

### Strand: Energy

**Purpose for Reading:** To build understandings of how machines use push or pull force to lift or move things.

**Comprehension Strategies:** Recognising factual text structures, asking and answering questions, analyzing, identifying cause and effect, comparing and contrasting.

### Vocabulary

*Dictionary Words:* bulldozer, concrete mixer, combine harvester, crane, rubbish truck

*Vocabulary Words:* blade, bucket, chute, hook, rubbish compactor, thresher, track

*High-Frequency Words:* big, do, down, from, get, of, one, out, people, put, some, their, they, very, when, your

### Before Reading

- Ask students to name some big machines they know. Make a list on the board. *Describe how some of the machines work.* Guide the conversation to build familiarity with the terms *force*, *pushing*, and *pulling*.
- Read the title. *Do you know the name of the machine on the cover?* Have them describe what this machine is doing. Add *concrete mixer* to the list if needed.
- Turn to the title page. Have students discuss what type of machine this is. *How might it work? What is it used for?* Add *harvester* to the list if needed.
- Tell the students that this book is going to help them find out about how big machines work.

### Introduce the Picture Dictionary

- Have students turn to the picture dictionary. Read

### Theme: Force

and discuss the photos and labels. Ask students to describe what each of the machines looks like. Invite students to speculate on what the machines are used for and how they work.

### Take a Photo Walk

- Pages 4–5: Have students look at these pages and discuss what they see. Read the heading, label, and caption and have students speculate on how this crane lifts heavy things. *What does the hook attach to? Who operates the crane? Where do they control it from? Does a crane move things quickly or slowly?*
- Pages 6–7: Invite students to look at these pages and describe this machine. Have them read the heading, label, and caption. Discuss what a compactor might do. *Why might rubbish trucks need a compactor? Do all rubbish trucks compact rubbish?*
- Pages 8–9: Ask students to look at these pages and comment on what they observe. Read the label and caption. *Is the bulldozer in the photo using a push or pull force?* Have students explain how it works.
- Pages 10–11: Have students look at these pages and discuss what this machine might be doing. Read the label and caption. *What is a chute? Why does a concrete mixer need a chute? What will happen to the concrete after it is poured out?*
- Pages 12–13: Invite students to look at these pages and read the label and caption. *What might a thresher be? What does cutting the crop mean?*
- Pages 14–15: Have students look at these pages and describe what this table tells them. Read the headings. *What do all these machines have in common?*

Talk about each machine, encouraging students to speculate about when a push force and pull force may be used by each one.

## Read the Book

- Ask students to turn to the cover and read the title independently.
- Turn to pages 2–3. Read the dictionary words and the sentences on page 3.
- Turn to pages 4–5. Ask students to read these pages independently. *Remember to use your eyes, and point only if you need help to check.*
- Ask students to continue reading the book independently. Provide support as needed.

## After Reading

### Comprehension

- Turn to pages 4–5. Reread the text. *Imagine your arm is a crane and your finger is a hook. Slowly move your arm up. Slowly pull to lift the object up. Carefully move your crane to the place that the object is to be put down. Push downwards to place the object down.* Repeat for each machine. Prompt with questions such as, *What kind of force lifts the object? What kind of force puts the object down? What could happen if there was a rock wall in the way of the bulldozer? Could it push through?* Invite inferences.
- Revisit the book and make a comparison chart to show each machine and what it is used for.

*How this machine is used*

*bulldozer*

*concrete mixer*

*combine harvester*

*crane*

*rubbish truck*

### Vocabulary and Word Recognition

- Have students find the digraph *sh* on page 3. Have them say the word *push* and stress the sound at the end of the word. Ask students for other words that have this sound at the beginning or end. Write a list on the board and have students come out to add the digraph for each word. Read through the list aloud together.
- Have students search through the book, tallying up the number of times they find the words *push* and *pull*.

### Oral Language

- Have students ask each other a riddle about a machine from the book. For example, *I have a blade and I move dirt. What am I?*

### Writing

- Have students draw one of the machines from the book. Have them label any special parts and write about how this machine works.

### Creative Extension Activities

- Have students build a big machine using cardboard boxes and other materials.
- Attach a paperclip to high-frequency word cards. Tie a magnet to a piece of string and attach the string to a toy or improvised model crane. Invite students to pull words up from the ground.

### Independent Follow-Up Activities

- Reread the book to a partner to build fluency.
- Complete the activities on page 16.
- Complete the photocopiable activities.

Name: \_\_\_\_\_

How many times are the words used in the book?

Put your tally marks in the middle column.

Write the total in the last column.

Word	Tally	Total
down		
from		
of		
out		
pull		
push		
they		
up		
uses		

Unjumble these machines.

erllubdoz \_\_\_\_\_

enarc \_\_\_\_\_

shiburb cktru \_\_\_\_\_

Name: \_\_\_\_\_

Draw two things you can move using a crane.  
Label them.

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Draw two things you can move using a bulldozer.  
Label them.

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