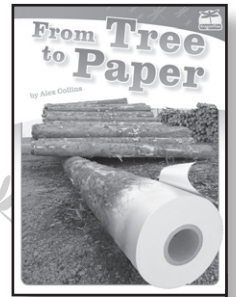


From Tree to Paper

by Alex Collins





Overview

This book provides a clear, concise explanation of how paper is made. The photographs and diagrams support an understanding of the process and invite the reader to ask questions. (Big idea: Scientists study materials and how they change.)

Suggested purposes

This book supports the following **comprehension strategies**:

- summarising the main ideas 
- asking questions. 

It supports the following **non-fiction strategies**:

- using photographs to understand a procedure
- using procedural words
- using flow diagrams to describe a procedure
- using a fact box
- reading labels and captions that describe photographs
- using a contents page, glossary (boldface type), and index.

Key vocabulary

The vocabulary that is focused on includes:

- Anchor words – *change, liquid, materials, solid, state*
- Content words – *chips, clay, colour, dishwater, dye, factories, fibres, glue, house, logs, lumps, microscope, mill, pages, paper, plantations, pulp, reel, rollers, screen, spaghetti, steps, tree, truck, vat, water, wood*
- High-frequency words – *after, around, book, each, first, into, left, look, next, such, their, through*

Features of the text

- Non-fiction features:
 - cover flap, which provides support for identifying the big ideas and anchor words
 - the topic (how paper is made), which expands on pages 12 and 13 of the anchor book *Being a Scientist*
 - preview question on the back cover
 - step-by-step action photographs
 - procedural words
 - flow diagram
 - chart
 - fact boxes, captions, and labels
 - magnified pictures
 - contents page, glossary (boldface type), and index
- Word study:
 - initial consonant blends – “pl-”, “scr-”, “sp-”, “tr-”, “gl-”, “cl-”, “dr-”, “st-”, “squ-”
 - final consonant blend – “-st”
 - digraph sounds – “th”, “ch”, “thr-”
 - contraction – *it’s*
 - procedural words – *first, next, now, after that, finally*
 - adjectives – *huge, new, small, solid, soft, lumpy, thin, grey, tiny, wet, flat, giant*
 - compound word – *dishwater*
- Exclamation marks and question marks
- Similes – *like dirty dishwater, like spaghetti*



Setting the scene

If you have already introduced the topic using the Whole-class Introduction and the anchor book (*Being a Scientist*), you can review the discussion and show the students pages 13 and 14 of the anchor book.

Discuss making paper.

- *What do you know about making paper?*
- *Have you ever tried to make paper? What did you do?*

ELL support

Explicit vocabulary instruction should be embedded in daily instruction for ELL students. They will learn and use new vocabulary when it's taught in the context of both literacy and standards-based content learning.

Introducing the book

Front cover – Discuss the photograph. *What do you notice about the photograph? What might this book be about?* Read aloud the title and the author's name.

Back cover – Read aloud the preview question. Help the students to make connections with their prior knowledge.

Using the flap – Read aloud the text on the flap, and (if relevant) remind the students that they have read this in *Being a Scientist*. Read aloud the anchor words on the other side. Tell the students that they can point out the words when they find them in the book. Ask them to leave the flap open as they read.

Title page – Read aloud the title and the author's name again. Ask the students to turn to a partner and to share a question about making paper. Discuss a few of their questions. Write two or three key questions that will guide the reading.

The first reading

Page 2 – Have the students read aloud the contents page. *After reading the headings, what do you think this book will be about?*

Page 3 – Read the introduction. Explain that introductions usually occur in non-fiction books. *An introduction is at the beginning of the book, and it introduces the subject.* Point out “state” and explain that the bold type tells us that it is a key word that is in the glossary. Have the students look up the meaning in the glossary. *Imagine the tree that this book was made from. The tree is being chopped down in a forest. What does it look like?*

Page 4 – Discuss the layout. *What do you notice about this page?* (chapter heading on scroll of paper, alliteration in title, background, large photograph) *Why has the page been laid out this way?* (makes the topic more interesting) *Which word shows that the author is about to describe the beginning of the process?* (first) Look up “paper mill” in the glossary.

Page 5 – *How do the photograph and text work together?* (The photograph shows us what a tree farm looks like. The text explains what a tree farm is.) *Why doesn't a tree farm run out of trees?* (New trees are planted when the old trees are cut down.)

Pages 6 and 7 – Discuss the photograph on page 6. Look up “vat” in the glossary. *Which word on page 6 shows that this is the next step?* (next) Read the captions on pages 6 and 7. *What is their purpose?* (to describe the images) **(Asking questions)** *What questions do you have about this part of the process?* AQ

Pages 8 and 9 – Read aloud the text. *Which word shows that the author will describe the next step?* (now) Point to the chart on page 9. *Why has the information been presented on a chart?* (simplifies the information and highlights key points to make it easier to understand) *The author has used a simile to describe the thin grey liquid. What is it?* (looks like dirty dishwater) *What are three important ingredients of paper?* (clay, dye, and glue)

Pages 10 and 11 – Discuss the photographs. *How does the photograph on page 11 help our understanding?* (shows us something that we can't see) Look up “screen” and “fibres” in the glossary. **(Summarising)** Have the students explain to a partner how the liquid becomes paper. *What words tell you that this is the next step?* (after that) *The author has used a simile to describe the fibres. What is it?* (all mixed up like spaghetti) SUM

Pages 12 and 13 – *What word tells us that this is the last step?* (finally) Look up “reels” in the glossary. Have the students discuss each step. Emphasise words such as “first”, “next”, “now”, “after that”, and “finally”.

