

Big Question	Core concept(s)	End point
What is matter?	Matter	The world is made of matter and all matter is made of particles. The particle model can be used to explain how matter behaves. All matter is made of atoms which are made of smaller, sub atomic, particles.
Why do things move and change?	Force and energy	Changing the motion of an object requires a net force to be acting on it. Calculating the “energy” stored in a system allows us to make predictions about how much change is possible. This is because energy is always conserved but some energy is always dissipated into smaller and less useful stores.
How does information and energy spread?	Waves (and Energy)	Waves, including sound, water and electromagnetic waves transfer energy and information.
What is electricity and magnetism?	Electromagnetism	The movement of charge forms electric current and causes magnetic fields. We use electrical currents to power our society.
Where are we in space?	Space	The Earth is a tiny part of an unimaginably large universe. All mass in the universe attracts other mass with a gravitational force. We can use the idea of gravity to explain how

Space

Why do we orbit the Sun? How big is the Universe? How are stars made?

What are transformers? What will happen in the future? Why do objects float? What is momentum?

YEAR 11

Waves and Pressure

Forces and Motion

Molecules and matter

EM Waves

What is the generator effect? Are magnets useful? How can we use light? Why are EM waves useful? What is an electrical charge? Will energy run out? Can we work with energy and the environment? Why use wind and water for energy? Why do we need energy?

What is the nature of waves? Why is sound useful? What is the motor effect? Why is infrared important? How does the Sun provide energy? Why is ultrasonud? How can potential difference change? Is resistance useful? Why use a series circuit? Why use a parallel circuit? How can we stay safe? How are forces and motion linked? How can we analyse motion? Why are moments useful? What are nuclear fission and fusion? What is radioactive decay? How were atoms discovered? Why do particles change state? RP: Density

RP: Velocity and acceleration

RP: Forces and elasticity

RP: Waves

RP: Component characteristics

RP: PD and resistance

RP: Specific heat capacity

RP: Conduction

RP: Density

YEAR 10

Electric circuits

Electricity

Energy resources

How does current and charge linked? How are current and charge linked? How does the Sun provide energy? Why use wind and water for energy? Why do we need energy?

Conservation of energy and transfers

How can heat be transferred? What links energy and power? Why is energy said to be conserved? How is energy transferred between stores? Why use a parallel circuit? Should we use AC or DC? How do circuits transfer energy?

RP: PD and resistance

RP: Specific heat capacity

RP: Conduction

YEAR 9

Forces

How does the eye work? What is refraction? How do pin hole cameras work? Making images. What causes weight? How does a bridge support an objects weight? How does force effect a spring? How does a wire support an objects weight? Investigating moments of a force. How do we calculate weight? How does a floor support a weight? How do levers work? How do you calculate KE and GPE? How do you calculate KE and GPE? How does Gravity effect the solar system? What are days, months and years?

Brand new Scheme of Work for 2023

Moving by force

Space

How do parachutes work? What is acceleration? What do D-T graphs tell us? Why do we get seasons? Why does the night sky change? How do we see objects? Why are some objects coloured? Why are some objects reflective? Why do we get shadows? Why can we hear better underwater? Investigating friction? Why do things stop moving? Why are some objects stationary? How do we show forces? Why graphs are important? Why is measuring important? How do thermometers work? What is a thermal store? Why are some materials good conductors?

YEAR 8

Sound and Light

Heating and Cooling

Why do we get shadows? Why can we hear better underwater? Investigating friction? Why do things stop moving? Why are some objects stationary? How do we show forces? Why graphs are important? Why is measuring important? How do thermometers work? What is a thermal store? Why are some materials good conductors?

YEAR 7

Forces and Energy

Skills School

Why do moving objects heat up? What are the different stores of energy? How can we reduce friction? When do objects change their motion? What is a force? How should we use equipment? How do we stay safe in the lab?