

**Newton's 1<sup>st</sup> Law**

If there is no resultant force on an object the object will either remain stationary or continue to move with a constant velocity.

**Newton's 2<sup>nd</sup> Law**

If there is a resultant force on an object the object will move with an acceleration in the direction of the resultant force.

Formula:  **$F = ma$**

**Newton's 2<sup>nd</sup> Law in Simple Words for Year 12 Maths Work**

- A resultant force on a stationary object will make the object start moving in the direction of the resultant force with an acceleration given by the formula  $F = ma$ .
- A forward resultant force on a moving object will make the object continue to move in the same direction with an acceleration given by the formula  $F = ma$ .
- A backward resultant force on a moving object will make the object continue to move in the same direction with a deceleration. You may substitute the resultant force as a negative value in the formula  $F = ma$ , which will then give you a negative acceleration (deceleration).