the front cover make you want to read the book? Why?



Title page

Turn to the title page.

What sort of ‘monster’ machine do you think this is? Have you ever seen a machine like this?

Read the title and the name of the author together.



Predict

This is the contents page. Let's read through it together to find out what this book is about?

Discuss any words that the children have difficulty with.
Turn to page 4.

This is the introduction. It says that large machines are used in different places such as farms, mines and building sites. Why would these huge machines be used?



Read to the end of page 4.



Reflect

What is unusual about this contents page? Why would it be set out like this?

Where are large machines used? Why does the author say that they could be called monster machines?



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 section on ‘building’?



Contents

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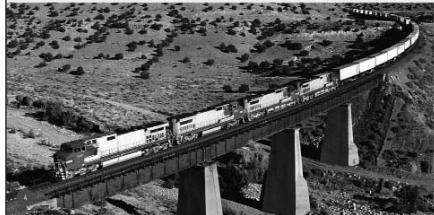


Introduction

Large machines are used in different places such as farms, mines and building sites.

People can use these machines to do huge amounts of work in a short time.

These machines are so big and strong that they can be called monster machines.





Predict

The heading on this page is ‘Farming’. What do you think it will tell us? It says that farmers need to do a lot of work in a short time. Look at the photos on this page.

What large machines would be used on farms? Why would farmers need them?

Turn to page 8.

Discuss the heading and subheading on this page and how they are used to organise information.

Big tractors pull machines that dig up the ground and get it ready for planting. How would farmers have dug up the ground before tractors were invented?



Read

to the end of page 9.



Reflect

What does the author mean when she says: ‘With these machines one person can do the work of many people’?

What jobs can big tractors do? What did farmers use before these machines were invented?



Observe and support

Can the child interpret the text?

Are tractors or horses more efficient for farmers to use?

Why do you think so?



Farming

Farmers often need to do a lot of work in a short time.

Large areas of land need to be dug up so that a lot of seed can be sown at once. When the crops are ready they must be harvested in just a few days.

Once, teams of farm workers were needed to do this work. But now farmers use powerful machines to get the work done. With these machines one person can do the work of many people.



Farming

Tractors

Big tractors pull machines that dig up the ground and make it ready for planting seed. Tractors can also pull machines that spray plants to keep insects away.

Before tractors were invented, farmers used horses or cattle to help with the farm work. Tractors have the power of up to 300 horses, so they can do a lot of work very quickly.





Predict

Discuss the headings and subheadings. *Where are harvesting machines used? How do you know?*

Wheat, rice and other crops are harvested by giant harvesting machines. They can harvest crops in a very short time.

What does harvesting mean?

What would a harvesting machine do?



Read to the end of page 11.



Reflect

What are crops? How do giant machines harvest the crops?

How can machines pick fruit?



Observe and support

Can the child share the extra information contained in the ‘For your information’ section.

Can you show me where the ‘For your information’ sections are on these pages?

What do combine harvesters do?

What did you discover about grape picking machines by reading the ‘For your information’ section?

Farming

Harvesting machines

Wheat, rice and other crops are harvested by giant machines. These machines cut the tops off the plants and remove the seeds. They also clean the wheat or rice. These machines can harvest crops in a very short time.

For your information

Combine harvesters can cut wheat all day and all night. Every hour a combine harvester cuts enough wheat to make 73,000 loaves of bread!



Giant machines are also used to pick fruit because they can pick it much faster than people can.

A grape picking machine is used to pick grapes. The machine removes the grapes from the vine by slapping them with a paddle, or by shaking the vine to make the grapes fall off.

For your information

Even though grape picking machines are very big and strong, they do not squash the grapes.



Predict

This page has the heading, ‘Mining’. Miners dig deep into the ground to find different types of minerals and metals. Look at the photo of the miners from long ago. What do you think they used before mining machines were invented? Turn to page 14.

This page has the subheading ‘Mining machines’. After the miners have used explosives to blow the rock into smaller pieces, they use giant machines called dredgers to dig up the rock.

Look at the photos of mining machines on this page. What other machines would be useful to miners?



Read to the end of page 14.

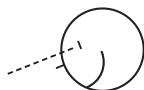


Reflect

What are dredgers? What job do they do?

Tell me what you found out about giant dump trucks?

Why do miners use these enormous machines?



Observe and support

Can the child explain the meaning of the technical and scientific language used in the book?

What does ‘different types of minerals and metals’ mean? How do you know? What information in the book helped you to work it out?

Mining

Miners dig deep into the ground to find different types of minerals and metals. Miners can make tunnels under the ground, or they can dig open-cut mines.

Before mining machines were invented, people used picks, shovels and hand-held drills to dig into the hard, rocky earth. Now, people use enormous machines so the work is easier and gets done more quickly.



Mining

Mining machines

Miners use large, strong drills to make holes in the rock. Explosives are put into the holes to blow the rock into smaller pieces. Then, miners use giant machines called dredgers to dig up the rock.

