

# Dams

## Before Reading

### Motivation / Purpose

The purpose of this text is to report on the four types of dams. The text links with the key learning area of *Science* and the strand *Science and Society*.

### Text Type

Draw students' attention to the:

- chapter titles
- photographs, cross-section diagrams, labels and arrows
- glossary and index.

Ask, "What type of book is this?" (Report)

### Visual Literacy

Look at the cross-section diagrams. Why are these types of diagrams called cross-sections? What is the purpose of the cross-section diagrams in this book?

Explain what is happening in the diagrams. How do the labels and arrows help you to understand what is happening?

### Background Knowledge

Where is the water that we use stored?

What is a dam?

What do you think a dam looks like?

What do you think dams are made of?

What do you know about dams?

What questions do you have about dams?

### Phonological Awareness

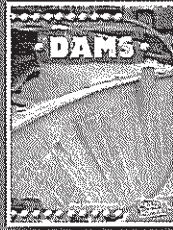
Make sure students know these phonological patterns:

- soft s: rocks (p.5), replacing (p.6), less (p.10), buttress (p.12)
- hard s: dams (p.4), reservoir (p.4), use (p.9), pushes (p.10)
- long a: retain (p.4), earthquakes (p.6), they (p.7), layer (p.17)
- -or: water (p.4), short (p.5)

Find words in the text that contain the above phonological patterns. Write the words on cards. Have students group the words into the patterns listed above, e.g. sort all of the soft s words into a pile.

### Vocabulary

arch, built, buttress, concrete, cracks, curved, dams, earthquakes, embankment, expensive, gravity, reservoir, retain, river, rocky, steel, structure, supports, wall, water, waterproof, weight



Give the students a phonological sound pattern from the list. Ask them to find words containing that sound on a particular page in the book. For example: Write 'retain'. What sound is made by the 'ai' in retain? (long a) Find a word on page 6 that has the same sound. (earthquakes) Underline the letters that make that sound. (earthquakes).

### High Frequency Words

across, against, because, form, four, ground, kinds, other, pushes, repairing, replacing, shape, short, size, special, tall, unlike

Write the words on cards. Have students write the words using Look, Cover, Write, Check. Which words were easy to recall and write? Discuss strategies for decoding and recalling words. For example: breaking a word into syllables (special - spe + cial); identifying prefixes, suffixes and base words (unlike - un- + like, replacing - re + plac + ing); looking for smaller words within words (repairing - air, pair); identifying common phonological patterns (across, form).

## During Reading

### Vocabulary in Context

Check students' understanding of words in the vocabulary box. Have them define familiar words. Remind students to check the meaning of unfamiliar words as they read, using the text or glossary.

Make sure students understand the difference between key words and high frequency words. Write a sentence from the text containing key words. Ask the students to identify the key words in the sentence that are specific to the topic of dams.

### Checking for Meaning

Literal:

What is a dam and why are they built? (p.4)

Name the four types of dams. (p.7)

What is each dam made of? (p.8-p.23)

Describe one other feature of each dam. (p.8-p.23)

Inferential:

What could happen if cracks appear in a dam?

Would an arched dam be expensive or inexpensive to build as compared to a gravity dam? Why?

Make sure students understand the difference between literal and inferential information.

Response:

What new facts do you recall about dams that you didn't know before reading?

Why do you think we need dams to hold back or retain water?

### Grammatical Patterns

Make sure students understand the following components of a report:

- Introductory statement defining the topic: *A dam is a structure built across a river or other body of water.* (p.4)
- Passages of description relating to various aspects of the topic: naming each type of dam (p.7), arch dams (pp.8-10), buttress dams (pp.12-14)
- Paragraphs with topic sentences to organise information: *There are four kinds of dams.* (p.7) *Water is very strong. It pushes against the dam wall.* (p.10)
- Use of timeless present tense indicated by relating verbs and action verbs: *An arch dam is curved.* (p.8) *The water in the reservoir pushes against the dam.* (p.18)
- Use of general nouns: *weather* (p.6), *water* (p.10), *ground* (p.22)
- Use of technical language: *structure* (p.4), *supports* (p.13), *concrete* (p.13), *embankment* (p.16)
- Use of nouns and noun groups as the beginning focus of a clause: *Dams are built to retain water ...* (p.4) *An arch dam is curved.* (p.8)

### Fluency / Punctuation Patterns

Pronouns at the beginning of sentences refer back to nouns, noun groups and phrases in previous sentences for cohesion and to link information. *Water is very strong. It pushes against the dam wall.* (p.10) *By building an arch dam, the push of the water goes all around the arch. This helps make the dam strong.* (p.10) Demonstrate reading these sentences as a group to maintain the flow of information.

These punctuation patterns occur in the text:

- Colons and dot points in lists: pages 5 and 7
- Commas separate adverbial phrases in sentences of cause and effect: *When the water pushes against the*

*dam, the buttresses push back against the dam on the other side.* (p.14)

- Apostrophes indicate contractions: *don't* (p.9), *doesn't* (p.10)

### Critical Literacy

Recall the information about dams shown in the photographs and the cross-section diagrams, and contained in the written text. How did each information source contribute to your understanding of dams?

### Linking Visual and Written

Select a cross-section diagram. Model analysing the diagram, arrows and labels to understand the features of the dam.

What information is shown in the diagram that is not written in the text?

Ask students to select a different cross-section diagram to analyse independently. Why is it important to analyse diagrams in factual texts?

## After Reading

Ask students to select a dam. Have them draw a labelled cross-section diagram to demonstrate their understanding of the features of the dam. Ask them to use their diagram as an aid as they orally report on the features of their chosen dam to a partner, then the group.

### Activities

Students will:

- use technical vocabulary to complete a cloze activity
- add suffixes to base words to fill the gaps in sentences
- find and record words containing a particular sound
- match parts of sentences to make statements of cause and effect, and write glossary definitions.

Comprehension (meaning) Vocabulary (structure) Phonics (visual) Writing (structure)

