

Warm up:

Study Notes/Questions

Displacement

Sometimes in studying motion it is important to know the

E.g. in giving directions from school to your house

_____ are similar, but not identical concepts in science.

Distance is a _____

Displacement is a _____

+ / - signs are used for up/down,
left / right

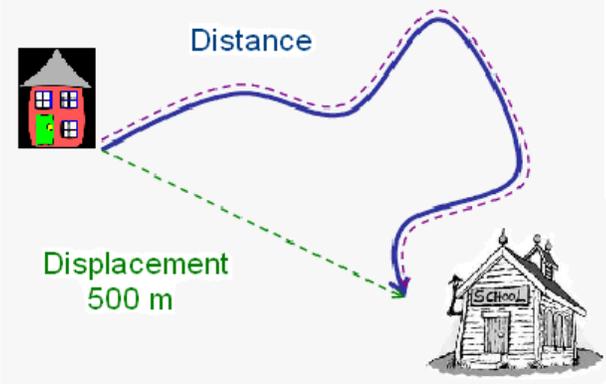
distance =

displacement =

Notice that distance and displacement both use the symbol _____

but displacement includes _____

The displacement of an object is its _____ in
relation to a _____



Velocity vs. Speed

_____ are also similar, but not identical concepts.

Speed is a _____.

Velocity is a _____.

Velocity is the rate of change of _____ and is given by the equation:

Displacement and Velocity

Ex: A cheetah runs at a velocity of 30 m/s [E]. If it runs for 8.5 s, what is its displacement?

Ex: An airplane travels 1800 km [E] at a 1000 km/h. It then encounters a head wind that slows it down to 850 km/h for the next 2300 km [E]]. What is the average velocity of the plane for the entire trip?

Summary: (two to three sentences summarizing this section)

Self-Reflection Questions:

1. Describe one thing that you knew about this topic before today.

2. Describe one thing you learned about this topic today.

Displacement & Velocity Activity

1. A car travels 3 km [W], 4 km [E], and 2 km [W]. What is the total displacement of the car?
2. Devon is riding his bicycle at 15 m/s [W]. How far will he travel in 12 s?
3. A bird flies 300 m [S] in 43 s, lands on a tree branch, and sits for 28 s. Then, the bird turns and flies 500 m [N] in 62 s. What is the average velocity of the bird?
4. A car travels east at 50 km/h for 2 h. The driver stops for 1 h to have lunch. The driver then continues to travel east 50 km in 1 h. What is the average velocity of the car for this trip?

Solutions

1. 1 km [W]
2. 180 m [W]
3. 1.5 m/s [N]
4. 37.5 km/h [E]