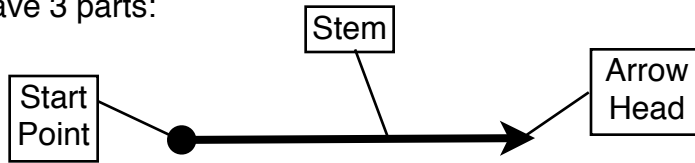# Vector Diagrams

- Vector Diagrams are a way of drawing the size of vector quantities

- Because vectors have both quantity and direction scientists use arrows to indicate vectors

- Vector arrows have 3 parts:

    - Start Point-shows where the vector begins

    - Stem-shows the size of the quantity

        - Larger quantities have longer stems

        - Smaller Quantities have shorter stems

- There are 2 types of diagrams

    - Free-Body Diagrams

        - Used to show relative size of the vector

        - Length of the stem is not exact

    - Scaled Diagrams

        - Used to show exact size of the vector

        - Length of the stem is exact

        - Usually drawn on graph paper

            - Each square represents a fixed distance

            - Measure vector from start point to tip of arrow head

                - Example: Each square = 2m

                    - Vector 'A'-4m North

                    - Vector 'B'- 6m South

                    - Vector 'C'- 10m West