After the rock is dug out of the mine it is taken to a processing plant. Dump trucks carry the large loads of heavy rock. The dump trucks have tyres that are taller than a person. Dump trucks travel very slowly when they are loaded with mining material.



For your information

Mining trucks are so big and so high that the driver must climb a ladder to get into the cabin of the truck.





Predict

This section has information about monster machines that are used for building. A lot of hard work needs to be done when tall buildings are built. Sometimes there is an old building on the land that needs to be cleared. Can you see the giant machine in the photo that is knocking down the building? There is also a photo of a monster digger. What would this be used for?

Turn to page 18.

Hundreds of tonnes of concrete and thousands of tonnes of steel are used when a tall building is constructed. How would monster machines help with this work?



Read

to the end of page 19.



Reflect

What are foundations?

What can giant cranes do? What did you discover about cranes from reading the ‘For your information’ section?



Observe and support

Can the child explain the difference between headings and subheadings?

Look at page 18. What is the heading? What is the subheading? How do you know?

What does subheading mean?

Building

Digging down

A lot of hard work needs to be done when tall buildings are built.

Before work on a new building can start, the land needs to be cleared. Sometimes there is an old building on the land that must be pulled down. Giant machines help to knock down the building and take the rubble away.

Before the building starts, a deep hole is dug for the foundations. Huge digging machines dig out the dirt and rock. They have big scoops that dig into the ground to take out the rubble.

For your information

A monster digger can dig out more than a tonne of dirt in one scoop.



Building

Building up

Hundreds of tonnes of concrete and thousands of tonnes of steel are used when a tall building is constructed. All this needs to be carried to the building site and put in the correct place.

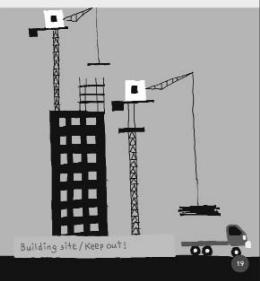
Many large machines are used to do this work.

For your information

Some cranes can lift up to 18 tonnes of building material.



Tall, strong cranes are used to build tall buildings. Cranes lift heavy loads of building material. The cranes are put together near the top of the building. When the building is finished the cranes are taken apart to get them down.





Predict

Ask the children to point out the heading and subheading on the page.

Some trains are used for transporting large loads of material over long distances. They are called freight trains because they carry freight. What is freight?

Turn to page 22.

Road trains are the longest trucks found anywhere in the world. They are trucks that pull many trailers behind them. Road trains can have up to 96 wheels and can pull heavy loads. What do you think they would carry? When would road trains be used?



Read to the end of page 22.



Reflect

Tell me something you discovered about freight trains from reading this book?

How are freight trains and road trains alike? How are they different?



Observe and support

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

Can the child read the text fluently?

I liked the way that sounded when you read it. It made it easy for me to understand.

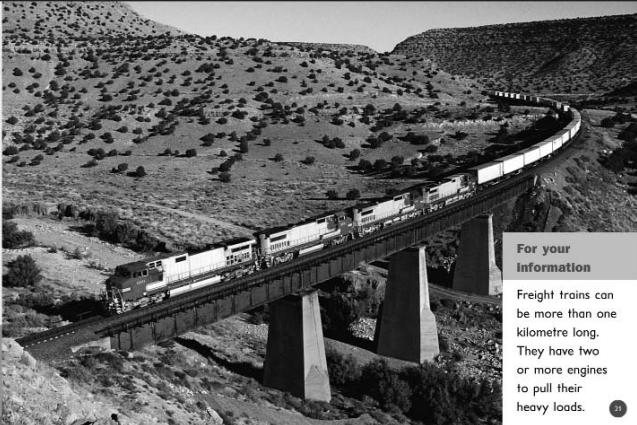
Transport

Freight trains

Some trains are used for transporting large loads of material over long distances. These trains are called freight trains. Freight can be wheat, coal, steel, iron ore, wood and many other kinds of material. Freight trains can carry many different things at once.

Moving small loads from place to place can be very expensive. It is much cheaper to move large loads all together.

Freight trains can take hundreds of tonnes of freight a very long way. But they can travel only where there are railway tracks and they must travel to a timetable.



For your information

Freight trains can be more than one kilometre long. They have two or more engines to pull their heavy loads.

Transport

Road trains

Road trains are the longest trucks used anywhere in the world. They are trucks that pull many trailers behind them and are driven around outback Australia. Road trains are like freight trains, but they travel on roads, not railway tracks.

In some parts of Australia, towns are far away from each other, there are no railway tracks, and many roads are narrow and flat. Road trains travel long distances on these roads, picking up and delivering goods. They transport things such as livestock, mining materials, grain and sugar.

Because road trains are so long, drivers of other vehicles must be very careful when they want to overtake one.



For your information

Road trains can have up to 96 wheels and can pull huge loads.





