

The Science of Racing Newton Knew

Activity 3: Newton Knew:
Additional Assessment:



Assessment

- What is acceleration?
- How can you use a Speed-Time graph to determine distance traveled?
- What is the relationship between Speed, time and distance?
- What is your understanding of $F=ma$?
- How is acceleration calculated? What are the units of speed and time?

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Assessment

- What is acceleration?

See Vocabulary

- How can you use a Speed-Time graph to determine distance traveled?

Divide the area under the graph lines into sections for which you can find the area.

- What is the relationship between Speed, time and distance?

Speed equals distance divided by time.

- What is your understanding of $F=ma$?

mass times acceleration is a constant for a given force. If mass decreases, acceleration increases. If acceleration increases, mass decreases.

- How is acceleration calculated? What are the units of speed and time?

$a = \text{change in speed divided by change in time.}$

Vocabulary:

Speed

Distance traveled in some amount of time or
 $\text{speed} = d / t$

Velocity

Speed in some direction.

Average speed

describes speed of motion when speed is changing.

Instantaneous speed

is speed at a given point of time.

Constant Speed

describes motion in which speed is not changing.

Constant Velocity

describes motion in which neither speed or direction are changing.

Acceleration

is a change in speed or direction.