



Running words: 341

Book Summary

This book is about Charles Goodyear who, in 1830, wanted to improve a new product called rubber. For many years, he experimented in his kitchen on a hot stove. Thanks to possibly a lucky accident, he achieved his goal.

Themes

Discovery, Physical science, Problem solving, Scientific investigation

Features of the Book

- The information contained in the illustrations, text, timeline, diagram, Contents page and glossary
- Content words for discussion: *rubber, sticky, stove, sulphur, waterproof*
- Phonics and phonemic awareness: vowel digraph *ee*

Strategies

Clever Mr Goodyear introduces and reinforces the following strategies:

- making connections
- finding main ideas
- recognising cause and effect

Materials

- copies of the BM, pencils

Clever Mr Goodyear

by Yvonne Morrison

Introducing the Text

Begin by asking the students if they had ever heard of the inventor Mr Goodyear. Explain that he was an inventor who was born a long time ago who set out to improve rubber, which was a new material back then.

Reading the Text

Ensure each student has a copy of the text. Make sure that the content words (*rubber, sticky, stove, sulphur, waterproof*) are integrated naturally into the discussion. An understanding of these terms will help the students appreciate the author's purpose. Encourage the students to use the information in the illustrations, text, timeline and diagram to determine the strategies of making connections, finding main ideas and recognising cause and effect as you work through the book.

Cover

Together, read the book's title and the name of the author. Point to Mr Goodyear who has a work apron on and is working in front of an old-fashioned hot stove. Ask:

- *Why do you think he needed to experiment using the hot stove?* (He needed to heat something to test it.)

Together, turn to the back cover and point out the photograph of the rubber tyre with Goodyear's name on it. Read aloud the preview question on the back cover: *Why is Goodyear's name on this rubber tyre?* Ask the students if they can answer the question. If not, say *Let's read the book to find out more.*

Title Page

Explain to the students that a Contents page often appears at the start of a non-fiction book. It lists each section of the book and tells you which page the section starts on. Read the entries with students. Ask:

- *What can you tell the book will be about based on the chapter headings?* (Mr Goodyear,

through trial and error, possibly accidentally discovered a useful new product.)

Page 2

Read the heading with the students. Then read the body copy text with them. Ask:

- *Why was it useful that rubber was waterproof?* (It helped keep you dry when you wore rubber shoes and coats.)

Then read the caption together. Ask:

- *How old was Goodyear when he first heard about the new product called rubber?* (30 years old).

Page 3

Read the first sentence with the students. Ask:

- *What did Goodyear and his dad share?* (a curious mind and a desire to be an inventor).

Read the rest of the text with the students. Talk about how an inventor often tries to solve a problem by inventing some new and improved. Discuss how we are all used to rubber now but in Goodyear's time, it was a relatively new product that not everyone knew about.

Page 4

Point to the photograph. Tell the students that the tree has been cut to allow the sap from the rubber tree to drip down into the collection bucket. Now read the body copy text and caption with the students. Talk about how this passing comment from the shopkeeper set Goodyear on a totally different invention path.

Page 5

Look at the diagram and talk about what it is showing. (When the day is cold, rubber breaks. When it is hot, rubber melts.) Read the heading and body copy text with the students. Ask them what the word *brittle* means. Have them to turn to page 12 to read its definition if they don't know or to confirm their answers (something that is hard and breaks

easily).

Page 6

Look at the illustration. Tell the students that it looks as if Goodyear is in his kitchen cooking, but he is, in fact, experimenting with rubber. Read the text with the students. Then explain to them that the main idea of a page is often in the first sentence.

- *What is the main idea of this page?* (Goodyear worked on the problem in his kitchen.)
- *The other details on the page usually support the main idea. What are the supporting details on this page?* (He added different materials to the rubber. Some made it less sticky while others made it more sticky.)

Page 7

Read the heading with the students and discuss its meaning. Talk about how the famous inventor Thomas Edison, who invented the lightbulb, failed 1,000 times before he finally succeeded! Read the body copy text with the students. Ask the students to put up their hands if they would have given up when the mail bags melted. Encourage the students to say what this tells us about Goodyear's character (he was determined, stubborn, curious, etc.). Talk about the cause and effect relationship of the hot day and the mail bags melting. Explain that a cause is why something happens and an effect is what happens as a result. For example, when the sun beats down on a hot day (cause), the result is the rubber mail bags melted (effect).

Page 8

Point to the year 1839 in the text and tell the students that Goodyear has been experimenting for nine years now. Then point to the illustration and say what is happening (a blob of rubber mixture has dropped onto the hot stove). Now read the text with the students. Ask:

- *Why would it be useful for tyres to have rubber that didn't melt.* (It means the rubber tyres wouldn't melt when the weather and road surface get very hot.)

Talk about the cause and effect relationship of the a blob of rubber dropping onto the hot stove (the blob of rubber dropped on the hot stove - cause / the rubber didn't melt - effect).

Page 9

Ask the students if anyone knows what sulphur is and what it is used in. Confirm their answers by reading the text with the students. Ask the students if they have ever noticed a certain smell on fireworks night. Explain that sulphur gives fireworks their characteristic smell.

Page 10

Point to the timeline on page 10. Ask the students which year Charles Goodyear was born in. Then read the second entry on the timeline with the students. Point out that this information is new and has not featured anywhere else in the book. Read the heading with the students. Ask them why the author has put a question mark at the end (because no one is 100 per cent sure if it was accidental or intentional). Now read the body copy on page 10 with the students.

Page 11

Using the timeline information, confirm the dates that Goodyear started working on finding a way to treat rubber till his discovery in 1839. Then discuss the photographs and the products that are often made of rubber: balls, duck bath toys, gumboots and tyres. Read the body copy text and the caption with the students. Encourage the students as they are out in the community to take note of the tyres on cars to see if any of them are Goodyear tyres.

Page 12

Look at the glossary. Quiz the students by reading the definitions and having them say which word you are referring to.

Revisiting the Text

- Revisit the text on pages 9 and 11 and write down the things that sulphur and rubber are used to make. Present the information in chart form.
- Skim the book again and find other examples of cause and effect. Remind the students that a cause is why something happens and an effect is what happens as a result.
- Find five other words in the book that could feature in the glossary, such as *sap*, *inventor*, *rubber*, *curious* and *improve*. Write a definition for each word. Remember glossary words are listed in alphabetical order.
- Point to the word tree on page 4. Explain that *ee* is a vowel digraph. A digraph is a pair of letters that makes one single sound. A vowel is any of the following letters: *a*, *e*, *i*, *o*, *u*. Ask the students to find other words that contain the vowel digraph *ee* in the book (*seen*, *shopkeeper*, *been*, *see*, *keeps*).

Following Up

- Look at the timeline on pages 10–11 again. Research another famous inventor and create a timeline for their life and invention.
- Research another invention that was named after its inventor, such as Dyson vacuum cleaners that were named after inventor Sir James Dyson, or make a list of five inventions that were named after their inventors.
- Give the students copies of the BM for this title.