

# Bridging the Gap

Literacy Level 28 • Maths Level 3–4 • Geometry and Measurement

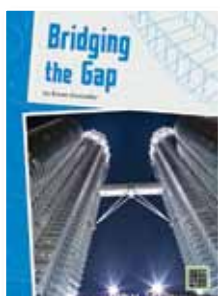
Wise Up!



Inquiry Learning  
for Years 6 and Up

## Inquire to Learn!

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There are many ways in which *Bridging the Gap* can be used as a base for Inquiry Learning. This is just one suggestion.

### Literacy Achievement Objective:

Students understand that texts are written for different purposes, and that technical texts may contain unfamiliar words whose meaning can be gained from context, charts or illustrations, or glossary.

### Specific Literacy Learning Outcomes:

- Realize that *Bridging the Gap* is technical non-fiction.
- Use context, illustrations, and glossary to work out the meaning of unfamiliar words.

### Numeracy Achievement Objective:

Apply mathematical knowledge to practical problem solving.

### Specific Numeracy Learning Outcome:

Use multiplication and division to solve real-life problems involving measurement.

### Cross-Curricular and Topic Links:

engineering, graphic design, architecture, science, forces and motion, compression and tension, social studies, geography

### Additional Achievement Objective –

#### Science: Physical World:

Identify effect of forces on motion of objects.

### Specific Science Outcome:

Gain understanding of effect of forces of compression and tension through examples of different types of bridge construction.

**Session 1:** Using the Big Book, share-read *Bridging the Gap*, stopping at natural points for discussion. Draw on students' prior knowledge of bridges, discussing their experience of crossing bridges and, perhaps, making model bridges.

**Session 2:** Using the Big Book, work through the Literacy Focus questions. Guide the students towards achieving the literacy learning outcomes.

### Literacy Focus:

1. *Author's Purpose:* Ask: Why do you think the author wrote the book? [To explain how bridges work.]
2. *Recall:* Ask: What is the simplest kind of bridge? [A beam bridge]
3. *Vocabulary:* Discuss the word *cantilever* (page 14). Ask the students the meaning they have taken from the context. Write suggestions on the board. Then have someone look up a dictionary definition of *cantilever*. Write the definition on the board. Have the class decide on a glossary definition for *cantilever* as it is used in *Bridging the Gap*.

**Session 3:** Using the Small Books, have the students reread *Bridging the Gap*. Model answering the Wise Up! on page 5. In their maths groups, have the students answer the Wise Up! questions on pages 7, 9, 11, 13, 15, 19, 20, and 23. Help individual groups as necessary.

**Session 4:** Have the students work on the activities on pages 12 and 17, either in small groups or individually.

### Inquiry Learning Extension:

1. Have the students work in small groups to complete the challenge on page 24.
2. Have the students work in small groups to find out about a New Zealand bridge that hasn't been mentioned in the text.  
Examples: Auckland Harbour Bridge, swing bridges, road-rail bridges, one-way bridges, Otira Viaduct.

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