**Building Shapes**

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| Level | **J** (Fountas & Pinnell) or equivalent |
| Subject Area | Mathematics |
| Concepts | Geometry, Form, architecture |
| Reading Focus | Students will learn to use the comprehension strategies of Making Connections and Visualizing as they read, think, talk and write in response to the text. |
| Text Type | Informational |
| Academic Vocabulary | above, air, balance, between, circle, computer, corner, day, distance, foot, heat, inch, inside, left, length, number, outside, rectangle, second, shape, size, square, triangle, under, weight, year |

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| **Topic Talk** | * This book explores the concept of shape and perspective.
* Ask: “What shapes make up the building we are in?” and discuss the shape of the building you are currently in and why it might be that shape.
* Next, have students find images of or remember the most unusual building they have ever seen, and describe it to each other.
* Read aloud the title and back cover blurb, and have students look closely at the cover image. Have students think, pair, share why the big building shaped like a globe might have been built. Ask: “What might happen inside it?”
* Have students predict what will be in the book. Ask: “What shapes might you read about in this book?”
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| **Contents** | * Open to the contents page and read the titles of the chapters aloud.
* Have students think, pair, share what new things they have learned about the book from the chapter titles.
* Introduce students to “Nat the Ant” at the bottom of the page and read the speech bubble aloud.
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| **Opening Chapters** | * Read aloud the chapter 1 title and pages 2 and 3.
* Use the Visible Thinking Routine “Connect Extend Challenge”. This routine helps students make connections between new ideas and prior knowledge. It also encourages them to think about ongoing questions as they reflect on what and why of learning. Provide a trifold with these three questions to guide the learning.
1. How are the ideas and shapes in this book connected to something you know about?
2. What new ideas or impressions do you have that extended your thinking in new directions?
3. What is challenging or confusing and what do you wonder about?

Source: <https://pz.harvard.edu/resources/connect-extend-challenge>*© Harvard Graduate School of Education** Ask students to try to draw some of the 3D shapes of buildings near where they live. (Draw this on the first panel of the trifold)
* Discuss that they have made connections between the book and their experiences – text-to-self connections.
* Model how to make a connection to an interesting building you have seen.
* Explain that making a connection helps the information in the book to be more familiar, which helps to understand things better.
* Read the chapter 2 title and point out that there is a purple box at the top of the page. Explain that this is a “fact box” and that it gives you important facts that will help with understanding the text.
* Read pages 4 and 5 aloud (pause at the ant questions).
* Discuss with students why the Guangzhou Circle might have been built in a circular shape?

**On the centre panel of the trifold*** Have students think, pair, share about the ant questions on page 5.
* Read pages 6 and 7 together.
* Point out the diagram of the “bird’s eye view” on page six. Ask students to close their eyes and imagine they are a bird flying over the Gooderham building. Ask: “What can you see looking down at the building?”
* Explain that when you picture something in your head, you are visualizing – and when you visualize the text as you read, it can help you to figure out what the text is saying much better.
* Ask students to practice visualizing again, by closing their eyes and picturing what they would see if they were a bird flying over the top of the building you are in. Ask: “What would this building look like from above? What else can you see?”
* Have students think, pair, share about the ant question on page 7. First, remind them to visualize what the triangle room would look like, and then decide how to use it.
* Set a purpose for reading from chapter 3 to the end of the book:
	+ Try to picture things as you read to practice visualizing.
	+ Try to make connections between the shapes in the book and other objects that are the same shape.
	+ Pause at the ant questions to answer them, then read the Ant Tunnel carefully.
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| As students read on independently, you can check in with them to discuss the ant questions, or personalize learning by using the *Mini-Lessons* and *Fluency, Language and Text Features* to scaffold parts of the book that might be unfamiliar or challenging.Bring students together again for reflection using the “After Reading” prompts. |

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| **After Reading****On the final panel of the trifold** | 1. Have students think, pair, share how the book has helped them to think more about the shapes all around us.
2. Discuss what connections students made to the shapes they were reading about. Ask: “How did making connections help you to understand the shapes of the buildings?”
3. Discuss what parts of the book students could visualize. Ask: “How did visualizing, and picturing the text in your head, help you to understand what you were reading?”
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| **Writing Prompts** | *Fiction* | Imagine one of the buildings from the book comes alive and starts to behave strangely. What is it doing? What happens next? |
| *Informational* | Design a strangely shaped school. Write about the different rooms and why they are shaped that way. |
| *Letter Writing* | Imagine that you live in one of the buildings in this book. Write a letter to a friend about what it’s like to live in the building. |
| *Opinion* | What do you think is the strongest shape to build a building out of? Write about which shape you think is strongest, and why.  |
| *Research* | Choose your favourite shaped building from the book. Research more about the building and write a report about what you discover.  |