Lesson 6.1
Searching for Forces
Lesson Overview

Students explore a new book and different places in their school in order to find evidence of a variety of forces. The class visualizes various movements they have seen in order to begin to answer their new Investigation Question: Where are forces in the world? Students reflect on their experiences, which reinforces their understanding that when things move, it is evidence of forces being exerted. Then, they apply this understanding by searching for evidence of forces in the book A Busy Day in Pushville and by discussing with a partner the forces and movement shown in the book. At the end of the lesson, the class goes on a tour of the school and looks for examples of forces. Students record what they find in their Investigation Notebooks. The purpose of this lesson is for students to find examples of forces all around them and to apply their understanding of forces through these real-world examples.

Everyday Phenomenon: Objects move in the town of Pushville and in school.

Students learn:

• There are different forces in lots of places around us every day.

• Whenever we see an object start to move, stop moving, or change direction, that is evidence that something exerted a force on it.
Exploring A Busy Day in Pushville

Pairs look through the A Busy Day in Pushville illustrations to find and discuss evidence of forces in action in the book.

Instructional Guide

1. **Introduce the book.** Display the A Busy Day in Pushville big book. Let students know now that they have brainstormed forces in the world, they will work with a partner to find even more evidence of forces in this book.

2. **Review visualizing.** Remind students they have used the strategy of visualizing to help them understand forces throughout the unit. Ask for volunteers to explain what visualizing is. [Making a picture or a movie in your mind.]

3. **Think aloud to visualize an example of someone exerting a force.** Point to the image of the woman pushing the baby carriage on the cover. Model thinking aloud about the force exerted in the image.

  When I look at the cover, I can see many examples of movement taking place. When I look at this woman, I can visualize her pushing the baby stroller down the street. I can visualize the stroller moving in the direction she is pushing.

  That sounds like evidence of forces to me. I know that when something starts to move, that means a force being exerted.

4. **Point to the Explanation Language Frame.** Let students know that, to talk about forces like an engineer, they will use the language frame *The ___ moved because ___ exerted a force on it.*

  An engineer would explain it like this: The baby stroller moved because the woman exerted a force on it.

5. **Set expectations for reading the book.** Refer to the Partner Reading Guidelines chart to remind students of the expectations. Also remind students of their purpose—to search for forces in Pushville.
6. **Assign partners and distribute books.** As students explore the images in the book, circulate and listen to student conversation. Offer support for finding and explaining evidence of forces, as needed, including modeling use of the posted language frame.

7. **Gather students’ attention and return to the discussion area.** Call on volunteers to share evidence of forces they found in the book’s illustrations.

   - How did you know there was a force? What was your evidence?

8. **Post key concept.** Read the key concept aloud, pointing to each word as you read it.

   - Whenever we see an object start to move, stop moving, or change direction, that is evidence that something exerted a force on it.

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**Teacher Support**

**Background**

**About the Book: A Busy Day in Pushville**

*A Busy Day in Pushville* is written from the perspective of a young girl who sees people using pushes and pulls in their jobs and activities all around town as she goes to the library with her dad. After she and her dad come home, she also notices pushes and pulls as they paint and draw, make dinner, and more. Students are encouraged to look for evidence of forces throughout the book. *A Busy Day in Pushville* is used as a Shared Reading at the end of the unit to help students synthesize information and explain all the different kinds of forces they have learned about in the unit. The book provides a bridge to an activity in which students search for evidence of forces in the school.

**Instructional Suggestion**

**Student Thinking: Selecting Examples from A Busy Day in Pushville**

If you find that students need additional support finding examples of forces in the text, you can flag pages in the books beforehand. Before distributing copies of the book to students, flag a few clear examples of forces by placing sticky notes on those illustrations. Ask students to describe the forces they visualize in those illustrations. Provide students with an additional sticky note and invite them to find and discuss an additional example.
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> Cuando miro la portada, veo que ocurren muchos ejemplos de movimiento. Cuando miro a esta mujer, puedo visualizarla empujando el cochecito para bebé por la calle. Puedo visualizar el cochecito moviéndose en la dirección en que ella está empujando.

> Eso a mí me suena como evidencia de fuerzas. Sé que cuando algo comienza a moverse, eso significa que se está ejerciendo una fuerza.

> Un ingeniero lo explicaría así: El cochecito se movió porque la mujer ejerció una fuerza sobre él.
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