

Forces

1. Speed

CONCEPT 3

RELATIVE MOTION

NOTES

If you are standing by the side of a road, a car travelling at 70 km/h goes past very quickly. However, if you are sitting in a car moving at 60 km/h and a car overtaking you at 70 km/h will still go past you, but, it will appear to be moving at a slower speed **relative** to the car you are in. If you are sitting on a train travelling at 100 km/h and the track is parallel to the road, then a car travelling at 70 km/h will appear to be moving backwards relative to the train.

To calculate the relative speed between two moving objects then:

Relative Motion	Relative Speed
Objects moving in the same direction	Fastest speed – Slowest speed
Objects moving in opposite direction	Fastest speed + Slowest speed

The direction of relative speeds depends on which point of view you are looking from.