

E.Q.

How do speed and velocity compare?

A rectangular box with a grid background. Inside the box, the word "Speed" is written in a cursive font and underlined. To its right is the text "vs". To the right of "vs" is the word "Velocity", also written in a cursive font and underlined. Below the "vs" text, there is a vertical line that extends downwards.

~First, define each using your online device.

~Second, write the formula for each.

~After reading the following, name the major differences between speed and velocity.

When evaluating the velocity of an object, one must keep track of direction. It would not be enough to say that an object has a velocity of 55 mi/hr. One must include direction information in order to fully describe the velocity of the object. For instance, you must describe an object's velocity as being 55 mi/hr, east. This is one of the essential differences between speed and velocity. Speed is a scalar quantity and does not keep track of direction; velocity is a vector quantity and is direction aware.

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SPEED

~rate at which someone or something moves or travels

~Speed equals distance divided by time

$$S = d/t$$

~Direction does not matter

VELOCITY

~rate of change in the position of an object

~Velocity equals a change in speed divided by time

$$V = \frac{d}{t}$$

~Velocity is a vector because it describes both how fast something is moving and in what direction it is moving.



When an object has a **CONSTANT** velocity it means there are **BALANCED** forces acting on the object.

Interactive Online Practice

Can be done as a class or as individual/paired student review

<http://www.physicsclassroom.com/Physics-Interactives/1-D-Kinematics/Name-That-Motion/Name-That-Motion-Interactive>

Velocity and Speed Problems

<http://classroom.misd.org/users/0213/speed%20problems.pdf>

http://www.lachsa.net/ourpages/auto/2015/9/14/64425772/Velocity_Acceleration%20Practice%20Problems.pdf

Speed Problem Worksheet (Document)