

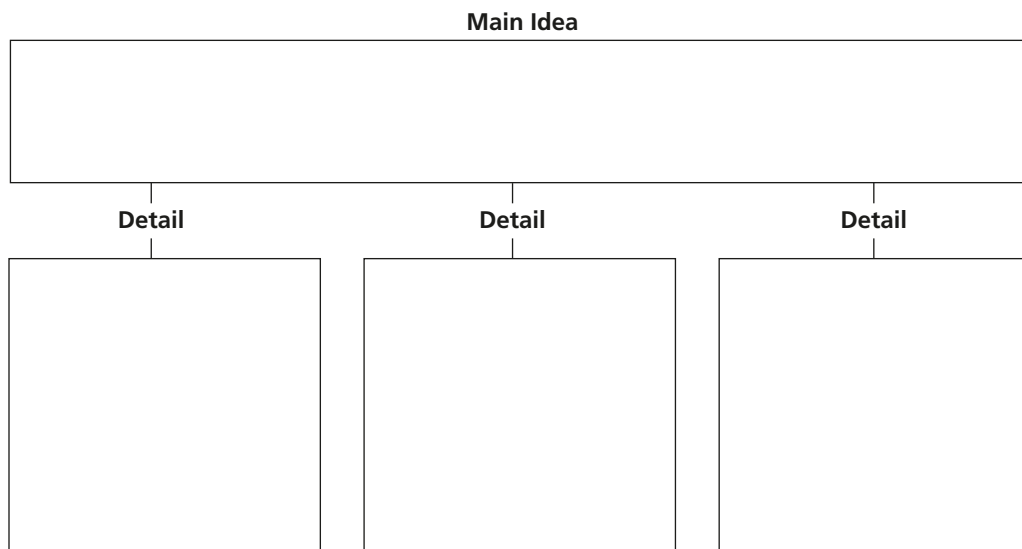
Motion and Energy ▪ *Reading/Notetaking Guide*

Acceleration (pp. 350–355)

This section describes what happens to the motion of an object as it accelerates, or changes velocity. It also explains how to calculate acceleration.

Use Target Reading Skills

Locate the main idea of the text under the heading “Calculating Acceleration” on page 352. It is the boldfaced sentence. Write the main idea in the graphic organizer below. Then look for details and examples that support the main idea. Write these supporting details in the lower portion of the graphic organizer.



Changing Velocity (pp. 350–351)

1. What is acceleration?

2. Acceleration involves a change in either _____ or _____.
3. Any time the speed of an object increases, the object undergoes _____.
4. Is the following sentence true or false? Acceleration refers to increasing speed, decreasing speed, or changing direction.

5. Deceleration is another word for negative _____.
6. Is the following sentence true or false? An object can be accelerating even if its speed is constant. _____

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7. Circle the letter of each sentence that describes an example of acceleration.
- a. A car follows a gentle curve in the road.
 - b. A batter swings a bat to hit a ball.
 - c. A truck parked on a hill doesn't move all day.
 - d. A runner slows down after finishing a race.
8. The moon revolves around Earth at a fairly constant speed. Is the moon accelerating?

9. Use the table below to compare and contrast the meanings of acceleration.

Acceleration	
In Everyday Language	In Scientific Language
	Increasing speed
Slowing down	
Turning	

Calculating Acceleration (pp. 352–353)

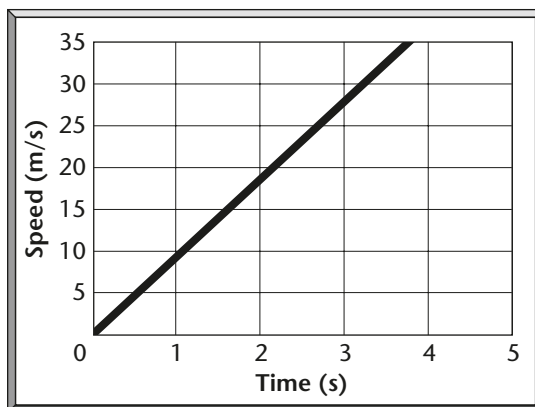
10. What must you calculate to determine the acceleration of an object?
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-
11. What is the formula you use to determine the acceleration of an object moving in a straight line?
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12. Is the following sentence true or false? To calculate the acceleration of an automobile, you must first subtract the final speed from the initial speed.
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Acceleration *(continued)*

13. Circle the letter of each sentence that is true about calculating the acceleration of a moving object.
- a. If an object is moving without changing direction, then its acceleration is the change in its speed during one unit of time.
 - b. If an object’s speed changes by the same amount during each unit of time, then the acceleration of the object at any time is the same.
 - c. To determine the acceleration of an object, you must calculate the change in speed during only one unit of time.
 - d. The change in an object’s velocity can be found by subtracting the initial velocity from the final velocity.

Graphing Acceleration (pp. 354–355)



14. The graph above shows the motion of an object that is accelerating. What happens to the speed of the object over time?

15. The line on the graph is slanted and straight. What does this line show about the acceleration of the object?
