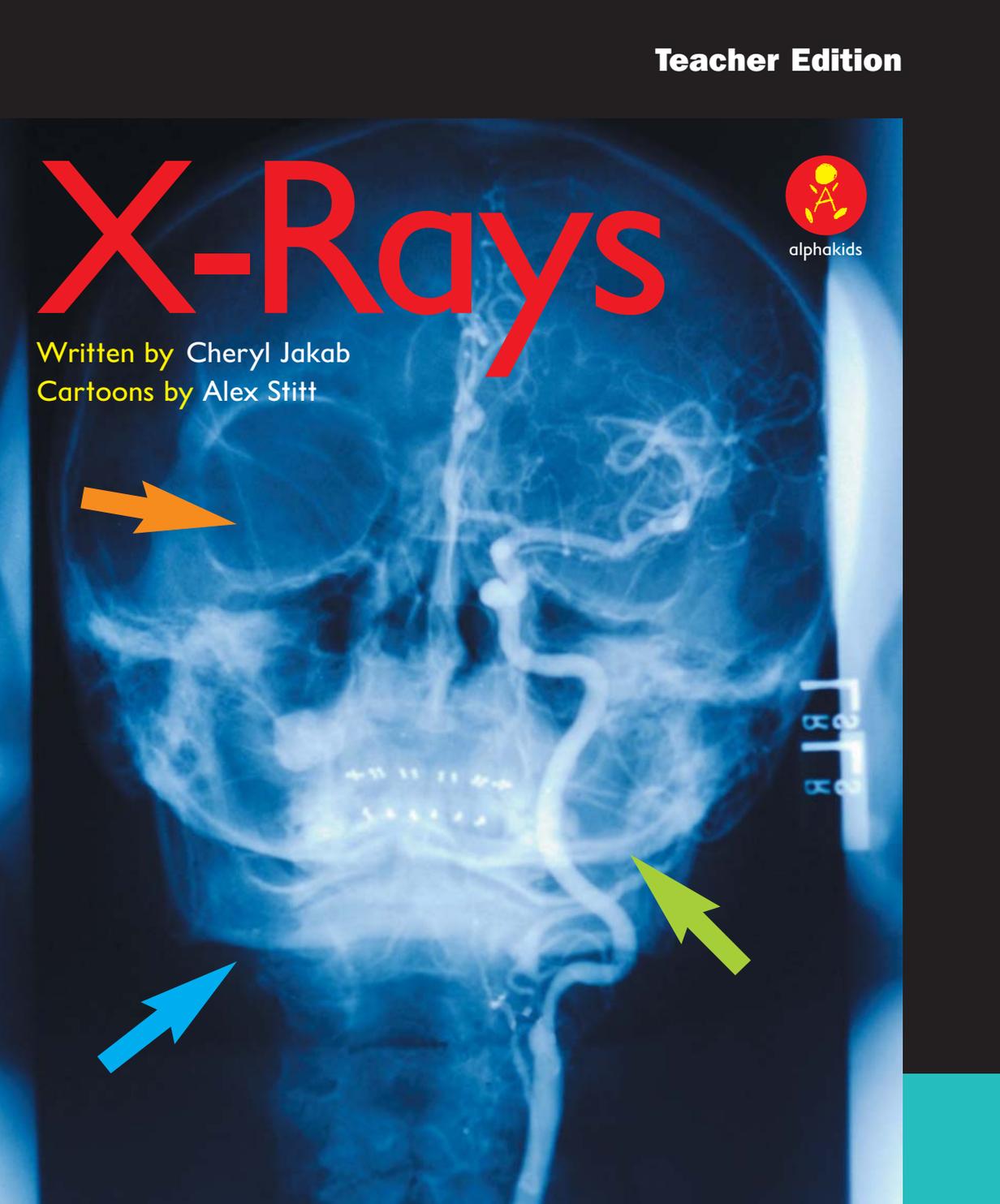


X-Rays

Written by Cheryl Jakab
Cartoons by Alex Stitt



alphakids



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How to use this book

The Alphakids Plus 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. They 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

