AQA P5c Newton's Laws
Combined Foundation

Required Practical for this topic:
F = ma

Newton's Laws	Newton's 1st Law	If an object experiences zero resultant force it does not accelerate
	Newton's 2nd law	The resultant force equals the mass × acceleration
	The greater the resultant force	The greater the acceleration
	The greater the mass	The smaller the acceleration for a given force
	Forces	Occur in pairs of the same type
	Newton's 3rd law	If object A exerts a force on object B, then object B exerts a force of equal magnitude and opposite direction on object A
	When brakes are applied	Friction does work
	When brakes are applied	The kinetic energy store of the wheels decreases and the thermal energy store of the brakes increases.
Force = mass ÷ acceleration (F = m × a)		

Braking	Thinking distance	The distance travelled as the driver reacts
	Braking distance	The distance travelled as the driver applies the brakes
	Stopping distance	Thinking distance + Braking distance
	Braking distance increases with	Higher speed, higher mass, poor weather, poor vehicle conditions
	Thinking distance increases with	Higher speed, drink, drugs, distractions