SUM **Page 14 – (Summarising)** Explain that the diagram is a flow diagram. A flow diagram gives a simplified explanation of a process. *What is the purpose of this flow diagram?* (to summarise the main ideas and show the steps) Point out that the author uses a different verb at each step (“cutting”, “chipping”, “cooking”, “adding”, “screening”, “drying”, “rolling”).

Page 15 – Explain that a glossary is like a mini-dictionary. It gives quick access to the meanings of words the reader may not know. Review the glossary to ensure that the students understand the words.

Page 16 – Discuss the purpose of an index (provides a detailed overview of the book, indicates topics that are important to the main topic, helps the reader to cross-check and gather more information). *What pages have information about rollers? What kinds of books have an index? (non-fiction) Now that you have finished reading, is this how you thought paper was made? Were your questions answered?*

Vocabulary activity

Focus word: through

- Turn to page 10. Read: *The water drains through holes in the screen.*
- Say “through” with me.
- Explain that “through” means to move in one side and out the other.
- Give examples to show how to use “through”.
 - I rode my bike through the streets.*
 - We walked through the mud for hours before turning back.*
 - In the afternoon, sunlight streams through the window.*
 - I put the thread through the eye of a needle.*
 - We can see the stars through a telescope.*
- Do activities such as the following:
 - Have the students see how many times they can throw a ball through a hoop.
 - Make an obstacle course that involves going through things, for example, through a tunnel or through an imaginary forest. Alternatively, have the students design and draw a picture of an obstacle course.
 - Have the students wash some fruit in a sieve and watch the water run through the sieve.
 - Ask the students to draw a picture of a train going through a tunnel (the train can be coming out the front).
 - Have them look through a magnifying glass or microscope.

- What is the word we’ve been learning that means to move in one side and out the other? Say “through” with me.*

ELL activity

Language objective: Similes

- Reread the book together.
- Write the following sentences on the board:
 - The fibres are all mixed up like spaghetti. (page 11)
 - It changes into a thin, grey liquid that looks like dirty dishwater. (page 8)
- Read the sentences together.
- How does the author describe the fibres? How does the author describe the liquid? (uses “like”)*
- Underline “like” in both sentences. *Are fibres really like spaghetti?* Explain that the author is comparing two things that are very different by using “like”. *The fibres are like mixed-up spaghetti.*
- Explain that these two sentences use similes. Similes use “as” or “like” to compare two things.
- Let’s look at some other similes.*
 - His temper is like a volcano.
 - Her heart is as soft as a pillow.
 - He swims like a fish.
 - She sings like a bird.
 - They eat like pigs.
- Write the following words on the board: mountain, snowflake, honey, nails, mouse. Write the following phrases on the board:
 - as white as a
 - as quiet as a
 - as high as a
 - as sweet as
 - as hard as
 Ask the students to match the words with the phrases.
- What did we learn about today? What words do similes use? Why do writers use similes?*

Ideas for revisiting the text

1. Review and check

- Listen as the students reread the text, observing their fluency and decoding strategies.
- Review the anchor and content words. Check that the students know what each word means and how it is used.

2. Stop and learn

a. Decoding/ word attack activities

Practising onset and rime

- Write “down” on the board. Have the students say it with you.
- Ask them to identify the letters “ow” and make the sound.
- *What words rhyme with “down”?* Build a word family on the board, using “br-”, “cr-”, “dr-”, “fr-”, “g-”, “t-”. Put the words on a word wall.

Practising adjectives and nouns

- Explain that nouns name things. Have the students find nouns in the classroom (for example, “desk”, “book”, “pen”). List them on the board.
- Explain that adjectives describe things. Have the students suggest adjectives for the nouns (for example, “clean desk”, “old book”, “cool pen”).
- Reread page 6. Write “chips” and “pot” on the board. *What words describe these nouns?* (small, huge)

BLM – Using adjectives and nouns

Have the students list adjectives that describe the nouns in the book. They can choose one and draw a picture of it.

b. Comprehension activities

- Have the students use the index to review how water is used in the paper-making process. They can then record key facts, for example:
 - Page 8: The pulp is mixed with water.
 - Page 10: The water drains through the holes in the screen.
 - Page 11: As the water drains away, the fibres stick together.

BLM – Summarising the main ideas

Have the students reread the text. They can write the steps for making paper. Encourage them to look back through the book, then write the steps into the spaces provided.

c. Writing activities

Have the students:

- design a poster that encourages people to use paper carefully
- write a list of the uses of paper
- write a letter to a tree, thanking it for paper.

3. Suggestions for further activities

- Make a small fold-out book.
- Discuss the problems of making paper. *What might happen if we cut down too many trees?*
- Find out about recycling paper and compare it with the process of making new paper.
- Make recycled paper.