

SECTION FORCES ACT IN PAIRS.

# 2.3 Reading Study Guide B

**BIG IDEA** Forces change the motion of objects in predictable ways.

**KEY CONCEPT** Forces act in pairs.

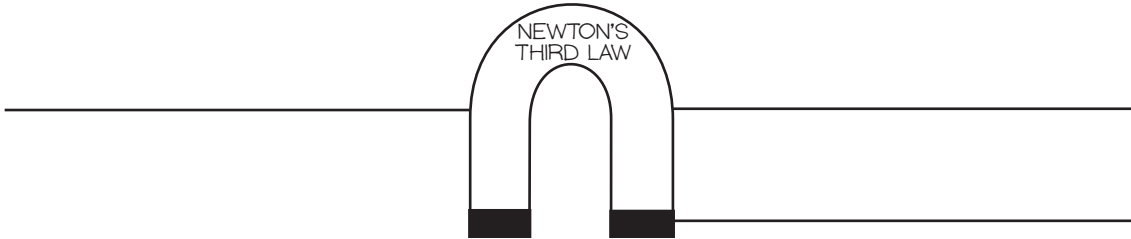
## Review

A force is a push or a pull.

## Take Notes

### I. Newton's third law relates action and reaction forces. (p. 57)

1. Fill in the word magnet diagram for *Newton's third law*.



### A. Action and Reaction Pairs (p. 58)

2. Circle the object in the picture below that exerted the reaction force.



3. Fill in the combination notes diagram by listing examples of action and reaction forces.

Notes	
Examples of action and reaction forces. •  •  •	•

**B. Action and Reaction Forces Versus Balanced Forces (p. 59)**

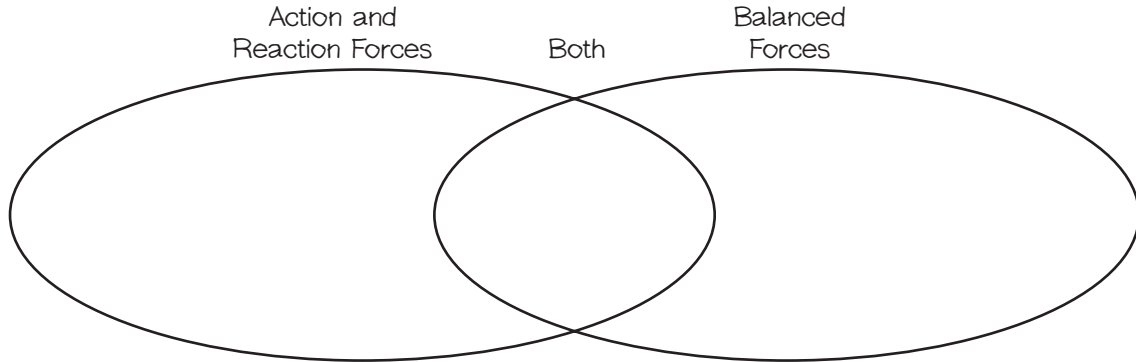
4. What is the difference between action and reaction forces and balanced forces?

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5. Fill in the Venn diagram to compare and contrast action and reaction forces and balanced forces.



6. If two teams play tug of war and neither team can move the rope, is the rope experiencing balanced forces or action and reaction forces? How do you know?

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**II. Newton's three laws describe and predict motion. (p. 61)**

7. Explain how the three laws describe motion.

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8. Which of Newton's laws is illustrated by a squid moving forward by shooting water out behind it? Why?

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9. In a canoe race, why might you want to choose a less massive canoe over a more massive one?

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