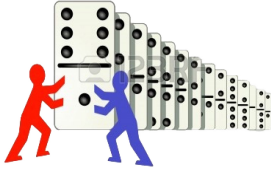


Name _____ Date _____ Period _____

**DOMINO DASH**

OBJECTIVE: To demonstrate the relationship between speed, time and distance.

BACKGROUND INFORMATION:

Average Speed is the rate of motion calculated by dividing the distance traveled by the amount of time it takes to travel that distance.

$$\text{average speed} = \frac{\text{total distance traveled}}{\text{travel time}} \quad \text{OR} \quad s = \frac{d}{t}$$

Because average speed is calculated by dividing distance by time, its units always will be a distance unit divided by a time unit.

MATERIALS:

- 1 Box of 28 Dominos
- Stopwatch
- Meter stick
- Calculator

PROCEDURE:

1. Set up all 28 dominoes with equal spacing between them. Set the dominoes in a straight line to cause a chain reaction when the first domino is pushed.
2. Measure the length of the domino row. Record this in Data Table 1.
3. Use the stopwatch to measure the time it takes for the entire row of dominoes to fall after the first domino is pushed. Record in Data Table 1.
4. Using the formula above, calculate the speed at which the dominoes fell. Record in Data Table 1.
5. Set up another row of a different length. Repeat steps 3 - 4.
6. Repeat for a total of 7 different trials.

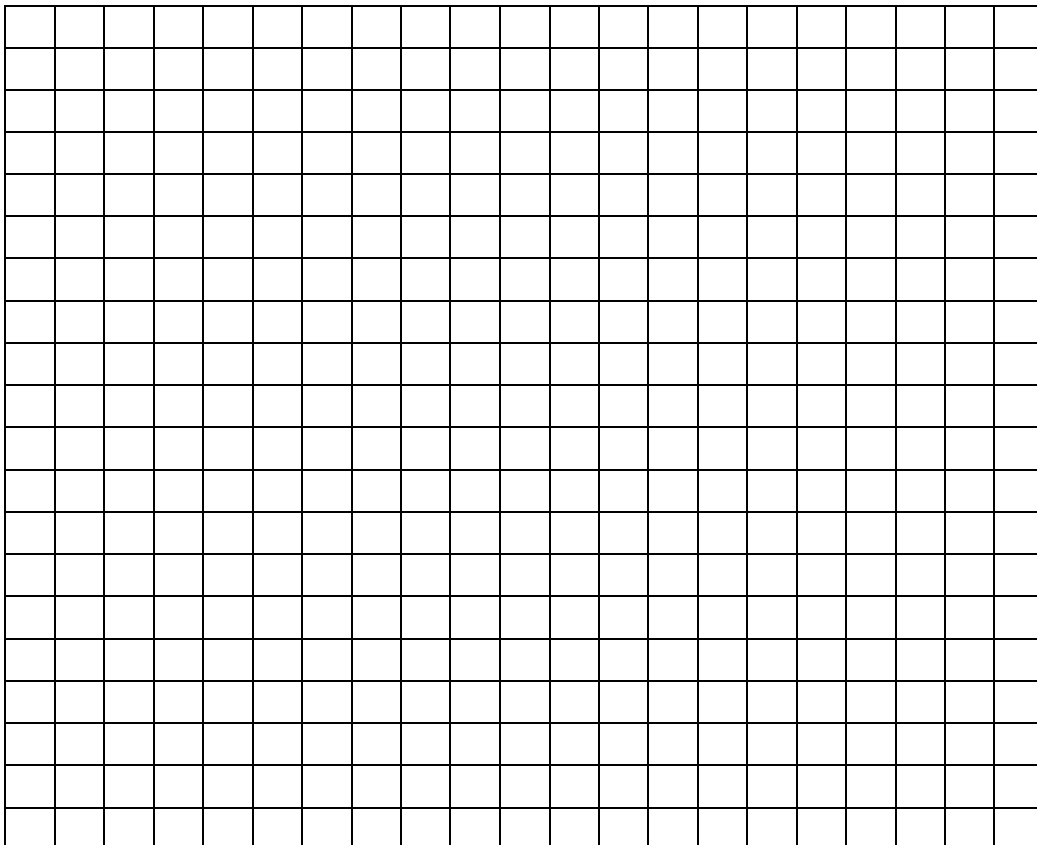
DATA TABLE 1

SPEED OF FALLING DOMINOES		
LENGTH OF DOMINO ROW (cm)	TIME TO FALL (sec)	AVERAGE SPEED OF FALLING DOMINOES (cm/sec)

ANALYSIS AND CONCLUSION:

1. Make a graph to show the relationship between the length of the domino row and the time it takes to fall. Put the length of the row on the X-axis and the time to fall on the Y-axis.

TITLE: _____



2. How did we decide what to put on each axis? _____

DATA ANALYSIS:


1. What relationship do we see between the variables? In other words, how does the independent variable affect the dependent variable?

CONCLUSION:

1. What effect does distance have on the speed of a moving object?

2. What effect does time have on the speed of a moving object?

3. Use your textbook to fill in the graphic organizer

	AVERAGE SPEED	CONSTANT SPEED	INSTANTANEOUS SPEED
DESCRIPTION			
WHEN USED			
HOW ALIKE			
HOW DIFFERENT			

4. Which definition of speed (average speed, constant speed, instantaneous speed) did we use in this investigation? Why?

5. What was the independent variable in this experiment?

6. What was the dependent variable in this experiment?

7. What are some controlled variables (constants) in this experiment?

8. Why did we use a line graph to display the data?
