Curriculum plan: BTEC Science

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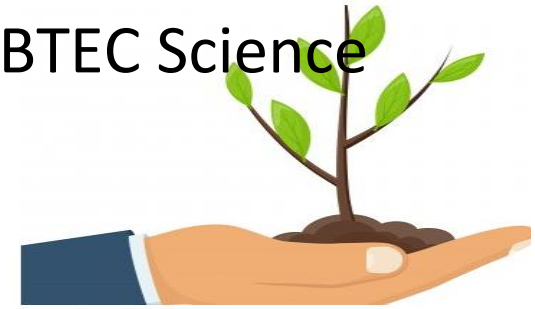
INTENT:



"Look deep into nature, and then you will understand everything better"

Albert Einstein

The intent of the science department is to convey to students that science underpins everything.

At The King's, we study:

- **Physics** to be able to understand the fundamental principles that govern all Energy and matter in the Universe. Physics gives us tools to understand nature from the scale of a sub-a-tomic particles up to the inter-galactic scale of the universe;
- **Chemistry** to be able to understand the nature of substances: how they are composed, their behaviors, and their physical and chemical properties. Chemistry allows us to identify unknown substances, monitor concentrations and synthesize new chemicals. Above all, chemistry is about finding solutions to the problems that concern us and our surroundings;
- **Biology** to be able to understand life and thereby understand ourselves. Biology allows us an understanding od the amazing complexity of many life processes and mechanisms. Biology encourages us to seek out reasons for strange, surprising and sometimes usual observations.

Science provides some incredibly challenging topics helping to gauge an awareness of topical issues and their impact on the climate, earth as well as human growth.

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Please click on the icons to access our online portal where you can learn more about each topic*

Half term points

	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
12	**Unit 1: Principles and Applications of Science** **Learning to include:** • **A** Periodicity and properties of elements • **B** Structure and functions of cells and tissues • **C** Waves in communication YouTube YouTube YouTube YouTube		**Unit 2: Practical Scientific Procedures and Techniques** **Learning to include:** • **A** Undertake titration and colorimetry to determine the concentration of solutions • **B** Undertake calorimetry to study cooling curves • **C** Undertake chromatographic techniques to identify components in mixtures • **D** Review personal development of scientific skills for laboratory work. YouTube YouTube YouTube YouTube YouTube			**Unit 1: Principles and Applications of Science** (Resit opportunity)

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	Half term points					
	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
13	**Unit 3: Science Investigation Skills** **Learning to include:** • **A** Planning a scientific investigation • **B** Data collection, processing and analysis/interpretation • **C** Drawing conclusions and evaluation • **D** Enzymes in action YouTube YouTube YouTube YouTube YouTube		**Unit 8: Physiology of Human Body Systems** **Learning to include:** • **A** Understand the impact of disorders of the musculoskeletal system and their associated corrective treatments • **B** Understand the impact of disorders on the physiology of the lymphatic system and the associated corrective treatments • **C** Explore the physiology of the digestive system and the use of corrective treatments for dietary-related diseases. YouTube YouTube YouTube YouTube			**Unit 3: Science Investigation Skills** (Resit opportunity)