Topic 1 Vocab Review NAME\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  | **Definition** | **Diagrams, analogies, questions, or notes** |
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| **Linear motion** | Movement along a straight line. For example: horizontal (left-to-right) or vertical (up and down). |  |
| **Uniformly accelerated motion** | Motion where acceleration is constant. Solve problems using the three motion equations. |  |
| **Scalar** | Measurement with no direction (just an amount). For example: time, mass and distance. |  |
| **Vector** | Measurement with an amount (magnitude) and a direction. For example: displacement, velocity, acceleration, and force. |  |
| **Displacement and distance** | Measurements of how far something has moved. Displacement also includes direction from starting point. Unit: m |  |
| **Velocity and speed** | Measurements of how fast something is moving. Velocity also includes the direction of the object’s movement. Unit: m/s |  |
| **Acceleration** | How quickly motion is changing (speeding up, slowing down, or changing direction). Unit: m/s/s. |  |
| **Graphical representations** | Graphs of motion:   * position vs time * velocity vs time * acceleration vs time |  |
| **Graphical technique: slope (gradient)** | Slope (gradient) of a position graph gives velocity, slope of a velocity graph gives acceleration. |  |
| **Graphical technique: area** | Area under an acceleration graph gives change in velocity, under a velocity graph gives change in displacement. |  |
| **Instantaneous** | At that exact moment.  Different to ‘average’ which is over a time period. |  |
| **Equations of motion** |  |  |
| **Air resistance** | A force that slows objects down as they move through the air.  Our motion equations ignore air resistance. |  |
| **Free-falling objects** | Objects are in free fall if they are moving through the air with the only force being due to gravity. |  |
| **Uniform gravitational field** | A place where acceleration due to gravity is constant. Near Earth’s surface, m/s/s  for vertical motion. |  |
| **Force** | Any action which causes motion to change. Every force is either a push or a pull. Unit: N |  |
| **Uniform motion and rest** | A state of motion in which the body travels with a constant speed in a straight line. If speed is zero it is called ‘rest’. |  |
| **Net force** | The overall or total force, taking into account that forces in different directions will cancel out. |  |
| **Unbalanced force** | A force that is not being cancelled out by another force. Causes acceleration (change in motion). |  |
| **Newton’s First Law** | Objects stay in their state of motion unless an unbalanced force acts. |  |
| **Inertia** | Resistance to change of motion. Inertia depends on an object’s mass. |  |
| **Newton’s Second Law** | Larger force makes an object accelerate more. Larger mass makes an object accelerate less. |  |
| **Weight and mass** | Weight is downward force of gravity. Unit: N  Mass is amount of matter in an object. Unit: kg |  |
| **Newton’s Third Law** | When an object applies a force to an object, it experiences the same amount of force back. |  |
| **Pairs of forces** | No force can exist on its own. Another force must be exerted on another object in the opposite direction. |  |
| **Normal reaction force** | The force pair to the force an object exerts downwards on the ground (ground pushes object up). |  |