Name _____ Date _____ Class 7th

Review and Reinforce

Describing Motion 3.1

Understanding Main Ideas

Answer the following questions in the spaces provided.

1. Describe how you determine whether an object is in motion.

2. Explain why reference points that are stationary are usually chosen to determine whether an object is in motion.

3. Give three examples of reference points that are stationary relative to Earth.

4. When determining the motion of the planets in the solar system, what is a good reference point to use? Explain.

5. Explain what centimeters, kilometers, and millimeters are.

Building Vocabulary

Match each term with its definition by writing the letter of the correct definition in the right column on the line beside the term in the left column.

6. ___ motion

7. ___ reference point

8. ___ International System of Units

9. ___ distance

a. the measurement system used by scientists

b. the length of the path between two points

c. changing position relative to another object

d. a place or object used for comparison to determine if an object is in motion

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Enrich

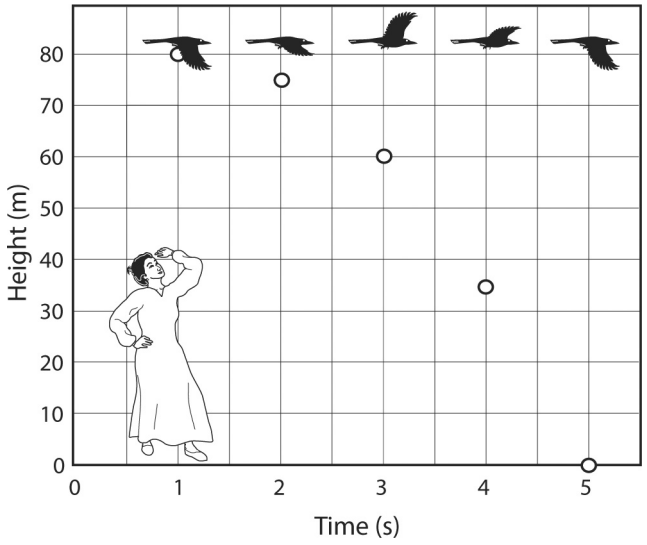
Describing Motion 3.1

Read the passage and study the diagram below. Then use a separate sheet of paper to answer the questions that follow.

Exploring Reference Points

Depending on the reference point you choose, the same object can seem to be moving or standing still. furthermore, even if an object seems to be moving from two different reference points, observers at those points might disagree about its speed and direction.

Here is a simple example: in the diagram below. a crow is flying along at a constant speed, carrying a ball. suddenly, the crow accidentally drops the ball and watches it fall. the diagram shows the position of the crow and the ball at five points in time, one second apart. a person standing still on the ground also watches the ball fall.



1. From the reference point of the crow, in what direction is the ball falling? Does it appear to follow a curved or straight path? Explain.
2. How many seconds does it take the ball to fall to the ground?
3. The sides of the grid squares in the diagram are 10 meters long. Using this, calculate the average speed of the ball during its fall from the point of view of the crow. About how fast was it traveling during the last second of its fall from this perspective?
4. From the reference point of the person on the ground, does the ball appear to fall in a straight or curved angle?