

**Our children are receptive, inquisitive learners who, through our Gospel values, have a unique sense of the world**

**Science Curriculum K&S at St. Teresa’s Catholic Academy – Year 3**

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|  |  | Biology  |  |  | Chemistry  |  |  | Physics  |  |  |
| Plants  | Animals, including humans  | Living things & habitats  | Evolution and inheritance  | Rocks  | Everyday materials  | Properties & changes of materials  | States of matter  | Light  | Sound  | Forces and magnets  | Seasonal changes  | Earth and space  | Electricity  |
| Yr 1  | X  | X  |   |   |   | X  |   |   |   |   |   | X  |   |   |
| Yr 2  | X  | X  | X  |   |   | X  |   |   |   |   |   |   |   |   |
| Yr 3  | X  | X  |   |   | X  |   |   |   | X  |   | X  |   |   |   |
| Yr 4  |   | X  | X  |   |   |   |   | X  |   | X  |   |   |   | X  |
| Yr 5  |   | X  | X  |   |   |   | X  |   |   |   | X  |   | X  |   |
| Yr 6  |   | X  | X  | X  |   |   |   |   | X  |   |   |   |   | X  |

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| NC objective  Pupils should be taught to:  |  |  | **Year 3**  |  |
| Skills  |  |  | Knowledge  |
| **PLANTS**  |  |  |  |  |

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|   | To identify and describe the functions of different parts of flowering plants, roots, stem/trunk, leaves and flowers.  | To be able to describe the different features of roots and explain that the root’s function is to anchor the plant in the soil and take in water and nutrients  To be able to explain how the stem supports the plant.  To be able to describe how the water travels in the stem.  To carry out a simple investigation to show water transportation in plants e.g. coloured water and flowers  To be able explain the way in which water is transported in plants.  To make detailed observations of the similarities and differences in a variety of leaves, and relate these to the function of leaves  To be able to identify the parts of flowers and describe the function of each part.  To make careful observations of parts of a flower.  To be able to name and label the parts of a flower.  To describe the functions of the different parts.  To compare different flowers.  | To know the purpose of a root is to absorb nutrients and water from the soil and to anchor the plant in the soil.  To know that there are different roots types.  To know how the stem supports the plants and allows transportation of nutrients and water to the flower.  To know that the leaves produce food trough photosynthesis.  To know that flowers produce seeds and nectar and are vital to the reproduction of the plant.  To know the different functions of the parts of a flower e.g. Stamen, carpel, bud, pollen.  |

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|  To explore the part that flowers play in the life cycle of a flowering plant, including pollination, seed formation and seed dispersal.  | To describe how pollen is transferred between flowers.  To explain why bees and pollination are important.  To explain what the different parts of the flower do.  To be able to describe the different dispersal methods.  To identify the characteristics for each method of dispersal.  To explain why seed dispersal is important.  | To know that pollen needs to be transferred from flower to flower and that bees play a vital role in that process.  To know the different methods of seed dispersal, how seeds are adapted for them.  To know why seeds need to be dispersed away from the parent plant.   |
|  To investigate the way in which water is transported within plants  | To carry out a simple investigation to show water transportation in plants e.g. coloured water and flowers  To record and interpret results.   | To know how water is transported in plants.  |
| **ANIMALS INCLUDING HUMANS**  |
| Identify that animals, including humans, need the right amount of nutrition, and that they cannot make their own food; they get nutrition form what food they eat  | To be able to explain that different food types give us different **nutrients**. Most foods contain more  | To know a human being’s basic needs, separating out those things that are necessary for immediate survival from  |

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|   | than one nutrient and some are much better sources of a particular nutrient than others.    | those that are necessary for longer term, healthy living.  To know that humans, like other animals, cannot make their own food. To know that they gain the **nutrition** they need from the **food** they eat. To know that it is important to eat the right type of food in the correct proportions in order to stay healthy.  To know and identify the main food groups : Protein, carbohydrates, dairy etc. To know that our bodies are made of 70% water   |
|  Identify that humans and some animals have skeletons and muscles for support, protection and movement.   | To be able to explain to the role of the skeleton for support, protection and movement. To understand that some bones offer protection; skull, ribs and backbone and that they protect the brain, heart, lungs and spinal cord.  To be able to name the main muscles e.g. quads, biceps, triceps, calf etc.  | To know that the skeleton is for support, protection and movement.  To know that muscles are needed for movement and to know the names of the triceps, biceps, gluteus Maximus, abdominal muscles and quads in particular.  |
| **ROCKS**  |
|  Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.  | To investigate different properties.  To be able name different properties of rocks using these differences.  | To understand that rocks have different properties in both appearance – colour and surface patterning; and structure – size, shape and any evidence of crystals.   |

