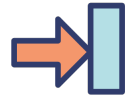


SP2 Motion and forces



Personal learning checklist | 1 of 2

GCSE Edexcel Separate Sciences | Physics Paper 1

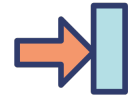
Name _____ Class _____ Date _____

Tick one box for each statement. Red: need help. Amber: partly confident.
Green: can do independently.

I can	Red	Amber	Green
Forces and motion			
Combine forces with directions and apply Newton's first law to rest, constant velocity and acceleration.	☐	☐	☐
Explain constant-speed circular motion using changing velocity and inward centripetal force (Higher).	☐	☐	☐
Weight and resistance			
Distinguish mass from weight, use the weight equation and explain different gravitational fields.	☐	☐	☐
Describe weight measurement and determine gravitational field strength from a weight-mass graph.	☐	☐	☐
Explain drag, falling acceleration, terminal velocity and parachute effects using resultants.	☐	☐	☐
Newton's laws and investigation			
Calculate force, mass and acceleration using resultant force and explain proportional relationships.	☐	☐	☐
Explain and calculate inertial mass as resistance to velocity change (Higher).	☐	☐	☐
Plan trolley investigations of force, mass and acceleration with controls, friction management and repeats.	☐	☐	☐
Identify Newton's third-law pairs and distinguish them from balanced forces on one object.	☐	☐	☐

My next revision priority _____

SP2 Motion and forces



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Name _____ Class _____ Date _____

Tick one box for each statement. Red: need help. Amber: partly confident.
Green: can do independently.

I can	Red	Amber	Green
Momentum (Higher)			
Calculate signed momentum and apply conservation to isolated collisions, including objects sticking together (Higher).	☐	☐	☐
Calculate average force from momentum change and time and explain collision safety features (Higher).	☐	☐	☐
Stopping safely			
Calculate thinking and stopping distances and describe reaction-time measurements and influencing factors.	☐	☐	☐
Explain speed, mass, braking condition and road effects on braking and stopping distance.	☐	☐	☐
Explain dangers of large decelerations and estimate forces in road situations (Higher).	☐	☐	☐
Braking energy			
Explain braking as kinetic-to-thermal energy transfer and calculate braking distance from work done.	☐	☐	☐
Explain speed-squared braking dependence and distinguish it from thinking and total stopping distances.	☐	☐	☐
Estimate realistic stopping distances and evaluate reaction-time and road-condition assumptions.	☐	☐	☐

My next revision priority _____