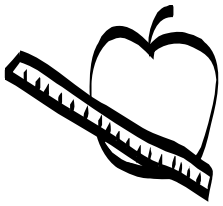


2: Push or Pull

Based on the Nebraska quarter reverse

OBJECTIVE

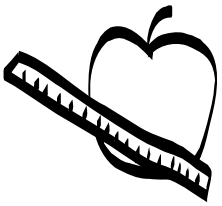
Students will understand that a force (pushing or pulling) can move an object.

MATERIALS

- Nebraska quarters (optional)
- 1 overhead projector
- 1 overhead transparency (or photocopy) of the "Nebraska Quarter Reverse" page
- "Push or Pull" worksheet
- 1 class map of the United States
- Locate a copy of a text that gives basic information about forces, such as:
  - *Force Makes Things Move* by Kimberly Brubaker Bradley
  - *Forces Around Us* by Sally Hewitt
- Chart paper
- Markers
- Classroom objects or toys that can be moved by a force
- Texts about life as a pioneer to use in a classroom library, such as:
  - *Children of the Frontier, I Can Read Book* by Sylvia Whitman
  - *Dandelions* by Eve Bunting
  - *Life on a Pioneer Homestead* by Sally Senzell Isaacs
  - *Pioneers: Life as a Homesteader* by Emily Raabe
  - *Prairie Friends, I Can Read Book* by Nancy Smiler Levinson
  - *The Schoolchildren's Blizzard* by Marty Rhodes Figley
  - *The Snow Walker* by Margaret K. Wetterer

PREPARATIONS

- Gather Nebraska quarters (1 per student) (optional)
- Make copies of the "Push or Pull" worksheet (1 per student)
- Make an overhead transparency of the "Nebraska Quarter Reverse" page.
- Locate a text that gives information about forces (see examples under "Materials").
- Gather a variety of simple classroom objects or toys that can be moved by a force (push or pull).
- Gather a collection of texts about life as a pioneer to use in a classroom library (see examples under "Materials").



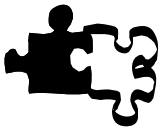
Push or Pull

GROUPINGS

- Whole group
- Individualwork

CLASS TIME

One 20- to 30-minute session



CONNECTIONS

- Science
- Social Studies
- Mathematics
- Language Arts

These standards of learning are suggested for the state of Nebraska:

Social Studies/History

1.1 Students will demonstrate an understanding that history relates to events and people of other times and places.

1.5 Students will identify uses of technology, such as transportation and communication.

Mathematics

1.1.3 Students will identify numbers and application in everyday situations.

1.3.4 Students will identify the different units of measurement used in their environment.

Reading/Writing

1.1.1 By the end of first grade, students will read and write using a variety of word recognition strategies at grade one level.

1.1.2 By the end of first grade, students will demonstrate phonological awareness and exhibit knowledge of letters and sounds.

1.1.3 By the end of first grade, students will demonstrate knowledge of the organization of print when reading and writing.

1.1.4 By the end of first grade, students will read and demonstrate comprehension at grade one level, using a variety of strategies.

1.1.5 By the end of first grade, students will respond to fiction and non-fiction text through writing, drawing, and verbal responses.

1.1.6 By the end of first grade, students will print neatly and correctly.

1.2.1 By the end of first grade, students will speak in clear, complete, coherent sentences using standard English.

1.3.1 By the end of first grade, students will identify information gained and complete tasks through listening.

TERMS AND CONCEPTS

- Force
- Push
- Pull

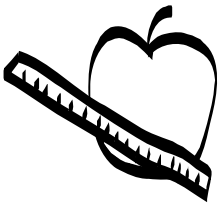
BACKGROUND KNOWLEDGE

Students should have a basic knowledge of movement.

STEPS

Session 1

1. Describe the 50 State Quarters® Program for background information, if necessary, using the example of your own state, if available. Locate Nebraska on a classroom map. Note its position in relation to your school's location.



