

# Ch- 8:Motion

# Velocity:

- Speed of an object moving in a specified direction
- Rate of change of motion in a specified direction
- Vector quantity
- Can be zero, negative or positive

# Velocity:

- When the numerical value of velocity will be equal to speed of a body?

# Velocity:

- How can we change the velocity of an object?

# Uniform velocity:

- When a body covers equal distances in equal intervals of time in a specified direction
- Direction should be same

5km	5km	5km	5km
5 mins	5 mins	5 mins	5 mins

# Variable velocity:

- When a body covers unequal distances in equal intervals of time in a specified direction (or)
- When a body covers equal distances in equal intervals of time but change in direction

5km	10km	5km	10 km
5 mins	5 mins	5 mins	5 mins

# Average velocity:

- Ratio of total displacement to total time taken
- Since objects are in non-uniform motion in most of the cases, average velocity is given by the arithmetic mean of initial velocity and final velocity for a given period of time.
- Average velocity = Total displacement / Total time taken

# Numericals:

1. A body is moving with 108 km/hr then calculate the velocity in m/s.
2. Calculate the displacement of jogger whose velocity 2 m/s in 50 s
3. If the total displacement of a body is 12m in 4 sec. Then the average velocity is
4. A car travels from station A to B at 30kmp/h and then back to A at 70 kmp/h. Find the average velocity of the car.