- X-ray pictures show what can be seen using x-ray technology
- Cartoons provide a humorous look at the use of x-ray technology
- Captions explain the x-ray pictures

Vocabulary

aeroplane, airport, bones, broken, dangerous, dentist, doctor, hospital, machines, protective clothing, screen, vet, weaknesses, x-rays

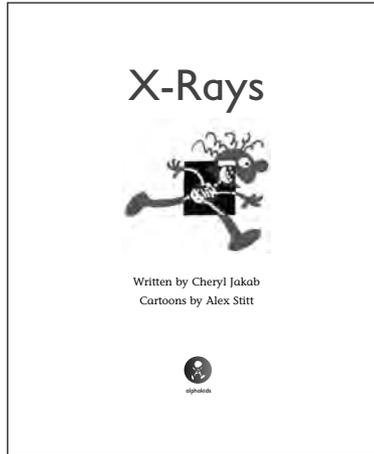
Setting the context

If possible, have an actual x-ray picture for the children to look at.

What does this x-ray picture show?

Discuss any interesting aspects of the x-ray picture, e.g. a broken bone, a visible ring.

Have you ever had an x-ray taken? Why did you need an x-ray? How was the x-ray taken? What did the x-ray picture show?



Front cover

What does this picture show?

What is this type of picture called?

Title page

Read the title, the author's name and the name of the cartoonist.

What are cartoons? Did you expect to see cartoons in this book? Why?

● **Predict**

Look at pages 2 and 3. What does this x-ray picture show? What does the cartoon show us?

Look at pages 4 and 5. What can you see in this x-ray picture? What do you think the man is doing?

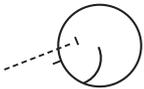
● **Read** to the end of page 5.

● **Reflect**

Why can you see the ring on the person's finger in this x-ray picture?

What other things show up on an x-ray picture?

How does the cartoon help you to understand the information?



Observe and support

Can the child interpret the text at the literal level?

Why do people use x-rays?

What things show up in an x-ray picture?

How do x-ray pictures help doctors?

Introduction

People use x-rays to see inside things.
X-rays show us things that we cannot usually see.

X-rays can pass through soft things like skin.
They cannot pass through hard things like bone and metal.

Hard things show up on the x-ray picture.



2



3

X-rays at the hospital

Doctors use x-rays to see inside your body.
The x-ray pictures tell the doctor if any of your bones are broken.

The x-ray pictures help the doctor work out how to help you to get better.

X-rays cannot pass through the bones in your body.
The bones show up on the x-ray picture.



4



The x-ray picture shows a broken arm.

5

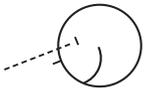
● **Predict**

*What do you think is happening in this picture?
Why might you need an x-ray of your mouth?
What would an x-ray picture like this show the dentist?*

● **Read** pages 6 and 7.

● **Reflect**

*What shows up in an x-ray picture of your mouth?
Have you ever had an x-ray at the dentist?
What things on this page help you to understand the information?*



Observe and support

Can the child integrate information on the page to solve problems?

At the point of need you might say:

What can you see in the picture?

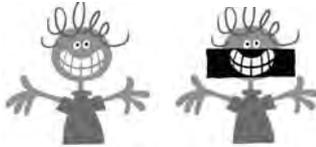
What would make sense here?

Look at the letters in the word. What sounds do they represent? What sort of word do we need here?

X-rays at the dentist

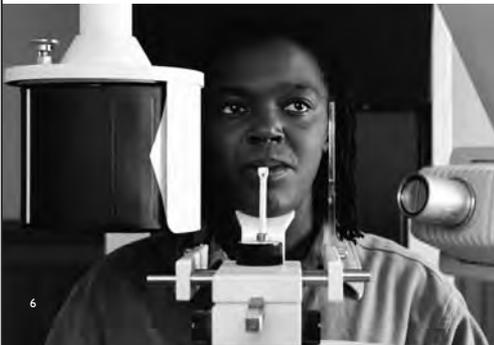
Dentists use x-rays to see if there are any problems with teeth and gums.

