

# Motion

## Lesson 2 Speed, Velocity, and Acceleration

Grade 8 Science Content Standards—1.c: Students know how to solve problems involving distance, time, and average speed. Also covers: 1.b, 1.d, 1.e

**Skim** the headings in Lesson 2 of your book. Identify four topics that will be discussed.

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_
4. \_\_\_\_\_

### Review Vocabulary

**Define** rate using your book or a dictionary.

rate

### New Vocabulary

**Use** your book or a dictionary to define the vocabulary terms.

speed

constant speed

instantaneous speed

average speed

velocity

acceleration

### Academic Vocabulary

**Define** constant, using a dictionary.

constant

Lesson 2 Speed, Velocity, and Acceleration (continued)

**Main Idea**

**What is speed?**

I found this information on page \_\_\_\_\_.

**What is average speed?**

I found this information on page \_\_\_\_\_.

I found this information on page \_\_\_\_\_.

**Details**

**Create** a graphic organizer to contrast constant speed and changing speed. Include at least four facts.

**Summarize** how to calculate average speed. Complete the formula with words. Then write it in symbols, and identify the unit used to measure speed.

average speed =  $\frac{\boxed{\phantom{distance}}}{\boxed{\phantom{time}}}$       \_\_\_\_\_ =  $\frac{\boxed{\phantom{distance}}}{\boxed{\phantom{time}}}$

Unit: \_\_\_\_\_

**Analyze** how to use the equation for average speed to find distance and time. Write the equation you could solve to find each.

Distance: \_\_\_\_\_ = \_\_\_\_\_      Time: \_\_\_\_\_ =  $\frac{\boxed{\phantom{distance}}}{\boxed{\phantom{time}}}$

**SUMMARIZE IT**

Summarize two main ideas of the above sections.

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Lesson 2 Speed, Velocity, and Acceleration (continued)

**Main Idea**

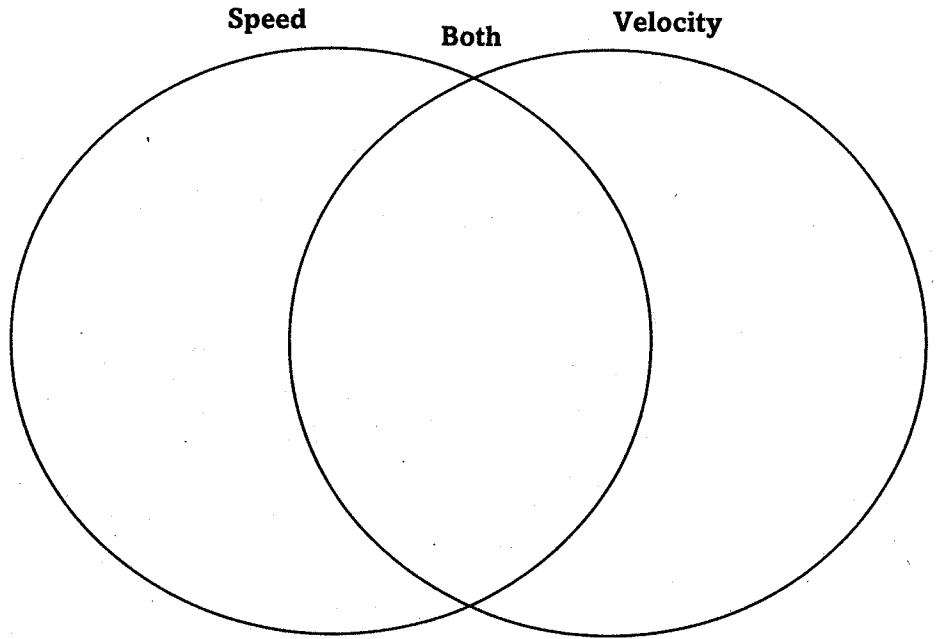
**Velocity**

I found this information on page \_\_\_\_\_.

**Details**

**Compare and contrast** speed and velocity by using the phrases listed to fill in the Venn diagram.

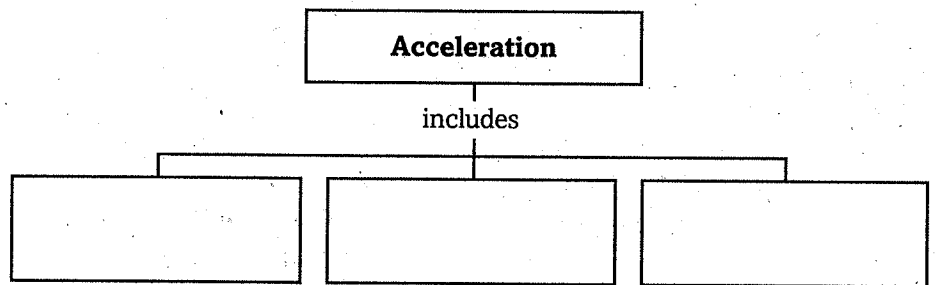
- describes a rate
- includes direction
- is a vector
- describes how fast an object moves
- includes distance
- includes time
- is not a vector



**Acceleration**

I found this information on page \_\_\_\_\_.

**Distinguish** three ways that an object can accelerate. Complete the concept map.



**SUMMARIZE IT**

Summarize the main ideas of the above sections in two bullet points.

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