Pushing Science

Strand: Energy

Purpose for Reading: To develop an understanding of what force is and how it works. Comprehension Strategies: Identifying cause and effect, applying knowledge, summarizing. Vocabulary

Dictionary Words: bike, merry-go-round, scooter, seesaw, swing

Vocabulary Words: chain, deck, billy cart, handle, handlebar, helmet, platform, pole, railing, seat, tyre, wheel

High-Frequency Words: a, at, down, fast, go, her, his, is, it, look, make, one, or, slow, the, them, things, this, to, up, what

Before Reading

- Ask the students if they know anything about force. What is it? What does it do? How can we see it in action? Record their responses on a prior-knowledge chart.
- Read the title and have the students talk about the cover photo. What is happening in this photo? What is the boy at the back doing? What will happen to the billy cart when he does this? What will the billy cart do if he runs? What if he walks?
- Read the title page together and ask the students what the girl is doing. *How is force involved? What sort of force is she using?* Add any new information to the prior-knowledge chart.

Introduce the Picture Dictionary

• Ask the students to turn to the picture dictionary. Ask them to read as many of the labels as they can.

Theme: Force

Discuss what is happening in each photo.

Take a Photo Walk

- Pages 4–5: Invite the students to look at these pages and say what is causing the action shown in this photo.
- Pages 6–7: Invite the students to look at this photo and share their experiences of bike riding. How did they make the bike go?
- Pages 8–9: Ask the students to look at this photo and discuss what is happening. What is the playground equipment called? How does it work?
- Pages 10–11: Ask the students to look at this photo and discuss what the girl is doing. *How is she making the merry-go-round turn?*
- Pages 12–13: Invite the students to look at this photo and describe what they see. *How is the boy making the scooter go?*
- Pages 14–15: Ask the students to look at this photo and talk about their experiences on a swing. How did they make it go?

Read the Book

- Ask the students to return to the title and read it independently.
- Turn to pages 2–3. Have the students read the dictionary words.
- Turn to pages 4–5. Ask the students to read this page independently. Remind them to use their eyes instead of pointing, but to point if they get lost or need to check the words they are saying.
- Ask the students to continue reading the book

independently. Provide support where necessary.

After Reading

Comprehension

- Invite the students to return to the book and talk about what the children in the photos did to make the equipment go. Prompt them with questions, such as What was the effect of the child pushing the trolley? What caused the swing to swing higher?
- Have the students apply the knowledge they have learned about push and pull forces to describe how they make other equipment work.

Vocabulary and Word Recognition

- Have the students find the high-frequency word *his* in the text. Ask the students to suggest sentences containing the word *his*. Write them on the board, excluding the word *his*, then invite volunteers to come and fill in *his*. Ask the students to write *his* five times independently, checking each time to make sure they are correct. Add *his* to a high-frequency word chart or word wall.
- Ask the students to find the words *make* and *makes*, and *push* and *pushes*. Discuss the adding of *es* to the endings.

Oral Language

• Ask the students to summarize the important parts of the text in two sentences.

Writing

• Ask the students to write two sentences telling the difference between a push and a pull force.

Creative Extension Activities

- Have the students draw themselves carrying out a push or pull force.
- Have the students make a chart showing all the information they have learned from reading the book. Compare it with the prior-knowledge chart made before reading.

Independent Follow-Up Activities

- Reread the book to improve fluency.
- Complete the activities on page 16.
- Complete the photocopiable activities.

| Name: |
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| Choose the photo you like best. Write a |
| story to go with the photo. Start your story |
| this way: |
| I like this photo because |
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| Name: |
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| Read and draw. |
| A rider uses his legs to make a bike go. He |
| pushes the pedals. |
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| A boy uses his leg to push a scooter along. |
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