






YEAR 10 CURRICULUM INFORMATION – Physics

	Spring 1	Spring 2
What will students be learning?	<p><u>Balanced Forces</u></p> <ul style="list-style-type: none"> • The Parallelogram of Forces (HT) • Resolution of Forces (HT) • P8 Revision <p><u>Forces and Motion</u></p> <ul style="list-style-type: none"> • Forces and Acceleration • Required Practical: Relationship between force and acceleration 	<p><u>Forces and Motion</u></p> <ul style="list-style-type: none"> • Weight and Terminal Velocity • Forces and Braking • Momentum (HT) • Using Conservation of Momentum (HT) • Impact Forces & Safety First (HT)
How will students be assessed?	<ol style="list-style-type: none"> 1. Milestone test at the end of the topic 2. In-class formative review each lesson 3. Required Practical Assessment 	<ol style="list-style-type: none"> 1. Milestone test at the end of the topic 2. In-class formative review each lesson
Literacy – What keywords will be taught?	Resultant force, parallelogram, scale, vector diagram, horizontal component, vertical component, perpendicular, acceleration, state of motion, deceleration	Terminal velocity, weight, gravitational field strength, drag, resistance, braking, thinking distance/time, braking distance/time, stopping distance/time, momentum, velocity, collision, conservation, impact time, crumple zone, seat belt, impact force
What employability skills are being developed?	<ul style="list-style-type: none"> • Teamwork (acceleration practical requires multiple people fulfilling their job roles to gather accurate results) • Numeracy (calculation of resultant forces when components are acting at non-perpendicular angles (used in engineering, architecture, construction and transport)) • Practical skills (Accurate measurement of acceleration requires high precision under repeat testing conditions, monitoring multiple control variables) 	<ul style="list-style-type: none"> • Numeracy (Calculation of momentum in both simple single-object scenarios and multiple-object collisions) • Extended writing (Discussion and comparison of factors affecting stopping distance, linked to rate of change of momentum in vehicles and ultimately to force experienced in rapid decelerations)

<p>Wider Curriculum Links?</p>	<ul style="list-style-type: none"> • Maths – linking of resolution of forces and parallelogram of forces to trigonometric calculations (a geometrical method of trigonometry) • PE – Acceleration principles involved in all high-speed sports such as skiing, bobsled, skating, cycling, sprinting, etc. as well as high power-output activities such as power lifting, rugby scrums etc. 	<ul style="list-style-type: none"> • DT / Engineering – Aerodynamic principles in product design underpinned by the physics of terminal velocity • PE – Momentum application in all contact sports and team sports where contact is expected (i.e. Rugby) or when multiple balls make contact (i.e. curling / snooker)
<p>What useful websites are there for this topic?</p> <p>Click links for more info</p>	<div style="display: flex; justify-content: space-around; align-items: center; text-align: center;"> <div data-bbox="689 536 835 671">  <p>Free Science Lessons</p> </div> <div data-bbox="990 536 1120 671">  <p>Primrose Kitten</p> </div> <div data-bbox="1227 528 1370 671">  <p>GCSE Pod</p> </div> <div data-bbox="1464 536 1599 671">  <p>BBC Bitesize</p> </div> <div data-bbox="1697 536 1845 671">  <p>Oak National Academy <i>Select KS4 Science (Triple)</i></p> </div> </div>	
<p>What wider reading could be done for this topic?</p> <p>Click links for more info</p>	<p>Textbook (<i>separate sciences</i>): AQA GCSE Physics Student Book (3rd Ed)</p> <p>Textbook (<i>combined science</i>): AQA GCSE Physics for Combined Science (Trilogy) Student Book (3rd Ed)</p> <p>Revision Guide (<i>separate sciences</i>): AQA GCSE 9-1 Physics All-in-One Complete Revision and Practice (<i>available on ParentPay</i>)</p> <p>Revision Guide (<i>combined science</i>): AQA GCSE 9-1 Combined Science Higher All-in-One Complete Revision and Practice (<i>available on ParentPay</i>)</p>	
<p>What else can students be doing independently to develop their understanding of this topic?</p> <p>Click links for more info</p>	<p>Exam Question Practice (<i>matches the revision guides on ParentPay</i>): Collins AQA GCSE 9-1 Physics Workbook</p> <p>Exam Question Practice (<i>Separate Higher Tier</i>): CGP GCSE Physics AQA Exam Practice Workbook - Higher</p> <p>Exam Question Practice (<i>Combined Higher Tier</i>): CGP GCSE Combined Science AQA Exam Practice Workbook – Higher</p> <p>Exam Question Practice (<i>Separate Foundation Tier</i>): CGP GCSE Physics AQA Exam Practice Workbook - Foundation</p> <p>Exam Question Practice (<i>Combined Foundation Tier</i>): CGP GCSE Combined Science AQA Exam Practice Workbook - Foundation</p>	