

Chapter 05

MOTION AND TIME

In our previous lecture, we saw how objects move in different paths and also slower or faster.

Higher speed seems to indicate either larger distance covered in a given time or shorter time taken to cover the given distance.

However, the most convenient way to compare two objects, if they are moving slower or faster is to determine the distance covered by them in the **same time** period.

If we can find out the distance covered by two cars say in 1 hour, then we can say which vehicle is faster.

This distance covered by an object in unit time is called SPEED. The unit time can be 1 second or 1 hour.

“ unit time = 1 hour or 1 min or 1 sec”

Speed can be simply written as distance by time

Speed = Distance

Time

or $S = d/t$

Let us understand speed with a simple example.

A yellow car covers a certain distance from point A to point B. Let this distance be 500 m. and let the car take 20 seconds to reach point B.

Consider another green car starting from the same point A.

This car too travels the same distance but this car takes 30 seconds to complete the distance.

Let us now compare the speeds of these cars.

- Speed is the distance covered by time taken to cover that distance.
- We can clearly see that the speed of yellow car is more than the speed of the green car.
- So now we can say the yellow car is faster than the green car.
- Look at the unit of measurement of speed.
- It is metres per second. We also use kilometer per hour.

