Impulse

Any object with mass and velocity has momentum.

If you apply an unbalanced force to that object, you accelerate the object from Newton's 2nd Law (a = F/m).

Acceleration causes a change in the velocity, thereby changing the momentum.

Thus, an unbalanced force on an object changes it's momentum.

The change to an object's momentum depends on the magnitude of the unbalanced force and the time it is applied. This combination is called **impulse**. Here is how we calculate the impulse on an object:

$$J = F\Delta t$$
  J = impulse
  F = force (N)
  t = time (s)

ex. What is the impulse applied to an object if a 30 N force acts on it for 6 seconds?