Push or Pull

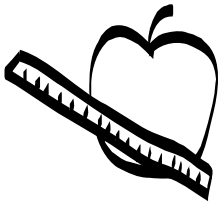
2. Display the "Nebraska Quarter Reverse" overhead transparency or photocopy. Optionally, distribute actual quarters. Have the students identify the images in this coin design, including Chimney Rock, pioneers (people), and a (Conestoga or covered) wagon.
3. Ask the students why they think that the images might be important to Nebraska, and accept all responses. Collect the quarters, if used, at the end of the discussion.
4. Ask the students how they get to school. Record the student responses on chart paper. Responses could include by car, walking, by bus, or by bike.
5. Ask the students to look at the coin image again and tell you how the people (pioneers) are traveling. The students should respond "wagon" (or "covered wagon") and "walking."
6. Ask the students what is moving the wagon. The students should respond "large animals" or "oxen." Turn off the overhead.
7. Introduce the students to the selected text about forces. As a group, preview the text and illustrations to generate observations about what is occurring at different points in the text. Read the selected text to the class and attend to any unfamiliar vocabulary.
8. Write the term "force" on a piece of chart paper. Explain that a force is "a push or pull that makes an object move." Tell the students that an object won't move without a force of some kind being applied to it.
9. Bring a chair to the front of the room. Push it away. Have the students tell you whether it was a push or pull that moved it. Now pull the chair toward you. Ask the students what force moved the chair.
10. Place a variety of classroom objects or toys out in the classroom. Ask for volunteers to come up and push or pull them. Have the class tell you how the toys were moved.
11. Display the "Nebraska Quarter Reverse" page again. Have the students tell you whether the oxen are pushing or pulling the wagon. Students should respond "pulling."
12. Distribute a "Push or Pull" worksheet to each student. Review the directions. Read the definition at the top of the page and complete it as a class.
13. Allow time for the students to complete the worksheet. Review the answers as a class.
14. Collect the students' worksheets.

ASSESSMENT

- Take anecdotal notes about the students' participation in class discussions.
- Evaluate the students' worksheet for their achievement of the lesson's objectives.

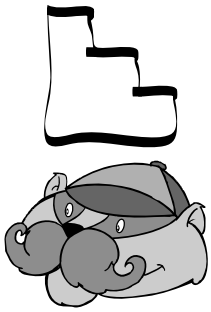
ENRICHMENTS/EXTENSIONS

- Have students visit the playground and look for opportunities to see how the forces of pushing and pulling move the playground equipment.
- Have a push/pull center where students can practice moving common objects and say what force is being used.



Push or Pull

- Introduce or review the quarter's value (25 cents) during mathematics-centered activities.
- Have students bring to class quarters commemorating others states and locate these states on the classroom map.



DIFFERENTIATED LEARNING OPTION

Allow students to work with partners to complete the worksheet.

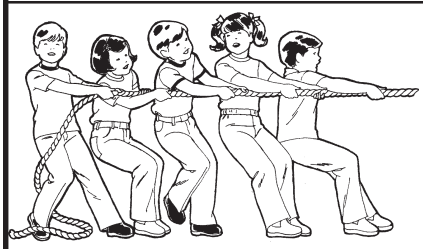
CONNECTION TO WWW.USMINT.GOV/KIDS

Have students design a lever and conduct experiments using a penny and a nickel to explore its uses at www.usmint.gov/kids/index.cfm?FileContents=/kids/teachers/LessonView.cfm&LessonPlanId=170.

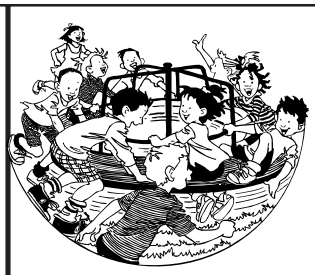
Push or Pull

Directions: Look at the pictures below and write "push" or "pull" to tell how the object is moving.

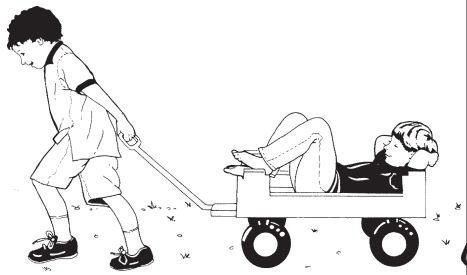
A push or pull that moves an object is called a _____.



pull



push



Nebraska Quarter Reverse