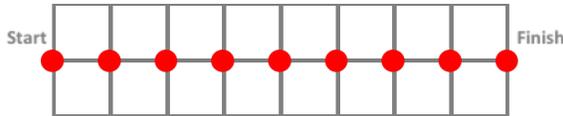# Video Notes for Dot Diagrams, Velocity, and Acceleration

Two Questions:
- How can a dot diagram describe the motion of an object?
- And how can you use a dot diagram with other info to determine the direction of the velocity and acceleration vectors?
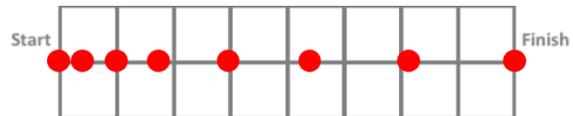
Constant Speed
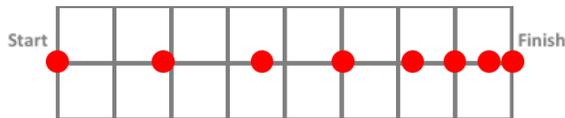Equal spacing between dots.

Start | Finish

Increasing Speed
Spacing between dots increases.

Start | Finish

Decreasing Speed
Spacing between dots decreases.

Start | Finish

Moving Leftward
First dot on right; last dot on left.

Finish | Start
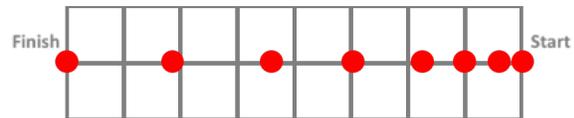
Vectors
Velocity and Acceleration are vector; they have a direction.

Rule for Velocity Direction
The direction of the velocity is the same as the direction the object is moving.

Rule for Acceleration Direction
- If an object is **slowing down**, then the direction of the acceleration is in the opposite direction that the object is moving.
- If an object is **speeding up**, then the direction of the acceleration is in the same direction that the object is moving.

Falling Down

v

a

Rising Upward

v

a