**St Charles Catholic Primary School**
**Class 3 and 4 Medium Term Plan**

**Science Medium Term Plan**

| **The Human Body – Advent 1** | | | | | |
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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| 1. Cells and Nutrients | 2. Teeth and Senses | 3. Digestion | 4. A Healthy Diet | 5. Vitamins and Minerals | 6. Knowledge Organiser Assessments |
| **Learning Objectives** | | | | | |
| Cells are the building blocks of the human body and we need nutrition to keep our bodies working as they should.<br><br>**<u>Knowledge Goals</u>**<br>All living things are made up of cells, too small to be seen without a microscope. Our bodies require nutrients to keep healthy. Nutrients are found in the food we eat. | Identify the different types of teeth in humans and their simple functions.<br><br>**<u>Knowledge Goals</u>**<br>There are four main different types of teeth: incisors, canines, pre-molars and molars. Incisors cut, canines te ar, premolars crush, m olars grind food. Humans have teeth for ripping and for grinding because we are omnivores | To understand that our bodies digest our food.<br><br>**<u>Knowledge Goals</u>**<br>Digestion means breaking down the food we eat. Our bodies take things we need out of the food we eat. It is important to feed our bodies with healthy foods. | To know how food is digested and excreted.<br><br>**<u>Knowledge Goals</u>**<br>The stomach stirs up the food and mixes it with acid The intestines move the food around. The small intestine is a long coiled up tube that winds around inside your tummy. Whilst in the intestine, the nutrients are absorbed by the blood. | To know a healthy diet keeps our bodies healthy.<br><br>**<u>Knowledge Goals</u>**<br>Our diet should include lots of different types of food. Our diet needs to provide all the nutrients our bodies need. Sugars are already naturally produced in many foods, such as fruit. | Post Knowledge Assessments |

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| **Classification of Plants and Animals – Advent 2** | | | | | |
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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| 1. Introduction to classification | 2. Classes of vertebrates: Fish and Amphibians | 3. Classes of vertebrates: Reptiles, Birds and Mammals | 4. Classes of invertebrates: Insects, Arachnids and Molluscs | 5. Classification of plants | 6. Knowledge Organiser Assessments |
| **Learning Objectives** | | | | | |
| To understand that we can classify animals and plants<br><br>**Knowledge Goals**<br>A vertebrate is an animal with a backbone. An invertebrate is an animal without a back bone. Scientists sort living things using a process of classification. | I know that fish and amphibians are vertebrates<br><br>**Knowledge Goals**<br>Fish are cold-blooded vertebrates that live in water. Amphibians are coldblooded vertebrates that live both in water and on land. Fish have gills that help them to take oxygen from the water. rattlesnakes, cacti and tumbleweed. | To know some of the key features of reptiles, birds and mammals<br><br>**Knowledge Goals**<br>Reptiles are coldblooded vertebrates with scaly skin. Birds are warmblooded vertebrates that can fly. Mammals are hairy, warm blooded vertebrates that breathe air | To understand and describe key features of insects, arachnids and molluscs<br><br>**Knowledge Goals**<br>Insects are invertebrates, they have no backbone, six legs and three body parts Molluscs are invertebrates, they have no backbone and a soft body, some have shells. Arachnids are invertebrates, they have no backbone, eight legs and two body parts. | To know that plants can be classified into two main groups: flowering and nonflowering plants<br><br>**Knowledge Goals**<br>To know that a flowering plant produces flowers to make seed in order to reproduce To know that a nonflowering plant grows from spores instead of seeds. | Post Knowledge Assessments |
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| **Ecology – Lent 1** | | | | | |
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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| 1. Living Things and Habitats | 2. Natural Cycles | 3. Web of Living Things | 4. Air Pollution—A Human Threat to the Environment | 5. Ecology in our Local Areas | 6. Knowledge Organiser Assessments |
| **Learning Objectives** | | | | | |
| To know that living things depend on their habitats.<br><br>**Knowledge Goals**<br>There are seven life processes which living things all have in common. A habitat is the natural home or environment of an animal, plant, or other organism. Living things depend on each other within their habitat. | To understand that living things are linked within a food chain.<br><br>**Knowledge Goals**<br>A producer makes their own food using sunlight, water and nutrients. A consumer eats other living things to gain their energy. A decomposer breaks down the remains of dead living things into smaller pieces which leaves nutrients in the soil. | To know that living things depend on each other in an ecosystem.<br><br>**Knowledge Goals**<br>An ecosystem is the interaction of organisms in their environment. Every ecosystem is very delicately balanced, so if one organism is removed or a new one introduced it can have a negative impact on other organisms. Human beings are part of many eco | To understand that air pollution is a human threat to the environment.<br><br>**Knowledge Goals**<br>Pollution is any substance that is introduced into an environment that can damage or affect quality of life. Exhaust and smoke often contain harmful chemicals that pollute the air. Air pollution can damage ecosystems. | To know how humans have changed the environment in our local area.<br><br>**Knowledge Goals**<br>(insert as applicable to the change you are studying) | Post Knowledge Assessments |