The hard parts of the mouth, like teeth and bones, show up on the x-ray picture.



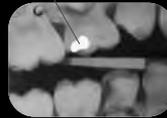
If you have a hole in one of your teeth, the x-ray pictures will show the dentist where it is.

Then she can fix it.

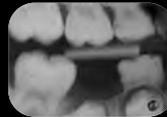


6

The x-ray picture shows a metal filling.



The x-ray picture shows some tooth decay.



7

Predict

Look at the information on pages 8 and 9. What do these x-ray pictures show?

What other animals might have x-rays taken?

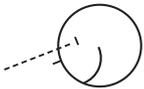
Look at pages 10 and 11. Where might you see this sort of x-ray? What does it show?

Read to the end of page 11.

Reflect

Did you know that animals could have x-rays taken? Why would you need an x-ray machine like this at an airport?

What sort of things would show up on an x-ray picture from this machine?



Observe and support

Can the child read factual texts clearly so that the information is easy to understand?

Well done, I could hear each word clearly which helped me to understand the information.

Does the child pay attention to punctuation to assist with fluent reading?

I noticed that you paused when you saw a comma. This helped me to hear each word clearly.

X-rays at the vet

The vet uses x-rays to check that the animals do not have any broken bones.

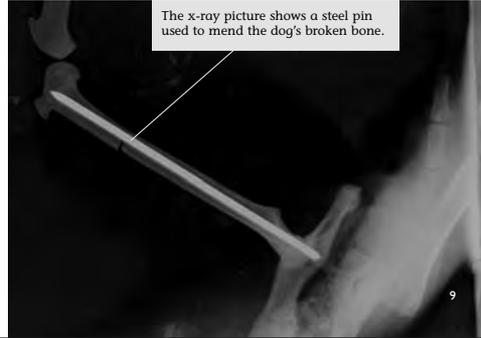
If an animal has a broken bone, the vet will mend the bone using pins, splints or bandages.



The x-ray picture shows that the dog has a broken bone.



The x-ray picture shows a steel pin used to mend the dog's broken bone.



X-rays at the airport

X-rays are used at the airport to see inside suitcases and bags. Things that should not go on the aeroplane, like guns, knives and spray cans, will show up on the x-ray picture.



What can you see inside this bag?

● **Predict**

What does this diagram tell us? What helps us to understand the diagram?

Why might these x-ray pictures be useful?

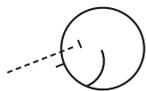
● **Read** page 12.

● **Reflect**

Did you know that x-rays are used to take pictures like these?

How do these x-ray pictures help people?

What helped you to understand what these x-rays are used for?



Observe and support

Can the child use a range of strategies to decode new vocabulary such as ‘aeroplanes’?

You might say: *What sort of word needs to go here?*

Is it the name of something?

Look at the diagram. Does this give you a clue?

Cover the letters ‘aero’ with your finger.

What letters can you see in the rest of this word?

What sound do they make?

What does this part of the word say? Would that word make sense?

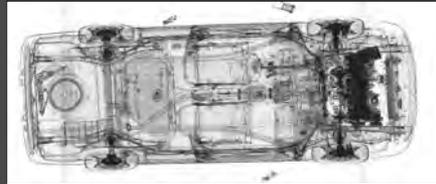
X-rays and machines

X-rays are used to check that machines like cars, trucks and aeroplanes are strong and safe.

Any cracks or weaknesses in the machines will show up on the x-ray picture. If part of a machine is cracked or damaged, it can be repaired or replaced.



12



13

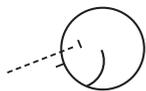
● **Predict**

*How many x-rays have you had?
Is it safe to have a lot of x-rays?
What information might you learn from these pages?*

● **Read** to the end of page 16.

