

Activity Two: The Tortoise and the Hare

You have heard the story of the Tortoise and the Hare. The hare crossed the finish line two minutes after the tortoise. Everyone teased the hare that he had a slower speed than the tortoise. The hare was furious! "I'm much faster than the tortoise!" he declared, but no one would listen to him. "There's more to the story," he insisted, but everyone said he was just a sore loser!

Luckily, observers were stationed every 200 meters along the course and recorded data as the race was run. Study the data carefully.

STATION	HARE'S TIME	TORTOISE'S TIME
Start	0 minutes	0 minutes
200 meters	2 minutes	50 minutes
400 meters	4 minutes	100 minutes
600 meters	6 minutes	150 minutes
800 meters	8 minutes (At this point the hare lay down and rested for 242 minutes)	200 minutes
1000 meters	252 minutes	250 minutes

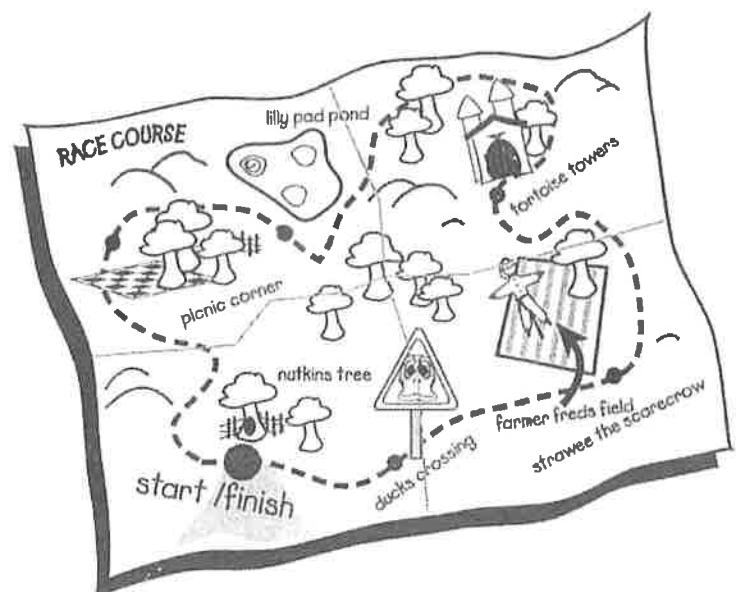
Construct a double line graph to compare the hare's speed to the tortoise's speed.

Speed, as you have learned, is the amount of distance traveled (miles, feet, meters) per unit of time (hour, second, minute).

You are probably most familiar with the units, miles per hour, or mph.

Velocity, unlike speed, is a vector measurement. Velocity describes **both** speed **and** direction.

For example, if the weather report states that the wind is blowing at 10 mph, this is the wind's **speed**. If the weather report states that the wind is blowing at 10 mph from the southwest, this is the wind's **velocity**. **Speed** (10 mph) + **direction** (northeast) = **velocity**



Use the graph and the map of the race to answer these questions:

1. Did the tortoise travel at a constant speed? Explain. _____

2. Did the hare travel at a constant speed? Explain. _____

3. Did the tortoise travel at a constant velocity? Explain. _____

4. Did the hare travel at a constant velocity? Explain. _____

5. Which animal was traveling faster at 30 minutes? _____
At 50 minutes? _____ At 100 minutes? _____
6. At what time did the tortoise pass the hare? _____

The hare has appealed to you to re-judge the race. Is the hare's claim that he was faster than the tortoise correct? Or is he just a sore loser? Write a letter to the animal community in which you explain your decision. Be sure to support your decision with data from the race.
