Physics 10-20 Speed and Velocity Worksheet

Name: _____ Date: _____ Period: _____

1.

Position-time information for a giant sea turtle, a cheetah, and the continent of North America are shown in the data tables below. Assume that the motion is uniform for these three objects and fill in the blanks of the table. Then record the speed of these three objects (include units).

Giant Sea Turtle

Time (hr)	Position (mi)
0	0
1	0.23
2	0.46
3	.69
4	0.92
5	1.15
6	1.38

Speed = .23 mi/hr

Cheetah

Time (s)	Position (m)
0	0
0.5	12.5
1	25
1.5	37.5
2	50
2.5	62.5
3	75.0

Speed = 25 m/s

North America

Time (yr)	Position (cm)
0	0
0.25	.25
0.50	0.50
0.75	0.75
1.0	1.00
1.25	1.25
1.5	1.5

Speed = 1 cm/yr

2.

Speed vs. Velocity

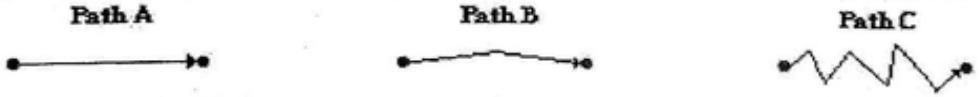
Speed and velocity are two quantities in Physics which seem at first glance to have the same meaning. While related, they have distinctly different definitions. Knowing their definitions is critical to understanding the difference between them.

Speed is a quantity which describes how fast or how slow an object is moving.

Velocity is a quantity which is defined as the **rate** at which an object's position changes.

Suppose you are considering three different paths (A, B and C) between the same two locations.

Path A **Path B** **Path C**



Along which path would you have to move with the greatest speed to arrive at the destination in the same amount of time? C Explain.

B/c you must travel a larger distance