**Chapter 4 Brochure**

**Page 1- Section 4.1, 4.2 & 4.3- Speed and velocity**

**Define:**

Speed :\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Velocity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SI units:**

Speed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Velocity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Formulas:**

Speed: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Velocity: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Type of quantity (scalar or vector):**

Speed is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ quantity.

Velocity is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ quantity.

**Questions:**

1. What do we mean when we say “motion is relative”?
2. What is the biggest difference between speed and velocity?
3. What are the three situations for changing velocity?

**Page 2: Section 4.4-Acceleration**

**Define:**

Acceleration: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**SI unit:**

Acceleration: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Formulas:**

Acceleration: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Type of quantity (scalar or vector):**

Acceleration is a \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ quantity.

**Questions:**

1. Why does the unit of time enter twice in the unit of acceleration?

**Page 3: Section 4.5- Free fall “How Fast” and rising objects:**

**Define:**

Free fall:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Questions:**

1. What is the acceleration of objects in free fall (acceleration due to gravity)?

1. What is the acceleration due to gravity here on earth for rising objects?
2. What is the equation for a falling object (falling velocity)?
3. At what rate do objects lose speed as they go up?

**Page 4: Section 4.6 Free fall: “How Far”**

**Questions:**

1. What is the equation for the distance of falling objects?
2. When things fall on earth, what pulls them down? What pushes up against them?
3. Using table 4.3 for a falling object, explain how the distance per second changes.