

| Curriculum Content Map        |                        | Subject: Year 11 Combined Physics  |  |   |   |   |  |  |  |  |   |   |  |
|-------------------------------|------------------------|--|--|---|---|---|--|--|--|--|---|---|--|
|                               |                        | Term 1   |  |   | Term 2  |   |  | Term 3   |  |  |   |   |  |
| Month                         | Units of Work          | September  | October  | November  | December  | January   | February   | March  | April  | May  | June  | July  |  |
| National Curriculum area –KSA |                        | Chapter 9 - Motion<br>Chapter 10 - Force and motion  | Chapter 10 - Force and motion<br>Chapter 11 - Force and pressure   | Chapter 12 - Wave properties  | Revision and mocks<br>Chapter 12 - Wave properties  | Chapter 12 - Wave properties  | Chapter 13 - Electromagnetic waves<br>Chapter 14 - Light   | Chapter 14 - Light<br>Revision   | Chapter 15 - Electromagnetism  | Revision Biology<br>Revision Chemistry<br>Revision Physics   | Revision Biology<br>Revision Chemistry<br>Revision Physics  | Revision Biology<br>Revision Chemistry<br>Revision Physics  |  |
|                               |                        | Forces and motion<br>• speed of sound, estimating speeds and accelerations in everyday contexts<br>• interpreting quantitatively graphs of distance, time, and speed<br>• acceleration caused by forces; Newton's First Law<br>• weight and gravitational field strength<br>• decelerations and braking distances involved on roads, safety.<br>• conservation of momentum<br>• impact forces and safety | Forces and motion<br>• speed of sound, estimating speeds and accelerations in everyday contexts<br>• interpreting quantitatively graphs of distance, time, and speed<br>• acceleration caused by forces; Newton's First Law<br>• weight and gravitational field strength<br>• decelerations and braking distances involved on roads, safety.<br>• conservation of momentum<br>• impact forces and safety | • amplitude, wavelength, frequency, relating velocity to frequency and wavelength<br>• transverse and longitudinal waves  | • amplitude, wavelength, frequency, relating velocity to frequency and wavelength<br>• transverse and longitudinal waves  | • amplitude, wavelength, frequency, relating velocity to frequency and wavelength<br>• transverse and longitudinal waves<br>• sound waves<br>• The uses of ultrasound<br>• Seismic waves                      | • amplitude, wavelength, frequency, relating velocity to frequency and wavelength<br>• transverse and longitudinal waves<br>• electromagnetic waves, velocity in vacuum; waves transferring energy; wavelengths and frequencies from radio to gamma-rays<br>• uses in the radio, microwave, infra-red, visible, ultra-violet, X-ray and gamma-ray regions,<br>• hazardous effects on bodily tissues. | • amplitude, wavelength, frequency, relating velocity to frequency and wavelength<br>• transverse and longitudinal waves<br>• electromagnetic waves, velocity in vacuum; waves transferring energy; wavelengths and frequencies from radio to gamma-rays<br>• uses in the radio, microwave, infra-red, visible, ultra-violet, X-ray and gamma-ray regions,<br>• hazardous effects on bodily tissues. | Light<br>• The normal and laws of reflection including specular reflection and diffuse reflection<br>• refraction and differing mediums<br>• colour<br>• the difference between transparent and translucent<br>• Convex and concave lenses and calculating magnification<br>• images in cameras and magnifying glasses<br>Teachers will plan individual lessons dependent on the strengths and weaknesses of individual groups | Forces and fields: electrostatic, magnetic, gravity<br>Magnetism and electromagnetism<br>• refraction and differing mediums of permanent and induced magnets, and the Earth's magnetic field, using a compass<br>• magnetic effects of currents, how solenoids enhance the effect.<br>• Electromagnets in devices<br>• the generator effect and alternating current<br>• Transformers and their uses | Teachers will plan individual lessons dependent on the strengths and weaknesses of individual groups  |   |  |
|                               |                        | Substantive Knowledge  | <b>The What!</b>   |   |   |   |  |  |  |  |   |   |  |
|                               |                        | Disciplinary Knowledge   | <b>The How!</b>  |   |   |   |  |  |  |  |   |   |  |
|                               |                        | Sequencing (flow)  | <b>Retrieval &amp; Extension</b>   |   |   |   |  |  |  |  |   |   |  |
|                               |                        | Summative Assessment   |  |   |   |   |  |  |  |  |   |   |  |
| Personal Empowerment          | Virtue                 | Friendliness and Civility  | Justice & Truthfulness   | Courage   | Generosity  | Gratitude   | Good Speech  | Good Temper & Humour   | Self-Mastery   | Self-Mastery   | Compassion  | Good Sense  |  |
|                               | Link to Virtue         | The opportunity to reflect, think deeply and critically about an issue.  | Students will need to demonstrate friendliness and civility as they work in groups to complete a variety of different practical. They will need to demonstrate civility as they work towards a method to ensure they are civil with each other to achieve a common goal.   | Students will demonstrate truthfulness within their work as they reflect on their finding within an investigation. Students will look at the justice on each results and determine if they are reaching their full potential. | Within the lessons, students will need to have the courage to answer the questions with their learning. Students will need to demonstrate their understanding of the parts of the electromagnetic spectrum and understand the dangers of some of these waves linked to their individual properties. | Students will need to demonstrate generosity of as they work with groups and demonstrate their understanding of their learning. They will need to be generous with their time and comments towards each other | Student will demonstrate good speech within their lessons by demonstrating their key words within lessons and their work   | As students work within group they will need to demonstrate good temper as they work towards a practical to achieve the independent practice. Students will need to demonstrate good humour as they can work together and laugh as each other learn  | Students will need to demonstrate good humour as they complete the last sections of the physics course while also revising for their terminal exams  | Students will need to behave in an exemplary manner in lessons in order to investigate the properties of light waves.  | Students will need to aim high for their up and coming exams. Students will need to revise in their own time and ensure they are fully prepared for their GCSEs | Students will need to aim high for their up and coming exams. Students will need to revise in their own time and ensure they are fully prepared for their GCSEs |  |
| Preparation for Work          | Skill                  | Listening  | Leadership   | Problem-Solving   | Creativity  | Staying Positive  | Speaking   | Staying Positive   | Aiming High  | Aiming High  | Speaking  | Teamwork  |  |
|                               | Link to Skill          | Transferable Skills  | Students will need to listen to each other and be able to explain another students' opinion. Students will also need to be listen to the teacher to pull out consistency underlying themes or use of previous skills.  | Students will lead their learning to ensure they are secure in building on previous knowledge.  | Students will need to use their problem-solving skills to be able to draw conclusions from data.  | Students will need to be creative when using their notes to revise for the mock examinations and use active learning techniques.  | Students will need to stay positive as they learn new key words and definitions. Building on their previous knowledge  | Students will need to demonstrate good speaking when working with others and demonstrate what knowledge they understand and what they need help with in prepare.   | Students will be remaining positive during practical sessions and demonstrating perseverance to ensure that they complete all of the tasks set and providing evidence for the experiment   | Students will need to aim high for their up and coming exams. Students will need to revise in their own time and ensure they are fully prepared for their GCSEs  | Students will need to aim high for their up and coming exams. Students will need to revise in their own time and ensure they are fully prepared for their GCSEs | Students will need to aim high for their up and coming exams. Students will need to revise in their own time and ensure they are fully prepared for their GCSEs |  |
| Preparation for Citizenship   | SNASC & British Values | Link to SNASC & British Values   | Developing opinions on current issues  |   |   |   |  |  |  |  |   |   |  |

Cultural Transmission