Name: _____Date Due: _____ Per:____ E.N. _____

Constructing Particle Models

Purpose: to understand how to construct and interpret particle diagrams.

Procedure:

1. Collect 5 bean bags of the same size.
2. Mark off a starting line (A) with masking tape and a second start line 5 meters down (B).
3. One partner will walk a "consistent" pace from A through B to the end.
4. Another partner will start a stopwatch when the walker goes past. Every second that goes by the timer will say drop.
5. The walking partner will drop the bean bag from their arms hanging down. DO NOT THROW simply DROP.
6. After 5 seconds all bean bags will be on the ground.
7. Measure the distance from point B to each bean bag.
8. Draw a particle diagram below to illustrate this process.
9. Part II: Repeat the above process but this time, start timing at A from rest and speed up.
10. Part lll: Repeat above process. Walk and speed up to farthest point, turn around and come back.

Part I: Record your scale:

Time (Sec)	1	2	3	4	5
Distance (m)					

Particle Diagram: Draw vectors for displacement vectors on the diagrams in green.

Describe what you were doing to complete the motion.

Part II: Record your scale:

Time (Sec)	1	2	3	4	5
Distance (m)					

Particle Diagram: Draw vectors for displacement vectors on the diagrams in green.

Describe what you were doing to complete the motion.

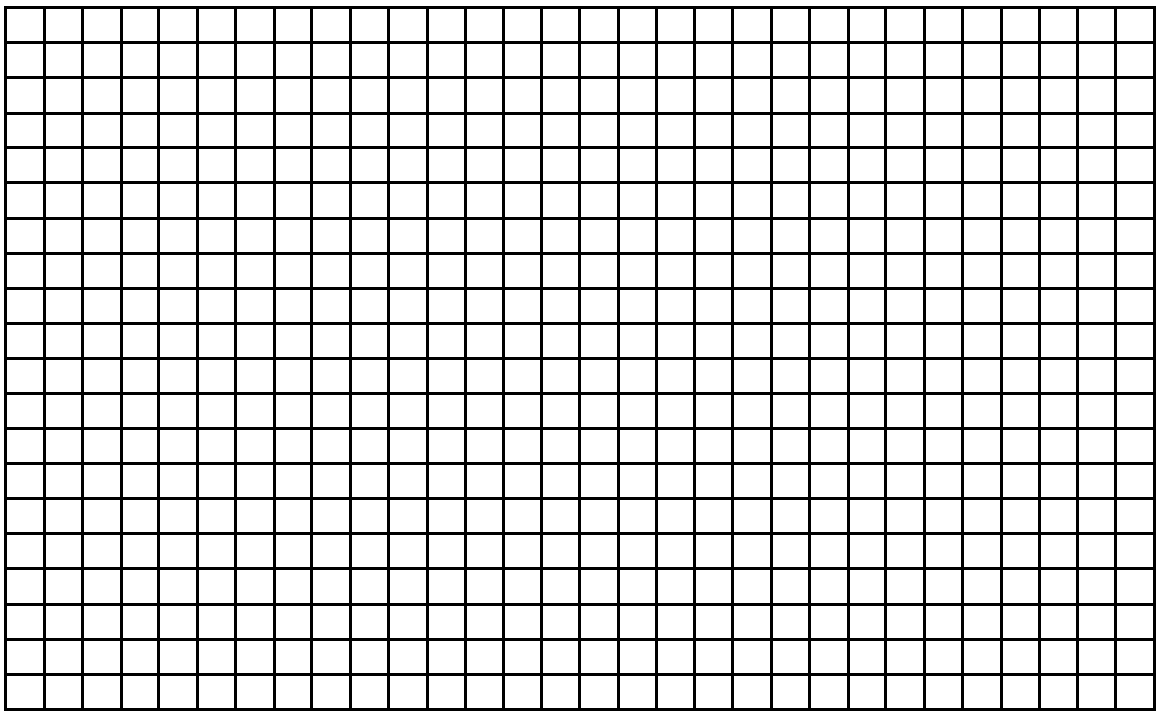
Part III: Record your scale:

Time (Sec)					
Distance (m)					

Particle Diagram: Draw vectors for displacement vectors on the diagrams in green.

Describe what you were doing to complete the motion.

Construct a Distance versus Time graph for both of these procedures on the same graph. Use a key for each line. (Identify the Independent variable, dependent variables) title, units



Explain the difference between the vectors and graphs for Part I and Part II.