Predict

*This is the conclusion. What is a conclusion?
What could the author say about monster machines to
conclude the book?*

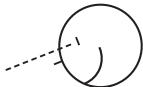


Read to the end of page 24.



Reflect

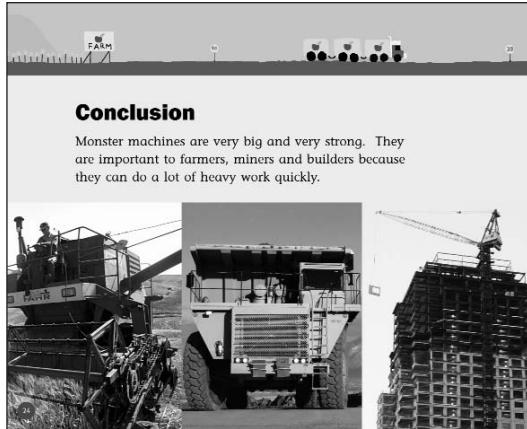
*What is special about monster machines? Who are they
important to? Why?*



Observe and support

Does the child monitor his or her own reading,
noticing when errors occur?

*How did you know that was wrong? What did you think
about? What could go there? What would sound right?
What would look right? What would make sense?*



Conclusion

Monster machines are very big and very strong. They are important to farmers, miners and builders because they can do a lot of heavy work quickly.

After reading

Being a meaning maker

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

What are some examples of large machines?

Where are large machines needed?

What can large machines be used for?

Why are they used?

Why has the author called this book Monster Machines?

Being a code breaker

Explore the following language features:

- Adjectives: big, large, monster
- Synonyms for large: big, enormous, giant, gigantic, huge, monster, vast
- Use of scientific and technical language specific to large machines: combine harvesters, cranes, dredgers, dump trucks, excavate, extract, foundations, freight trains, processing plant, road trains, skyscrapers, tractors

Being a text user

Focus on a range of text features found in the book. Ask the children to provide explanations of 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 a contents page?

What is a conclusion? What does it tell us?

What is the purpose of the ‘For your information’ sections? What do they tell us?

You may like to revisit the listing and classifying made prior to reading the book.

What information do we need to change now that we have read the book?

Being a text critic

What did the author need to know to write this book?

What information has she chosen to include?

What information has she left out?

Responding to text

 Children could design their own ‘monster machine’ using information in the book to assist them. Encourage them to use labels and captions to inform others about the characteristics of the machine they have designed. *How is it a ‘monster machine’?*

 The children can be involved in a string writing activity. Ask the children to suggest words that could describe ‘machines’ and list responses vertically. Then ask the children to suggest things that machines can do. List these in another column on the right side. Children could then be asked ‘where and when can machines do things?’

big
large
gigantic
huge

machines

dig
move dirt
harvest crops
lift heavy loads

under ground
on farms
building skyscrapers
all day

 The children can read through the lists creating different sentence combinations. Flip books, poems, sequencing activities and games could be made from the lists they generate.

Possible assessment focus

Can the children:

- explain the difference between headings and subheadings?
- explain the meaning of the technical and scientific language used in the book?
- share extra information contained in the fact boxes?



whole text activity



sentence activity



word activity

Writing links

Present the information in the book in a different form. Model writing a ‘What am I?’ about one of the machines in the book. Use the following questions as a guide:

- What kind of machine is it?
What does it look like?
Where does it work?
What can it do?*

The children could write their own ‘What am I?’ about their favourite monster machine. These could be published as a book, with flaps to lift that reveal the answer.

Monster Machines

Topic: Technology/Machines

Curriculum link: Study of Society/
Technology

Text type: Description

Reading level: 23

Word count: 825

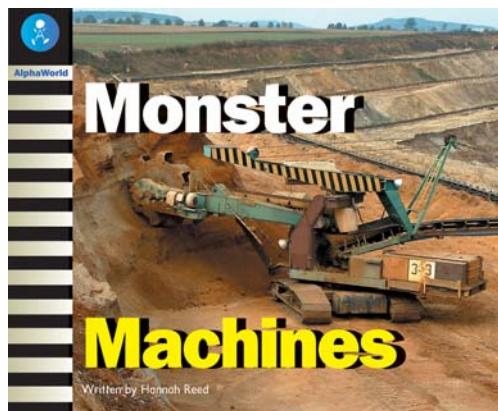
Vocabulary: crops, dredgers, excavate,
explosives, extract, foundations,
freight trains, harvested, invented, machines,
metals, minerals, mines, processing plant,
road train, tonnes

Possible literacy focus:

- Understanding the layout and use of headings and subheadings in the text.
- Understanding scientific and technical language: explosives, harvesting, metals, minerals.
- Understanding the information provided in the fact boxes.

ESL possibilities:

- Scanning through the text to find words that describe the functions of monster machines.
- Identify adjectives used to demonstrate size: enormous, gigantic, smaller.



Summary

This book discusses the different types of large machines that are used on farms, in mines, on building sites and to transport goods.

AlphaWorld



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