## UNIT 3 HOMEWORK AFTER SESSION ONE

• *Complete the sheets entitled HOMEWORK FOR LAB 1: INTRODUCTION TO MOTION .*
• Review the comment about velocity vectors on pages 3-12 and 3-13 and read the section below on how to construct simple motion diagrams.

• *Construct motion diagrams described in supplemental problem SP3-1 below.*

### Position-Velocity Motion Diagrams

A position-velocity motion diagram can be used to sketch a quick picture of the changes in motion that an object might undergo that almost anyone can understand. A motion diagram represents to position and velocity of an object at several equally spaced times. At each position the object's velocity is represented by an arrow. Two sample motion diagrams are shown in the figures below.

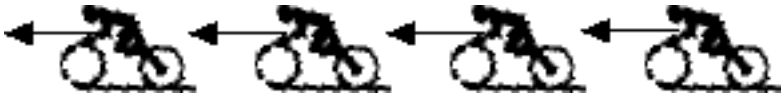

Figure 1: A motion diagram of a bike moving to the left with a constant velocity. The acceleration is zero because the velocity is not changing.

Figure 2: A motion diagram for a bike moving to the right with a decreasing speed.

**S3-1:** (a) Construct a motion diagram for a dog running to the right with a decreasing speed, (b) Construct a motion diagram for a truck moving to the left with increasing speed, and (c) Construct a motion diagram for a rocket moving vertically downward at an increasing speed.

## UNIT 3 HOMEWORK AFTER SESSION TWO

• *Complete the HOMEWORK FOR LAB 2: CHANGING MOTION.*

• *Complete Unit 3 entries for Sessions 2 and 3 in this Activity Guide*

➡**SmartPhysics:** *View the Prelecture "*1-D Kinematics*" before the first class of next unit and answer the checkpoint questions.*