Science Learning Journey

A-Levels and KS5 -
Chemistry
Biology
Physics
Applied science
Animal care

Careers: Doctor, Nurse, Engineer, Vet, Paramedic, Researcher, Dentist, Teacher

AND MANY MORE!

YEAR 11

- What's our national grid?
- How do we measure the volume of an irregular object?
- What happens when substances change state?
- How can we investigate the stretching of a spring?
- What's the difference between a magnet and an electromagnet?
- What's crude oil and why do we need it?
- How has our earth's atmosphere changed?
- What factors affect living organisms?
- What's the menstrual cycle
- How are plants producers?
- Why do we recycle?
- How can we extract a metal?
- What cycles are important in our ecosystems?
- How do we control blood sugar level?
- How does water and sugar travel around a plant?
- Why do we not electrocute ourselves when we use plugs?
- How can we change what's going on in a circuit?
- What are the dangers of radiation?
- What is radiation and what different types are there?
- What makes up the EM spectrum?
- How does resistance affect a circuit?
- How can objects affect each other?
- What are the uses and dangers of the EM spectrum
- Why are calculations important in chemistry?
- What's the difference between an acid and a base?
- What's neutralization?

YEAR 10

- Careers sessions 3 – interview
- How can we measure speed and acceleration?
- What is velocity?
- Why are enzymes useful to us?
- How does the brain and spinal cord control our body?
- Why do we look the way we do?
- How can we obtain different breeds and varieties of animals and plants
- What are vector and scalar quantities?
- How would you describe a wave?
- 6 Analyzing data
- 5. Presenting scientific data in table form
- Guest speaker 4
- What is the difference between reflection and refraction?
- How do living things grow and repair themselves? ?
- What's DNA and why is it so important?
- How do we know what we evolved from?
- How do metals and non-metals bond together?
- How do non-metals bond together?
- Guest speaker 2
- What are the differences between non-renewable and renewable energy?
- What are the important properties of different groups on the periodic table?
- How do we turn atoms into ions?
- How do we make clean drinking water?
- What is the difference between aerobic and anaerobic respiration?
- How do substances move in and out of cells?
- What type of diseases can spread to other people?
- Careers sessions 1 – options
- How is energy stored and transferred?
- How do different factors affect the rate of reaction?
- 4. Presenting scientific data in graphical form
- Guest speaker 3
- 3. Thinking scientifically
- What makes up an atom?
- How can we separate mixtures?
- 2. Approaching and analyzing scientific investigations
- How are substances transported around our body?
- How can our body defend itself against disease?
- What type of diseases cannot spread to other people?
- Guest speaker 1
- Recap on core concepts of biology, chemistry and physics
- 1. Understanding applications and implications of science

Closing the gaps from year 7 & 8

YEAR 9

- What are the different types of rock and their uses?
- What happens when a substance changes state?
- How is energy transferred?
- What is our solar system?
- Careers sessions 2 – CV/cover letter
- 5. Presenting scientific data in table form
- Guest speaker 4
- 6 Analyzing data
- How do metals react?
- What happens to these rocks on earth?
- What are the properties of fluids?
- How do we keep our houses energy efficient?
- Careers sessions 3 – skills
- How is the earth magnetic?
- 4. Presenting scientific data in graphical form
- Guest speaker 3
- What properties make metals useful?
- How do plants reproduce?
- How does light move?
- How and why do we burn fuels?
- What did historic periodic tables look like?
- What are the differences between aerobic and anaerobic respiration?
- Careers sessions 1 – which career?
- How do we digest our food?
- What is a healthy diet?
- 3. Thinking scientifically
- Guest speaker 2
- 2. Approaching and analyzing scientific investigations
- 1. Understanding applications and implications of science
- Guest speaker 1
- How does a plant make its own food?
- What structures are involved in a plant?
- Careers sessions 2 –How do I know it's right?
- How do we see things?
- What global problems are caused by burning fuels?
- How do we classify elements now?
- How do we classify living things?
- How do organisms carry out successful gas exchange?

YEAR 8

- What are the differences between renewable and non-renewable resources?
- What changes do our bodies go through when we grow up?
- What is DNA and how did we discover it?
- What are acids and alkalis?
- How can we make new substances?
- Careers sessions 3 – physics careers
- How are sounds made?
- 4. Presenting scientific data in graphical form
- 5. Presenting scientific data in table form
- Guest speaker 4
- 6 Analyzing data
- What are the different types of forces that act on objects?
- How do organisms detect and use sound?
- How can we control an electrical circuit?
- What are the uses and dangers of electricity?
- How is new life created?
- **Early year development lessons** How does the brain develop throughout life?
- How do organisms adapt and survive?
- How do we neutralize an acid or alkali?
- Why can we classify some forces as balanced and some as unbalanced
- Guest speaker 3
- 3. Thinking scientifically
- Careers sessions 2 – chemistry careers
- How can we separate mixtures?
- What components allow humans to carry out gas exchange?
- What makes up living organisms?
- What are the different types of cells and what are their uses?
- How is energy stored and transferred?
- What is everything made up of?
- 2. Approaching and analyzing scientific investigations
- Guest speaker 2
- 1. Understanding applications and implications of science
- Guest speaker 1
- Careers sessions 1 – biology careers
- How do we make clean drinking water?
- How do particles move?
- How can we change state?
- What structures allow the human body to move?
- How can we view and understand cells?

YEAR 7

Closing the gaps from year 6