

Prior Learning		At KS3, students have learned about forces and their effects including pressure when force is applied on an area.		
Lesson Number	AQA Spec	Title	Content	Assessment
1	4.5.1.1 4.5.1.2 4.5.6.1.3	Forces	<ul style="list-style-type: none"> Describe a force. Recognise the difference between contact and non-contact forces. State examples of scalar and vector quantities. 	
2	4.5.1.3	Heavy or massive?	<ul style="list-style-type: none"> Identify the correct units for mass and weight. Explain the difference between mass and weight. Understand how weight is an effect of gravitational fields. 	
3	4.5.1.3 (centre of mass) 4.5.1.4	Resultant forces	<ul style="list-style-type: none"> Calculate the resultant of a number of forces. Explain what happens to an object if all the forces acting on it cancel each other out. Understand that a force can be resolved into two components acting at right angles to each other. 	

4 TRIPLE ONLY	4.5.1.3 (centre of mass) 4.5.4	Moments	<ul style="list-style-type: none"> Describe the turning effect of a force about a pivot. Explain and use the principle of moments. Explain what is meant by the centre of mass of an object. 	
5 TRIPLE ONLY	4.5.4	Levers and gears	<ul style="list-style-type: none"> Describe how levers and gears can be used to transmit the rotational effect of a force. Explain how levers and gears transmit forces. 	
6	4.5.6.2.1 (inertia) 4.5.6.2.2	Forces and acceleration	<ul style="list-style-type: none"> Explain what happens to the motion of an object when the resultant force is not zero. Analyse situations in which a non-zero resultant force is acting. Explain what inertia is. 	<p>Assessment 1: Multiple choice Quiz 25 Marks</p> <p>Feedback: Auto/Self-assessed</p>
7	4.5.6.2.2	Required practical: Prac 7 Investigate the effect of varying force or mass on acceleration	<ul style="list-style-type: none"> Investigating the acceleration of an object. Analysing results to identify patterns and draw conclusions. Compare results with scientific theory. 	

8	4.5.6.2.3	Newton's third law	<ul style="list-style-type: none"> Identify force pairs. Understand and be able to apply Newton's third law. 	
9	4.5.3	Forces and energy in springs	<ul style="list-style-type: none"> Explain why you need two forces to stretch a spring. Describe the difference between elastic and inelastic deformation. Calculate extension, compression and elastic potential energy. 	
10	4.5.3	Required practical: Investigate the relationship between force and the extension of a spring	<ul style="list-style-type: none"> Interpret readings to show patterns and trends. Interpret graphs to form conclusions. Apply the equation for a straight line to the graph. 	Assessment 2: Written assessment 15 Marks Feedback: Teacher
11 TRIPLE ONLY	4.5.5.1.1 4.5.5.1.2 (Higher Tier Only)	Pressure in a fluid	<ul style="list-style-type: none"> Explain how pressure acts in a fluid. Calculate pressure at different depths in a liquid. Explain what causes upthrust. 	
12 TRIPLE ONLY	4.5.5.2	Atmospheric pressure	<ul style="list-style-type: none"> Show that the atmosphere exerts a pressure. Explain variations in atmospheric pressure with height. Describe a simple model of the Earth's atmosphere and atmospheric pressure. 	

11	4.5	Key concept: Forces and acceleration	<ul style="list-style-type: none"> To recognise examples of balanced and unbalanced forces. To apply ideas about speed and acceleration to explain sensations of movement. To apply ideas about inertia and circular motion to explain braking and cornering. 	
12	4.5	Making estimates of calculations	<ul style="list-style-type: none"> Estimate the results of simple calculations. Round numbers to make an estimate. Calculate order of magnitude. 	
End of Unit test Assessment: Teacher				
Where we will use these ideas again		P7 – Magnetic forces and calculating the force of a conductor P8 – Gravity, the force that binds the universe		