**Year 7 Physics**

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| **Forces and Motion** | **Force types and diagrams** - studying the different ways that objects interact and represent this with diagrams  **Motion** - descriptions, calculations and graphs of moving objects |
| **Electricity and Magnetism** | **Static charge** - studying the behaviour of stationary charged particles.  **Magnetism**  - studying how objects or materials with magnetic poles behave |
| **Energy** | **Energy changes in systems** – Identifying the pathways and processes that shift energy between stores in real world situations |
| **Waves** | **Wave properties** - understanding the two types of waves and the key terms used to describe all waves  **Wave behaviour** – understanding how waves interact with other waves or objects  **Light waves** – applying knowledge about waves to mirrors, eyes and filters |
| **Matter** | **States of matter** - understanding the different ways atoms can be arranged |

**Year 8 Physics**

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| **Forces and Motion** | **Shape changes** - studying forces that change the shape of objects.  **Pressure** - understanding the effect that forces have on surfaces |
| **Electricity and Magnetism** | **Electromagnetism -** linking magnetism and electricity together  **Circuit problems** – calculating current and resistance |
| **Energy** | **Energy and temperature** - investigating how thermal energy is transferred and how to reduce thermal energy transfers. |
| **Waves** | **Sound waves** - studying how sound waves are produced how they travel, how they are detected and how they are used |
| **Matter** | **Heating matter** - understanding the effect that heating has on the temperature and state of an object |

**Year 9 Physics**

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| **Forces and Motion** | **Pressure** - understanding the effect that forces have on gases |
| **Electricity and Magnetism** | **Circuit electricity** - studying charged particles that move through wires and electrical components |
| **Energy** | **Energy resources** - investigating energy stores that are emptied to provide energy for electricity transport and heating  **Energy calculations** – calculating how much energy is in different stores and the rate at which it is shifted and how efficiently it is shifted. |
| **Waves** | Knowing that a wave is one way that energy can be shifted between stores |
| **Matter** | **Atomic structure** - studying what the atoms that make up everything are made of themselves  **Radioactivity**  - understanding the behaviour of unstable nuclei |

**Year 10 Physics**

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| **Forces and Motion** | **Forces and motion** - explaining changes in motion in terms of the forces that caused them. |
| **Electricity and Magnetism** | **Domestic electricity** - studying of how electricity gets to our homes and how we can use it safely. |
| **Energy** | **Energy in the home** - understanding energy in electrical appliances. |
| **Waves** | Sound waves in solid, liquids and gases. |
| **Matter** | **Gas Pressure** - explaining the behaviour of gas in terms of particles. |

**Year 11 Physics**

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| **Forces and Motion** | **Momentum** - studying the interaction between moving objects.  **Orbits** – explaining the orbits of planets and satellites |
| **Electricity and Magnetism** | **Electromagnetism** - studying the magnetic effects of moving charged particles |
| **Energy** | Energy stored in magnetic fields and energy transferred by waves |
| **Waves** | **Electromagnetic spectrum** - studying the electromagnetic spectrum its uses and dangers.  **Black body radiation** - understanding the link between hot objects and electromagnetic radiation. |
| **Matter** | **Nuclear Fission and Fusion** - studying what happens when nuclei are split up or joined together.  **Star formation** - understanding how stars are formed. |