St Richard Reynolds Catholic High School

SUBJECT: SCIENCE **YEAR GROUP: 8** **TOPICS COVERED** **Biology:** Food and digestion, Plants, Breathing **Chemistry:** Chemical reactions, Earth and atmosphere, Reactivity series and chemical equations **Physics:** Heat, Light, Sound	
PROGRAMME OF STUDY	**METHOD OF ASSESSMENT**
Autumn Term **Food and digestion:** Food groups, Balanced diet, Food test, Vitamins and minerals, Malnutrition, Obesity, Digestion, Villi, Enzymes, Bacteria in the gut **Heat:** Heat and temperature, Convection, Conduction, Radiation **Chemical reactions:** Difference between chemical reaction and physical change, Chemical reactions as rearrangement of atoms, Properties of metals and non-metals, Reactions of metals with oxygen, Reactions of metals with acids, Reactions of metal carbonates with acids, Reactions of metals with water, Thermal decomposition, Exothermic and endothermic reactions, The role of catalyst	Practical assessment End of topic test after each unit Assessed tasks/models/projects

Spring Term **Plants:** Plant cells and plant organs, The structure of the leaf, Testing for starch, Photosynthesis, The factors affecting photosynthesis, Stomata, Gas exchange in plants **Earth and atmosphere:** The composition of the atmosphere, The structure of the Earth, Igneous rocks, Metamorphic rocks, Sedimentary rocks, Rock cycle, Recycling, Carbon cycle, Global warming, Composites, Ceramics, Polymers **Light:** Type of waves, Superposition, Reflection, Refraction, Dispersion, Colours, The human eye	Practical assessment End of topic test after each unit Assessed tasks/models/projects

Summer Term **Breathing:** The structure of the breathing system, Lung structure and the role of alveoli, Measuring the volume of the lungs, Problems with breathing, Effect of smoking on lungs, Exercise and breathing, Aerobic and Anaerobic respiration Sound: Waves, Echo, Reflection and absorption of sound, ultrasound, The ear, Hearing problems, Sound and Light comparison Reactivity series and chemical equations: Properties of metals and their uses, Extraction of metals, Chemical formulae, Thermite reaction and extraction of iron, Electrolysis	Practical assessment End of topic test after each unit Assessed tasks/models/projects

Key Skills:

- Experimental work
- Collecting data
- Interpreting, analysing and evaluating data
- Research and hypothesising
- Predicting and concluding
- Evaluating