● **Reflect**

*What sort of things can people do to protect themselves from x-rays?
How do x-rays help people?
What new information have you learned about x-rays?*



Observe and support

Can the child use their knowledge of phonics to support their reading?
If the child is having difficulty you might prompt them by saying:
Look at the beginning of the word. What sound do these letters make? Do you know a word that begins like this?
Check the end of the word.
What sound should you hear? What would make sense here?

X-ray safety

X-rays can be dangerous.

People or animals who are near strong x-rays for a long time will get ill, so anyone who uses x-rays must be very careful.

They must wear protective clothing or stand behind a screen.



Conclusion

X-rays can be very useful.

They are used to help people and animals get the treatment they need.

They are used to help people build safer machines.

They are used to keep dangerous things out of aeroplanes.



After reading

Being a meaning maker

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

What is an x-ray?

Why do people use x-rays?

Why are x-rays used at the airport?

Should you have lots of x-rays?

Why?

How are x-rays useful?

Being a code breaker

Children may like to explore the following language features:

- sounds associated with the use of the letter 'x' throughout the book:
x-ray, fix
- the sound /o/: bones, broken, go, show, bone, so, protective clothing

Being a text user

Point out the captions, labels and pointers used in the text.

What are these called?

What do they tell us?

When do we read them?

Why do we read them?

Being a text critic

What research would this author have done before writing this book?

What other things could she have included in the book?

Responding to text



Children could work in cooperative groups to make an audiotape of interviews with a range of people who use x-rays. Encourage the use of questions to prompt interviewee responses.



Children could write sentences to explain some of the x-ray photos shown in the book. Encourage the use of illustrations, diagrams, labels and captions to support their writing.



Children could look through this book and other familiar books to list a range of words that contain the letter 'x'. These could be grouped according to the sound the letter represents, e.g. box, xylophone.

Writing links

Shared writing

Have children work together in small groups to organise the information they have learnt from the text. They could use the text to help fill in a chart with the following headings:

Where is the x-ray taken?	Why is the x-ray taken?	What does the x-ray picture show?	Drawing of the x-ray picture

Independent writing

Children could write about a time when they, or someone they know, may have experienced the use of x-rays. Encourage children to illustrate their writing with comic illustrations.

Possible assessment focus

Can the child:

- explain what is happening in the photos?
- explain what information the photos provide?
- explain why the illustrator has used comic illustrations?



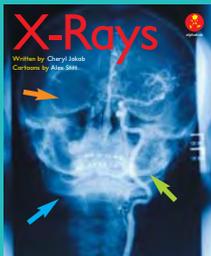
whole text activity



sentence activity



word activity



Teacher Edition

Topic: X-rays

Curriculum link: Technology

Text type: Explanation

Reading level: 18

Word count: 335

Vocabulary: aeroplane, airport, bones, broken, dangerous, dentist, doctor, hospital, machines, protective clothing, screen, vet, weaknesses, x-rays

Possible literacy focus

Using text to understand photos.

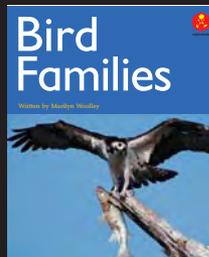
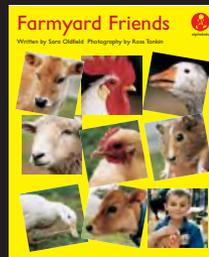
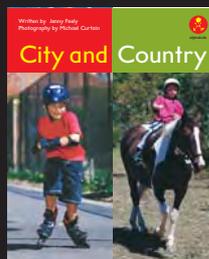
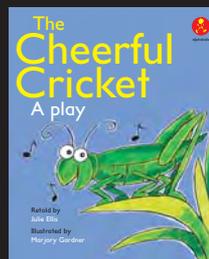
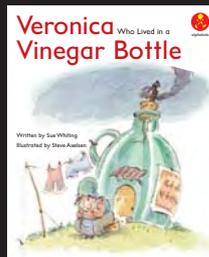
Exploring the use of photographs in non-fiction texts.

Reading and understanding the use of comic illustrations in non-fiction texts.

Summary

This book explains the many uses of x-rays.

Other books at this level



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