

How Can You Describe the Motion of an Object?



Focus: Students develop positional language and describe the change in position of objects.

Specific Curriculum Outcomes

Students will be expected to:

- 33.0 describe the motion of an object in terms of a change in position relative to other objects [GCO 1/3]
- 2.0 communicate using scientific terminology [GCO 2]

Performance Indicators

Students who achieve these outcomes will be able to:

- identify and describe changes in position relative to other objects and people
- use accurate descriptive terminology to describe changes in position

NOTES:

Attitude Outcome Statements

Encourage students to:

- recognize the role and contribution of science in their understanding of the world [GCO 4]

Cross-Curricular Connections

Math

It is expected that students will:

- describe order or relative position, using ordinal numbers (up to 10th) [2N3]

English Language Arts

Students will be expected to:

- speak and listen to explore, extend, clarify, and reflect on their thoughts, ideas, feelings, and experiences [GCO 1]
- create texts collaboratively and independently, using a variety of forms for a range of audiences and purposes [GCO 9]

Getting Organized

Components	Materials	Before You Begin	Vocabulary
• <i>Ready, Set, Go!</i> (Read Aloud) • Science Card 3 • IWB Activity 3 • IWB Activity 4 Literacy Place: • <i>Beaver is Lost</i> (Wordless Book – Active Learning Kit)	• digital cameras or tablets • sporting event videos	• Find videos of sporting events for students to describe the movement of an object or person. See <i>Additional Resources</i> on page 59 for one possible Website.	• position • direction • faster • slower • closer • further • toward • away from

Science Background

- Relative position is a point defined with reference to another position, either fixed or moving.
- The motion of an object is always judged with respect to some other object or point.

Possible Misconceptions

- Some students may misuse “right” and “left.” Give students plenty of opportunities to identify whether an object or person is to their right or left. Have students identify their right and left hands. Encourage them to use the body parts as a concrete reference point. Explain that when identifying the position of an object or person in an image, “left” and “right” are from the viewer’s point of view.

ACTIVATE

Changing Position

Lead a class game of “Mother May I” or “Simon Says” to have students change position (e.g., move closer to the window, move away from your chair). Once you have done several rounds, invite volunteers to lead the game.



Explain that a position is the place where someone or something is in relation to other people or things. Tell students that when they moved, they changed their position. Add the term “position” to the Word Wall.

Read Aloud: *Ready, Set, Go!*



Summary

Miranda goes to get water for her dad who’s running in his first big race. But when the starting horn goes off, Miranda has to run to find him.

Before Reading

Show students the cover of the book and read the title. Ask:

- **What does the phrase “Ready, Set, Go!” make you think of?** (a race)
- **Have any of you ever watched a race or raced with your friends?**
- **Do runners stay in the same order throughout the race or do they change position?**

Discuss with students how the runners change position by, for example, passing other people in the race. Ask students to listen as you read and to pay close attention to the illustrations to discover how the positions of Miranda and the other runners change in this story. You may consider having students model the position of characters in the story using toy figures or by acting out the race.

During Reading

As you read the story to students, pause frequently to discuss the text and illustrations. Clarify that students should describe positions as they appear when looking at the pages. Allow students to describe the positions of people on the pages before offering prompts as necessary. Prompts for discussion could include:

Pages 2–3:

- **Where is Miranda’s dad in relation to Miranda?** (beside her, to the right of her)
- **Where is Miranda in relation to her dad?** (beside him, to the left of him)

Pages 4–5:

- **What direction is Miranda moving?** (toward the car, away from the washroom)
- **What is the position of the hiker in relation to Miranda?** (to the left of her)

- **What is the position of the hiker in relation to the washroom?** (closer to the washroom than Miranda is)

Pages 6–7:

- **Who is in front—the woman in pink or the man in orange and green?** (woman in pink)

Pages 10–11:

- **What is Miranda’s position in relation to the man?** (ahead, to the left of the man)
- **What direction is Miranda moving?** (away from the man)

Pages 12–13:

- **Where are Miranda and the man in relation to the other runners?** (Miranda and the man are ahead, the other runners are behind them.)

Pages 14–15:

- **The text says that “Miranda caught up to the next runner.” Does that mean that Miranda was moving closer to the woman or further away?** (closer)
- **Who is ahead in the illustration?** (Miranda, she is in front of the woman)

Pages 16–17:

- **Is Miranda moving faster or slower than the other runners? How do you know?** (Miranda is moving faster as she is ahead of the others in the race.)

Pages 22–23:

- **What is the position of the man in relation to Miranda?** (he is ahead of her; the man is 1st and Miranda is 2nd)
- **Is Miranda closer to or further away from the pack of runners than she was on pages 16–17?** (further away)

Pages 24–25:

- **What is the position of Miranda in relation to the finish line?** (she is 1st at the finish line)

After Reading

Have students write and illustrate a short story about Miranda’s next race. Ask them to include positional language in their narratives. Invite students who are interested to read their stories aloud to the rest of the class. Post all of the students’ stories in the classroom or create a class book.

CONNECT



Spot the Differences

Display Science Card 3 and ask students to compare the two illustrations to find the differences. Remind them to describe the movement or change of position relative to other objects in the illustration. Students may also describe the changes in relation to the objects’ original position (e.g., the man has moved further up the ladder; the cement truck has moved forward).

IWB Activity:

Students can use Activity 3: *What am I?* (see the Teacher's Website) to identify objects according to their movements.



Positional Language

Take students to the gym. Have pairs of students roll balls between them and communicate how the ball is moving. Circulate among the pairs and prompt by asking questions such as:

- Is the ball moving fast or slow?
- Is it moving toward you or away from you?
- Is it getting closer or further away?

You might set up some targets such as cones or beanbags and challenge students to see who can roll their ball closer to, further away from, to the left, and to the right of the targets.



Literacy Place Connection:

Revisit or share *Beaver is Lost* by Elisha Cooper. This mostly wordless book shares the adventures of a beaver that gets lost but finds his way home. Challenge students to describe beaver's changing position as the story unfolds in the illustrations.

CONSOLIDATE

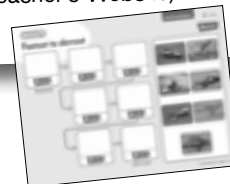
Make a Video

Have students work in small groups to create a short video or develop a presentation to explain the difference between two related terms such as “faster” and “slower;” “closer” and “further;” or “toward” and “away from.” Add these terms to the Word Wall.



IWB Activity:

Challenge students to sequence the objects and living things in order from fastest to slowest using Activity 4: *Fastest to slowest* (see the Teacher's Website).



EXPLORE MORE

Sports Story

In pairs, students can watch a sporting event with the sound off and take turns being the commentator, describing the movement of one object or person in relation to other objects and people for the ‘viewing audience.’