

**Forces** ▪ *Guided Reading and Study*

## The Nature of Force

*This section explains how balanced and unbalanced forces are related to motion.*

### Use Target Reading Skills

*Before you read, preview the red headings in the text. Change each heading into a question by adding the word What or How. Record your questions in the left column of the graphic organizer. As you read each section, look for the answers to your questions. Then, after you have completed reading a section, write the answer to your question. If you have difficulty answering a question, reread the section, paying close attention to any boldface sentences within the section.*

**The Nature of Force**

Question	Answer

### What Is a Force?

1. In science, a force is \_\_\_\_\_.
2. When one object pushes or pulls another object, the first object is \_\_\_\_\_ a force on the second object.
3. Circle the letters of the two ways that forces are described.
  - a. direction
  - b. velocity
  - c. strength
  - d. acceleration
4. The SI unit used to measure the strength of a force is the \_\_\_\_\_.

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## **The Nature of Force** *(continued)*

### **Combining Forces**

5. The overall force on an object after all the forces are added together is called the \_\_\_\_\_.
6. When two forces act in the same direction, they are \_\_\_\_\_ together.
7. Adding a force acting in one direction to a force acting in the opposite direction is the same as adding a(n) \_\_\_\_\_ number and a(n) \_\_\_\_\_ number.
8. Unbalanced forces can cause an object to do three things. What are they?  
\_\_\_\_\_  
\_\_\_\_\_
9. Is the following sentence true or false? Unbalanced forces acting on an object will change the object's motion. \_\_\_\_\_
10. Equal forces acting on one object in opposite directions are called \_\_\_\_\_.
11. Is the following sentence true or false? Balanced forces acting on an object will change the object's motion. \_\_\_\_\_
12. When you add equal forces exerted in opposite directions, the net force is \_\_\_\_\_.