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| **Sound - Lent 2** | | | | | |
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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| 1. What is sound? | 2. Speed of sound | 3. Qualities of sound—Pitch and Volume | 4. Human Voice | 5. Ears- How we Hear | 6. Knowledge Organiser Assessments |
| **Learning Objectives** | | | | | |
| To understand how sound is produced and how it travels.<br><br>**<u>Knowledge Goals</u>**<br>Sound is caused by a back and forth movement called vibration Sound waves move out from a vibrating object Sound can travel through different types of matter Sound is fainter further from the source | To know sound travels through the air.<br><br>**<u>Knowledge Goals</u>**<br>In warm air, sound travels at about 340 metres per second. The speed of sound in water is about four times faster than in air. There are jet aeroplanes that can travel as fast as sound. | To know the difference between pitch and volume.<br><br>**<u>Knowledge Goals</u>**<br>Loud sounds are made by big vibrations. More energy is needed to make louder sounds. Quiet sounds are made by small vibrations. More vibrations every second makes higher pitched sounds. | To understand how the human voice makes different sounds..<br><br>**<u>Knowledge Goals</u>**<br>When you sing a high note, your vocal cords vibrate very fast, hundreds of times a second. When you sing a low note, your vocal cords vibrate more slowly. Faster vibrations make a sound with a higher pitch. Slower vibrations make a sound with a lower pitch. The larynx is in the throat and | Vibrations in sound waves travel through the different parts of the ear.<br>**<u>Knowledge Goals</u>**<br>We hear sounds when sound waves enter our ear, travel through it and messages are sent to our brain. The structure of the ear includes ear drum, bones called the hammer, anvil, and stirrup, cochlea. Hairs inside the cochlea are connected to nerves that carry the signals to the brain. | Post Knowledge Assessments |

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| | | | the muscles vibrate<br>the vocal cords | | |

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| **States of Matter – Pentecost 1** | | | | | |
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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| 1. States of Matter | 2. Evaporation | 3. Condensation | 4. Precipitation | 5. The Water Cycle | 6. Knowledge Organiser Assessments |
| **Learning Objectives** | | | | | |
| To know that there are three main states of matter: solid, liquid and gas. | To know that evaporation occurs when water turns into gas. | To know that condensation occurs when water vapour turns into liquid water. (gas into water) | To know that precipitation returns water to the surface of the Earth. | To know how water changes state within the water cycle. | Post Knowledge Assessments |
| **Knowledge Goals** There are three states of matter that water can form: solids, liquids and gases. Water exists in these states of matter in nature. Water can change into each state in both directions, we | **Knowledge Goals** To know that water evaporates from all water sources (puddles, lakes, oceans even a cup). When water evaporates, it becomes water vapour. The amount of water in | **Knowledge Goals** To know that condensation is when water vapour turns back into liquid. High in the sky the air is cooler and turns vapour back into water droplets. There is always | **Knowledge Goals** Clouds are formed of millions of water droplets or ice particles if the air is very cold, their shape, size and colour can tell us what the weather will be like. When the | **Knowledge Goals** To know that water evaporates from all water sources (puddles, lakes, oceans even a cup). To know that condensation is when water vapour turns back into liquid. | |

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| call this the Water Cycle. | the air is called humidity. | water vapour in the air and the temperature changes its appearance. | water droplets get large enough, often in dark cumulonimbus or nimbostratus clouds they precipitate and fall as rain, sleet, hail or snow. Precipitation returns water to the surface of the earth within the water cycle. | Precipitation returns water to the surface of the earth within the water cycle | |

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| **Electricity – Pentecost 2** | | | | | |
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| **Week 1** | **Week 2** | **Week 3** | **Week 4** | **Week 5** | **Week 6** |
| 1. Electrical Safety | 2. Parts of a circuit | 3. Switches | 4. Thomas Edison and Lewis Latimer | 5. Investigating conductive and non-conductive materials | 6. Knowledge Organiser Assessments |
| **Learning Objectives** | | | | | |
| To know that electricity is useful, but it can also be very dangerous.<br><br>**<u>Knowledge Goals</u>**<br>Electricity can be very dangerous. We must use electricity safely to make sure it is not a danger to us. We can use electricity safely by; not putting fingers in plug sockets, not using electrical items with wet hands and checking that wires are not frayed. | To construct an electrical circuit.<br><br>**<u>Knowledge Goals</u>**<br>An electrical circuit is a loop that allows electricity to travel around it. An electrical circuit must have wires and a battery. If a circuit is broken, electricity will not be able to flow around it. | Switches open and close a circuit.<br><br>**<u>Knowledge Goals</u>**<br>A switch opens and closes a circuit. Opening a circuit prevents electricity from flowing. Sometimes we need to stop electricity from flowing for safety reasons, switches help to do this. | Thomas Edison invented the first lightbulb suitable to use in homes.<br><br>**<u>Knowledge Goals</u>**<br>Lewis Latimer invented a lightbulb that could last for a long time. A long time ago, electric lighting was used in streetlights before it was used in people's homes. | To identify materials that conduct electricity.<br><br>**<u>Knowledge Goals</u>**<br>Materials that allow electricity to pass through them are conductors. Materials that do not allow electricity to pass through them are insulators. Many, but not all metals conduct electricity. | Post Knowledge Assessments |