

Critical Thinking Skills

Motion

Skills For Critical Thinking		Reading Comprehension							Hands-on Activities
		Section 1	Section 2	Section 3	Section 4	Section 5	Section 6	Section 7	
LEVEL 1 Knowledge	<ul style="list-style-type: none"> List Details/Facts Recall Information Match Vocabulary to Definitions Define Vocabulary Label Diagrams Recognize Validity (T/F) 	✓	✓	✓	✓	✓	✓	✓	✓
LEVEL 2 Comprehension	<ul style="list-style-type: none"> Demonstrate Understanding Explain Scientific Causation Rephrasing Vocabulary Meaning Describe Classify into Scientific Groups 	✓	✓	✓	✓	✓	✓	✓	✓
LEVEL 3 Application	<ul style="list-style-type: none"> Application to Own Life Model Scientific Process Organize & Classify Facts Utilize Alternative Research Tools 	✓	✓	✓	✓	✓	✓	✓	✓
LEVEL 4 Analysis	<ul style="list-style-type: none"> Make Inferences Draw Conclusions Based on Facts Provided Classify Based on Facts Researched 	✓	✓		✓	✓	✓	✓	✓
LEVEL 5 Synthesis	<ul style="list-style-type: none"> Compile Research Information Design & Application Create & Construct 			✓		✓		✓	✓
LEVEL 6 Evaluation	<ul style="list-style-type: none"> State & Defend an Opinion 								✓

Based on Bloom's Taxonomy

NAME: _____



What Is Motion?



1. Write each word beside its meaning. Use a dictionary to help you.

speed	rotation	position	acceleration
deceleration	distance	vibration	

- _____ a) spinning
- _____ b) distance traveled divided by the time it takes to get there
- _____ c) slowing down
- _____ d) moving back and forth
- _____ e) speeding up
- _____ f) the place where a thing is
- _____ g) the amount of space between two places

2. **Circle** the word True if the statement is true. **Circle** the word False if it is false.

a) Acceleration is the fastest kind of speed.

True False

b) Motion is change of position.

True False

c) A spinning top has motion.

True False

d) Motion is always in a straight line.

True False

e) Speed is time divided by distance.

True False



What Is Motion?

Motion is change of **position**. A snail might change its position from one side of your garden to the other. It could take all day. You would have to look closely to even see its motion.



An airplane passes overhead. Its motion is much faster than the snail's. In a few hours, the plane changes its position from New York to Los Angeles. We can see that an important thing to know about motion is the **speed** of motion.

To find the speed of something that is moving, we need to know how far it traveled and how long it took to get there. If a snail is in a hurry, it can travel three feet in one minute. We say its speed is "three feet per minute." In other words, we divided 3 feet by 1 minute to find the speed.

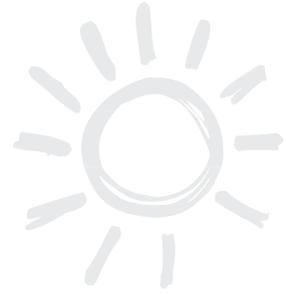


That is how to find speed—divide the **distance** traveled by the time it took to do it. We can use whatever is easiest to measure distance and time. Miles per hour works well for planes and cars. Feet per minute is better for snails. Inches, feet, miles, centimeters, meters, and kilometers are all ways of measuring distance. Seconds, minutes, and hours are used to measure time.

Airplanes usually travel 3,000 miles from New York to Los Angeles in about 6 hours. So the speed of a plane is 3,000 miles divided by 6 hours or 500 miles per hour. That's about 10,000 times faster than a snail.



What Is Motion?



1. Put a check mark (✓) next to the answer that is most correct.

a) Which of these is a speed?

- A 50 miles
- B 50 hours
- C 50 miles per hour
- D 50 hours per mile

b) Which word *best* describes the motion of a falling rock?

- A accelerating
- B decelerating
- C rotating
- D vibrating

c) What do we know about something that has steady acceleration?

- A It is moving at a constant speed.
- B It is moving at a very fast speed.
- C Every second it travels the same distance.
- D Every second it increases its speed by the same amount.

d) Which word means moving back and forth?

- A deceleration
- B position
- C rotation
- D vibration

2. **Circle** the words that are kinds of motion.

position

acceleration

deceleration

rotation

vibration

distance

time