Theory:

- **Distance:** The total length of the path an object travels, regardless of direction. It is a scalar quantity (no direction).

- **Displacement:** The straight-line distance from the starting point to the ending point in a specific direction. It is a vector quantity (has direction).

- **Speed:** The rate at which distance is covered. It tells how fast something is moving.

- **Velocity:** The rate at which displacement changes. It tells how fast something is moving and in what direction.

- **Acceleration:** The rate at which velocity changes over time. It can involve speeding up, slowing down, or changing direction.

- **Distance-Time Graph:** A graph that shows how distance changes over time. The slope (gradient) of the graph represents speed.

- **Speed-Time Graph:** A graph that shows how speed changes over time. The slope (gradient) of the graph represents acceleration.

List of Formulas:

Speed, Distance, Time

- Formula: $V = \frac{d}{t}$
    - Where:
        - V = Speed (m/s or km/h)
        - d = Distance (m or km)
        - t = Time (s or h)

Acceleration, Final Speed, Initial Speed, Time

- Formula: $a = \frac{(v - u)}{t}$
    - Where:
        - a = Acceleration (m/s²)
        - v = Final speed (m/s)
        - u = Initial speed (m/s)
        - t = Time (s)