



YEAR 11 LEARNING JOURNEY INFORMATION

SCIENCE

Homeostasis Rate of reaction Forces



Autumn term 1

Variation, inheritance and evolution Organic chemistry, chemical analysis Forces in motion



Autumn term 2

Ecology Using resources Mock exams



Spring term 1

Knowledge: I will learn how homeostasis helps the body maintain stable internal conditions, including the regulation of blood glucose, body temperature and water levels. I will develop an understanding of rates of reaction, investigate how factors such as temperature, concentration, surface area and catalysts affect the speed of chemical reactions. I will also study forces, exploring how different forces act on objects, how they influence motion, and how to use calculations and graphs to describe and predict movement.

Skills: I will interpret graphs and data, calculate and analyse rates and speed, also draw tangents.

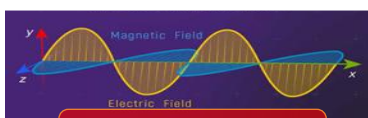
Knowledge: I will learn about genetic and environmental variation, DNA, genes, chromosomes, inheritance patterns and the process of evolution by natural selection. I will develop an understanding of organic chemistry and chemical analysis, including hydrocarbons, crude oil, polymers, chemical tests and techniques used to identify and separate substances. I will also study forces in motion, exploring speed, velocity, acceleration, stopping distances and the relationship between forces and movement.

Skills: I will develop skills in completing genetic crosses, evaluating scientific advice, interpret graphs, and apply my understanding of forces to explain factors that affect braking distance and motion.

Knowledge: I will develop skills in completing genetic crosses, evaluating scientific advice, describing and explaining practical methods and environmental impacts, interpreting graphs, and apply my understanding of forces to explain motion. I will prepare for and complete mock examinations, developing skills in recalling knowledge, applying scientific understanding, interpreting exam questions and using effective examination techniques.

Skills: I will Interpret and analyse graphs and data tables to draw conclusions, evaluate environmental impacts, and explain how factors such as quadrat direction and fertiliser leaching affect ecosystems.

Making a difference - reteach Waves and magnets SPACE (Triple science only)



Spring term 2

Knowledge: I will learn that waves transfer energy without transferring matter and be able to distinguish between transverse waves, where vibrations are perpendicular to the direction of travel, and longitudinal waves, where vibrations are parallel to the direction of travel. I will learn the key properties of waves, including amplitude, wavelength, frequency and wave speed, and how these affect wave behaviour. I will also learn how electromagnets are produced, the factors that affect their strength, and how changing variables such as the number of coil turns or current can alter the magnetic field.

Skills: I will develop skills in describing and comparing the properties of longitudinal and transverse waves, and in planning a valid scientific method to investigate how a chosen variable affects the strength of an electromagnet.

Targeted revision



Summer term 1

Knowledge: I will revise the fundamental concepts of biology, chemistry, and physics, including cell biology, atomic structure, energy, particle models, chemical reactions, and the organisation of living organisms. I will understand how scientific theories explain natural phenomena and how evidence is used to develop and evaluate scientific ideas. I will also learn to apply my knowledge to practical investigations, analyse data, solve mathematical problems, and explain processes occurring in the natural and physical world.

Skills: I will develop practical and analytical skills by following required practical methods, presenting and interpreting results using graphs, and analysing experimental data to identify patterns, draw conclusions and evaluate the quality of evidence.

External exams



Summer term 2

Good Luck

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