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|  |  To observe and record the similarities and different properties of rocks.  To group rocks according to their properties.    | To understand that, although very different in appearance, all the samples are types of rock.  To know that rocks can be grouped according to their properties – hard, chalky, porous, colour and surface patterning; and structure – size, shape and any evidence of crystals   |
|  Describe in simple terms how fossils are formed when things that have lived are trapped within rock.  | To investigate how fossils are formed.  To sequence the stages of the process.  To draw a visual representation to communicate ideas.   | To understand that most of the creatures that fossils were formed from would have lived in the sea, died or been killed and dropped to the ocean floor, where layers of sediment built up on top of them over many centuries.  To know that the pressure of the rock building up over time would have caused the body of the creature to change and the remains became fossilised.  |
|  Recognise that soils are made from rocks and organic matter.  | To describe how the appearance of rocks changes over time.  To use a table to organise my results.  To suggest causes for the changes I have observed.   | To be able to explain that soils are made partly from rock that has broken down into smaller particles and describe some of the properties of different types of soils.  To understand that rocks are erode and damaged over time and the particles form different soil types  |
| **LIGHT**  |

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|  Recognise that they need light in order to see things and that dark is the absence of light.  | To investigate the effect on our ability to see objects in varying levels of light from different light sources.  | To know that you need to have a light source (such as the sun, a torch or a candle) in order to be able to see an object.  To know that it is harder to see in the absence of light.  |
| Notice that light is reflected from surfaces.   | To investigate the reflective quality of different materials.   | To know how light is reflected from surfaces and investigate how different surfaces reflect different amounts of light.  To know how to compare different materials on the basis of their ‘shininess’ and relate this to how they reflect the light.  |
| Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.   | To investigate and identify suitable materials to make sunglasses lenses with.  | To know that we need to protect our eyes from sunlight.  To know that different some materials provide better protection from UV light rays from the sun than others.  |
| Recognise that shadows are formed when the light from a light source is blocked by a solid object.  | To explain how the shadow is formed.  To investigate how shadows are formed by investigating different light sources and to draw shadows at different times over the course of a day.  | To know that shadows are formed by opaque objects blocking the light source.  To know that the position of the object, light source and shadow are all relative to each other  |
| Find patterns in the way that the size of shadows change.  | To be able to describe the relationship between the relative positions of the object and light source and the shadow created.  | To know that the position of the object, light source and shadow are all relative to each other,   |

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|  |  | To know that if an object is closer to the light source it will block more light and create a bigger shadow.  |
| **FORCES AND MAGNETS**  |
| Compare how things move on different surfaces.  | To able to demonstrate how the material affects the way an object moves across it.  To record results about how the surface affected the movement of the object across it.   | To know and understand how objects move on different surfaces.  |
| Notice that some forces need contact between two objects but magnetic forces can act at a distance  | To be able explain how the force of air pushes the windmill.  To plan and carry out a comparative test.  To be able to compare how the windmills move.  To interpret your results and draw simple conclusions.  To complete an investigation to answer the question ‘How strong is my magnet?  To use a ruler to take careful measurements.  | To know that the more force used the more effective the result.   To know that magnets have a force field.     |
| Observe how magnets attract or repel each other and attract some materials and not others.  | To know how to test a material to find out if it is magnetic.  To be able to group materials according to what I find out. To use results to draw simple conclusions about magnetic and non- magnetic materials.  | To recognise that some but not all metals are magnetic and that all nonmetals are not magnetic.  To know that different materials have different properties. To know the properties of magnetic and non- magnetic materials.  |
| Describe magnets as having two poles.  | To be able to describe the effect of bringing two poles.  To be able to use the scientific language attract and repel to describe a reaction  | To know that a magnet has two poles: north and south.  To know and correctly use the terms attract and repel.  |
| Predict whether two magnets will attract or repel each other, depending on which poles are facing.  | To be able to make accurate predictions.  To be able to test magnets to see if they attract each other.  To be able record my findings.  | To know the effect of bringing two poles together- north-north repel south –south repel and that opposites attract.  To know and correctly use the terms attract and repel.   |