Year 9								
ADVENT 1	**ADVENT 2**	**REVIEW OF LEARNING DIRT & Summative**	**LENT 1**	**LENT 2**	**REVIEW OF LEARNING DIRT & Summative**	**PENTECOST 1**	**PENTECOST 2**	**REVIEW OF LEARNING DIRT & Summative**
Unit Intent **Electromagnets** Describe how electromagnets form, and explore what determines the strength of electromagnets. **Pressure** Calculate pressure in solids, whilst qualitatively explaining pressure in liquids such as hydraulics. **Reactions of Metals and Acids** Compare the reactivity of various metals and metal carbonates when reacting with acids. **Inheritance** Describe the structure of DNA, determine the alleles that present from parents' genetic code.	**Unit Intent** **Space** Explain how gravity on different astronomical objects is linked to their mass, describe the life cycle of stars. **Environmental Chemistry** Understanding of causes of climate change through global warming and evaluate methods to reduce impact of human activity on the environment. **Healthy Lifestyles** Comparing the effects on human bodily systems of different diets and levels of activity including smoking and illegal narcotics.	**Assessments** EoU Electromagnets EoU Pressure EoU Metals & Acids EoU Inheritance EoU Space EoU Environment EoU Lifestyles Formative Assessment of 7, 8 and year 9 content so far.	**Unit Intent** **Fundamentals:** **Energy Stores and Systems** Describing and calculating energy stores in kinetic, gravitational potential, elastic potential, thermal, nuclear and chemical. **Atoms, Elements and Compounds Mixtures** Describing structure of an atom, identifying substances as elements, molecules and compounds. **Eukaryotic and Prokaryotic Cells Animal and Plant Cells** Microscopy Identify features and functions of cells. How to use microscopes.	**Unit Intent** **Fundamentals:** **Changes in Energy Energy Changes in Systems** Describe and calculate transfers of energy between stores (radiation, electrical, mechanical, and heating. **Models of Atom History of Atom Electron Configuration** Describe the discoveries and experiments that led to the current model of the atom. Draw the electron structure of the first 20 elements. **Specialisation and Differentiation** Describe adaptations cells must perform specific functions as specialist cells.	**Assessments** Formative assessment on fundamental content across key stage.	**Unit Intent** **Fundamentals:** **Efficiency & Power** Compare useful and wasteful energy transfers to determine efficiency and calculate rates of energy transfer. **Periodic Table Structure History of the Periodic Table** Develop understanding of periodic table structure and how it translates to wider chemical properties. **Cell Division Mitosis Stem Cells** Outline the stages involved in cell division. Description of stem cells and their uses.	**Unit Intent** **Fundamentals:** **National and Global Energy Resources** Compare and evaluate effectiveness and environmental impacts of different methods of generating electricity. **Group 1, 7 and 0 Properties.** Describe patterns of reactivity and general reactions linked with these groups. **Transport in Cells Diffusion Active Transport Osmosis** Determine how substances transport across membranes of cells based on concentrations of ions and water.	**Assessments** Summative Assessment reviewing fundamental content across key stage.

Examples of Catholic Social Teaching		
Space Exploration: ethical questions about the use of technology and the pursuit of peaceful exploration. **Healthy choices:** value of taking care of our bodies, which are temples of the Holy Spirit (1 Corinthians 6:19). Encouraging physical activity outdoors fosters a connection with nature and appreciation for God's creation.	**Cell Biology:** reinforces the inherent value and dignity of each human life. **Atomic Structure:** We share a common origin and are fundamentally made of the same "stuff." **Atomic Structure:** peaceful purposes (nuclear power) and destructive purposes (nuclear weapons). Understanding atomic structure allows for informed discussions about nuclear non-proliferation and promoting peace.	**Energy:** We all rely on the same fundamental processes for survival, creating a sense of shared community. **Energy:** We have a responsibility to future generations to ensure they have access to clean energy sources. Ethical considerations in genetic engineering and the potential impact on human dignity could be explored in cell biology.
Careers		
Physicist Astronomer Aerospace Engineer Mechanical Engineer Fitness Instructor Nutritionist	Geneticist Marine Biologist Energy Physicist Chemical Engineer Genetic Scientist Environmental Scientist	Microbiologist Geneticist Marine Biologist Energy Physicist Chemical Engineer Climatologist