KS3 Science Learning Journey

THE WINSFORD ACADEMY

Separate Science: Biology Chemistry Physics

Trilogy Science

Preparation for end of Key Stage Exams

YEAR 9

Genes
- Cell Division: What is Mitosis and Meiosis?

Earth
- Space: What's out there in space and the Universe.
- Chemistry of the Atmosphere: What is the composition of our atmosphere?

Ecosystems
- Ecology: What is Ecology?
- Field Work: How do we survey an environment?

Energy
- Energy stores and Energy Transfers: What is the difference and how are they transferred?

Waves
- Electromagnetic Spectrum: What is the electromagnetic spectrum?

Forces
- Forces: What are Newton's laws and how do we apply them?

Matter
- Structure and Bonding: How do elements join together to make compounds?
- Organic Chemistry: What are hydrocarbons and why are they so important to us?

Electricity
- Electrical Components: What does a diode, resistor, thermistor and light emitting diode do?

Organisms
- Microbiology: what is a microorganism?

Reactions
- Chemical Changes: What reactions will metals, acids and other compounds undertake?
- Periodic Table: How was it discovered?

Intervention

YEAR 8

Genes
- Evolution: How do organisms evolve?
- Inheritance: what role does genetic material have in inheritance?

Earth
- Climate: How are we changing the climate of our planet?
- Earth Resources: How do we use our planets resources. What is our impact on the planet?

Organisms
- Digestion: What are the stages of digestion?
- Breathing: How do we breath? Why do we breath?

Energy
- Work: What is work and how do we calculate it?
- Heating and Cooling: How is heat energy transferred?

Waves
- Wave Properties: why do we see different colors?
- Wave Effects: how do speakers work?

Forces
- Pressure: how do we calculate pressure in different circumstances?
- Contact Forces: how do different forces interact with one another?

Ecosystems
- Respiration: What is it and when do organisms do it?

Reactions
- Types of Reaction: what other types of reaction are there?

Matter
- Elements: chemistry of elements and how they make compounds.

Electricity
- Magnetism: how do magnetic and non magnetic materials behave?

Science Fair
- Human Reproduction: How humans reproduce and change from conception through to puberty.

YEAR 7

Genes
- Variation: how and why humans and animals vary

Ecosystems
- Interdependence: food chains and food webs. The impact of making a change to one part of a food chain.

Reactions
- Metals and Non Metals: Reactions of metals and non metals.
- Acids and Alkalis: how do acids and alkalis react?

Waves
- Light: How light behaves and travels
- Sound: how sounds are formed and how sound waves travel.

Earth
- Universe: The Earths position in space and the mechanism for day, night, months and years.
- Earth Structure: what does the Earth look like beneath our feet?

Energy
- Plant Reproduction: How d o plants reproduce?
- Energy Costs: how much does electricity cost to use?
- Energy Transfers: how energy is transformed from one form to another

Electricity
- Static Electricity: how electrons create static charges.
- Electricity: current, voltage and resistance. The construction of series and parallel circuits.

Organisms
- Cells: the structure of cells and how they form the building blocks of life!

Forces
- Gravity. Calculating weight and studying the effect of gravity on different objects.
- Speed. Calculating speed and interpreting distance time graphs

Matter
- Separating Mixtures: What separation techniques can be used to separate some simple mixtures.
- Particle Model: how particles are arranged in different states of matter and how this effects the behavior of different materials

Electricity
- Photosynthesis: how and why?
- Electromagnetism: how are electromagnets made and used?

Reactions
- Chemical Energy: simple reaction profiles.

Organisms
- Movement: what do our bones, muscles, ligaments and tendons do?

welcome