

Summer Term – Remote Learning Plan

Year 10 – Physics (Separate Science)

Week:	Instructions to Parents/Students
28B – 20 th April	<p>General advice: Work your way through the tasks below but don't feel you have to finish each section in one go. Tick off each task as you do it. The main priority for the summer term is to learn as much as possible about the 'Waves' topic (weeks 1-7). This may take more than 7 weeks, if so keep doing the 'Waves' work for as long as you need to. The 'Forces' work in the last few weeks is for anyone who finishes all the waves work and wants extra stuff to do.</p> <p>Where it says 'make notes on...' this does not mean you have to copy everything from the Bitesize pages. Simply write down key words, definitions, facts or diagrams to give you something to refer to when you do the test. If you want to produce neat, structured pages of information that's fine, but it is not expected.</p> <p>Learn definition of 'Waves' and key terms such as wavelength, amplitude, frequency and velocity. Learn 2 equations. Follow this pathway on Google: GCSE Science – BBC Bitesize → AQA → Waves → Properties of Waves → Revise, or click on https://www.bbc.co.uk/bitesize/guides/zgf97p3/revision/1 .</p> <p>Read the information on pages 1-3, make notes on key points, try the two calculations on page 2. Pages 4 and 5 and the 2 videos relate to required practicals, have a look at these and make notes about each method. Do the test questions. Don't worry if you're not sure about some questions, have a go and then check your answers – you'll learn something even if you get it wrong. Extra information can be found on freesciencelessons.co.uk/gcse-physics-paper 2/ Go to the 'Waves' section. There are 4 videos to watch:</p> <p>Properties of Waves https://www.youtube.com/watch?v=ITe6snlZBp8&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=2</p> <p>Wave Equation https://www.youtube.com/watch?v=Aucu7YshyQ0&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=3</p> <p>Required Practical 8 Ripple Tank https://www.youtube.com/watch?v=UNmv6H-f180&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=4</p> <p>Required Practical 8 Waves in a Solid https://www.youtube.com/watch?v=ZXAmiRC0GBo&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=5</p> <p>Do the BBC Bitesize test questions. Don't worry if you're not sure about some questions, have a go and then check your answers – you'll learn something even if you get it wrong.</p>
29A – 27 th May	<p>Learn definitions of transverse and longitudinal waves. Learn the sequence of waves in the 'Electromagnetic Spectrum, what they have in common, how they are different and what they are used for. Follow this pathway on Google: GCSE Science – BBC Bitesize → AQA → Waves → Transverse and Longitudinal Waves → Revise, or click on https://www.bbc.co.uk/bitesize/guides/z9bw6yc/revision/1 Read and make notes on pages 1-5, watch the video clip.</p> <p>Watch 4 videos from freesciencelessons.co.uk/gcse-physics-paper 2/ (Waves section):</p> <p>Transverse and Longitudinal Waves https://www.youtube.com/watch?v=0f5iYCNcnow&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=1</p> <p>Electromagnetic Waves https://www.youtube.com/watch?v=u5vkYjV1V1A&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=11</p> <p>Uses of EM Waves https://www.youtube.com/watch?v=L0iivb-acqU&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=15</p> <p>Properties of Waves 2. https://www.youtube.com/watch?v=3qCmEHRFRH8&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=14</p> <p>Produce a poster with as much information as possible about the 7 waves of the electromagnetic spectrum.</p> <p>Do the BBC Bitesize test on this section.</p>

