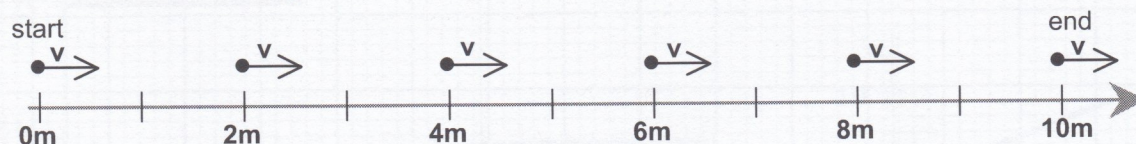


## Worksheet 4: Velocity vs. Time Graphs and Displacement

1. This motion map shows the position of an object once every second. From the motion map, answer the following:



- Describe the motion of the object.
- Represent the motion with a quantitative  $x$  vs.  $t$  graph.
- Represent the motion with a quantitative  $v$  vs.  $t$  graph.
- Write a mathematical expression that represents the relationship between position and time.
- From the position-time graph find the displacement from  $t = 1$  s to  $t = 3$  s.
- Find the area under the velocity-time graph from  $t = 1$  s to  $t = 3$  s. What are the units of this area? Describe what this area represents.