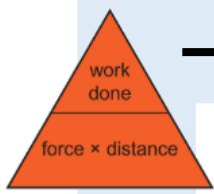


Resultant force, Newton's laws, centripetal force, mass, weight, gravitational field strength, air resistance, acceleration, inertial mass, reaction force, momentum, conservation of momentum, stopping distance, kinetic energy, work done, crash hazards

Make sure you can write definitions for these key terms.



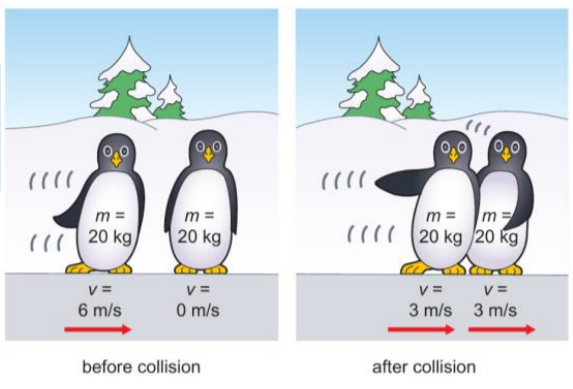
**Revision**  
Retrieval, keyword definitions and equation practice.



**Final assessment**  
★  
Review of learning

**Apply:**  
SP7 Gravity and orbits / circular motion  
SP9 Objects affecting each other, vector diagrams, rotational forces  
SP15 Forces and matter (upthrust)  
16+ Centre of mass and gravity  
Resolving forces  
Resultant forces  
Torque of a couple

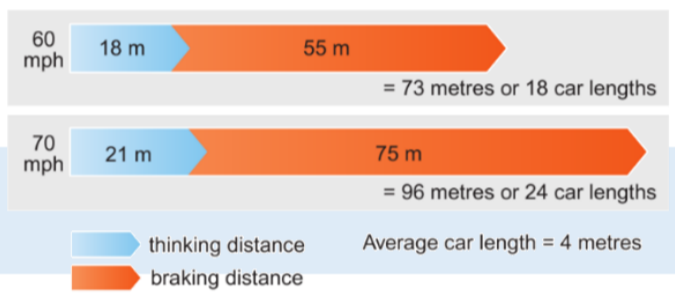
**Crash hazards**  
How can you use momentum to calculate the forces involved in crashes?



**Braking distance and energy**  
How are work done and kinetic energy related to braking distances?

total momentum before and after a collision is the same

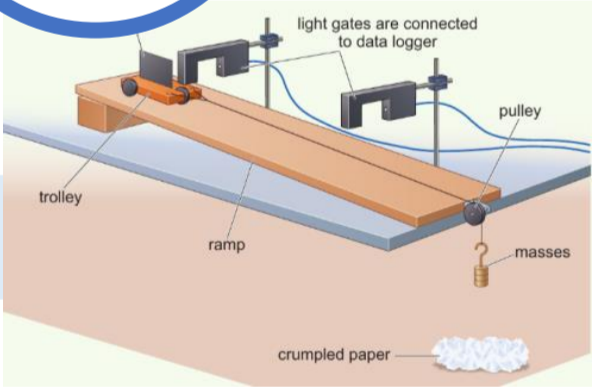
**Stopping distances**  
What are the factors that affect the stopping distances of a vehicle?



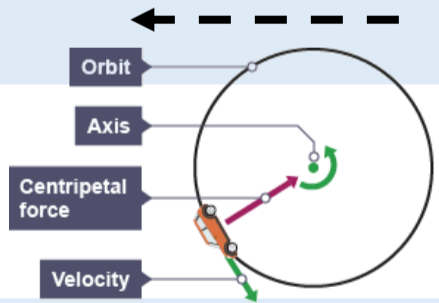
**Momentum**  
What happens to the momentum in collisions?

**Investigating acceleration**  
CORE PRACTICAL: Investigate the relationship between force, mass and acceleration

**Newton's third law**  
How do objects affect each other when they collide?



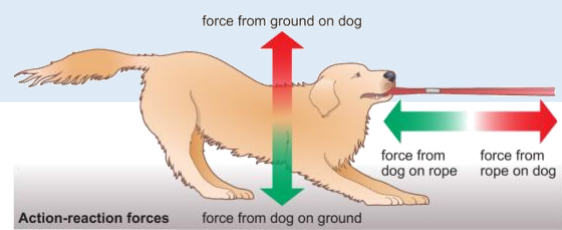
**Newton's second law**  
What are the factors that affect the acceleration of an object?



An object moving in a circle has changing velocity

**Mass and weight**  
What is the difference between mass and weight?

**Newton's first law**  
What happens to the motion of an object when the forces on it are balanced / unbalanced?



**Resultant force**  
How to represent and calculate the resultant forces acting upon an object

**Retrieve:**  
KS2 Introduction to forces (contact/non-contact)  
P1.1 Forces (mass and weight)  
P1.1.5 Balanced forces  
P1.4 Space (forces at a distance)  
P2.1.6 Magnetic forces  
P2.3 Turning forces  
SP1 Motion

LESSON 1