30B – 4 th May	<p>Learn about reflection (specular and diffuse) and refraction, be able to draw diagrams of each. Read pages 1-3 of BBC Bitesize 'Reflection and Refraction' section: https://www.bbc.co.uk/bitesize/guides/zw42ng8/revision/3 Make notes about reflection, refraction and the required practical for refraction. Watch these clips on freesciencelessons.co.uk/gcse-physics-paper-2/ Reflection of Waves https://www.youtube.com/watch?v=8K6gOST8pZk&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=6 Refraction of waves https://www.youtube.com/watch?v=wO49W5IsP0s&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=12 Required practical 9: Reflection and Refraction https://www.youtube.com/watch?v=2fn_jvf4fw8&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=7 Do the BBC Bitesize test on this section.</p>
31A – 11 th May	<p>Learn about sound, ultrasound and seismic waves. Remember, all sound waves are longitudinal, but seismic waves can be longitudinal (P-waves) or transverse (S-waves). Read pages 1-3 of BBC Bitesize 'Sound and Ultrasound' section: https://www.bbc.co.uk/bitesize/guides/z2dtv9q/revision/1 Make notes about sound waves and hearing. There is no diagram of the ear on Bitesize, so find a good labelled diagram on Google images and copy it. Watch these freesciencelessons clips: Sound waves https://www.youtube.com/watch?v=N_07EkzEhVQ&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=8 Ultrasound https://www.youtube.com/watch?v=l1F6h9skFXU&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=9 Seismic waves https://www.youtube.com/watch?v=AqVJ4b5tkwo&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=10 Do the BBC Bitesize test on this section.</p>
32B – 18 th May	<p>Learn about emission and absorption of infra-red, and 'black body radiation.' Understand how type of surface (colour and matt/shiny) affects radiation emission and absorption, and how this can be investigated in a required practical. Read pages 1-3 BBC Bitesize, 'Black Body Radiation' section: https://www.bbc.co.uk/bitesize/guides/zs63k2p/revision/1 Make notes and watch the video clip on black body radiation. Watch these freesciencelessons clips: Visible light https://www.youtube.com/watch?v=0JzscbSaabM&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=19 Required practical 10 Infra-red https://www.youtube.com/watch?v=eE7OPL7pesA&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=13 Black Body Radiation https://www.youtube.com/watch?v=SvVQAg_oA2A&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=20 Do the BBC Bitesize test on this section.</p>
33A – 1 st June	<p>Learn about lenses and how they refract and focus light to produce 'real' or 'virtual' images. Draw ray diagrams for convex and concave lenses. Understand how filters work and why objects appear a certain colour. Read pages 1-4 BBC Bitesize 'Lenses' section: https://www.bbc.co.uk/bitesize/guides/zt7srwx/revision/4 Make notes, watch the video clip and do the magnification question. Watch these freesciencelessons clips: Convex lenses https://www.youtube.com/watch?v=KNUcS4NaqDw&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=16 Magnifying glasses https://www.youtube.com/watch?v=rHgUcbap328&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=17 Concave lenses https://www.youtube.com/watch?v=xmE54tohTsc&list=PL9IouNCPbCxX1-0Nr5_bMDJnN-9RqMuA6&index=18 Do the BBC Bitesize test on this section.</p>
34B – 8 th June	<p>Contact and Non contact forces - define contact force, define non-contact force. Give examples of contact and non-contact forces. Learn the difference between a Scalar and vector quantity. Watch https://www.youtube.com/watch?v=xxK8N23nx9M to help. Use BBC bitesize for practice questions: https://www.bbc.co.uk/bitesize/guides/zcxfcw/revision/1 read the link and answer the test questions for contact and non-contact forces. https://www.bbc.co.uk/bitesize/guides/zskn2nb/revision/1 read the link and answer the test questions for scalar and Vector quantities.</p>
35A – 15 th June	<p>Weight, Mass and Gravity: define weight, define mass, define gravity. learn the equation which links weight, mass and gravity: $W=m \times g$. Watch https://www.youtube.com/watch?v=W2aBVbcHr_k to help. Look at https://www.bbc.co.uk/bitesize/guides/z77mbdm/revision/1 to support learning and answer the test section at the end.</p>
36B – 22 nd June	<p>Resultant force– Define resultant force and calculate resultant force. Use https://www.youtube.com/watch?v=PL8ATKipoB4 to support learning. complete quiz and worksheet at https://study.com/academy/practice/quiz-worksheet-calculating-the-resultant-force.html</p>

37A – 29 th June	Work done: Know that if a resultant force moves an object work must be done. Use the equation $W = Fs$ to calculate work done. Know the units for Work done, Force and distance. Convert Joules to Newton-metres. Use https://www.youtube.com/watch?v=PY80j_iNT9Y to support learning. pause the video when told and attempt the questions. Use https://www.bbc.co.uk/bitesize/guides/z2mm8mn/revision/3 for further support. Take notes and try the question.
38B – 6 th July	Forces and Elasticity– To know what happens when you apply a force to an object. Understand the relationship between extension and force applied. Draw a graph representing force added to a spring, including elastic deformation, inelastic deformation and limit of proportionality (define these). Use sections 1-4 on https://www.bbc.co.uk/bitesize/guides/z9hk3k7/revision/1 then answer the test questions on the link.
39A – 13 th July	<p>Watch these 2 YouTube videos:</p> <p>The Whole of AQA Physics Paper 1 in 40 Minutes https://www.youtube.com/watch?v=xtw-Z0nIA4</p> <p>The Whole of AQA Physics Paper 2 in 47 Minutes https://www.youtube.com/watch?v=X1aMXCr75Kw</p> <p>Then relax and have a great summer!</p>

Useful resources:

exampapersplus.co.uk

BBC Bitesize

Physicsandmathstutor.com

Seneca (revision website)

AQA GCSE Physics (for past papers and markschemes)