Sacred Heart Catholic Primary School

Year Five Science Learning Challenge (under review)

AUTUMN	AUTUMN	SPRING	SUMMER
UNIT: What's the Matter? **DRIVER: Science** **Wow beginning:** 'Are my new glasses fit for purpose?' **Wow ending:** Design and make my own jacket that is fit for purpose	**UNIT: Can you feel the force?** **DRIVER: Science** **Wow beginning:** Real-life skydive video clip **Wow ending:** Parachutes dropped from a height	**UNIT: How different will you be when you are as old as your grandparents?** **DRIVER: Science** **Wow beginning:** Ageify app **Wow ending:** 'How I've grown' presentation for KS1 children	**UNIT: Is there anybody out there?** **DRIVER: Science** **Wow beginning:** Making a group 'planet' model **Wow ending:** Planetarium / solar system 'rap'
Can you think of five materials that can be changed and reversed and five that cannot? How have scientists made use of changes to create materials that make our lives easier, eg, cling film? Which materials dissolve and evaporate and why can this sometimes be an important quality in those materials? How are reversible and irreversible changes important to forensic scientists? How could you solve a crime by using forensic evidence? What is bicarbonate of soda and what impact does it have on different materials? Working Scientifically: carry out tests to answer questions such as 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?'	What is friction and how does it affect moving objects? Why will a car always move faster than a boat? What is gravity and why is Isaac Newton linked to it? Can you design and make a parachute to help you understand more about air resistance? What floats your boat? Can you design, make and evaluate a structure that will propel a marble as far as possible? What helps you to climb hills on your bicycle? Working Scientifically: design and make a variety of parachutes and carrying out fair tests to determine which designs are the most effective. They might explore resistance in water by making and testing boats of different shapes. They might design and make artefacts that use simple levers, pulleys, gears and/or springs and explore their effects.	Choose a baby, themselves, a teenager, a young adult, their parents and their grandparents and create a chart to find out about what they can and cannot do? What can you now do that you couldn't do when you were a baby? Do we all have the same X Factor? What are the important things we should do to keep fit and healthy? Through drawing and painting, can you accurately sketch yourself and your grandparent? What is the life expectancy of different animals? Reflection: How would you wish to be remembered as you make your journey through life? Link to the text 'The Invisible Kingdom' Working Scientifically: compare data about the gestation periods of humans and other animals or find out and record the length and mass of a baby as it grows. Literacy Link: opportunities for reflective writing; explanation texts.	Could we describe the Earth and the Sun as space cousins? If the Earth and Sun are cousins, is the Moon a young nephew? Can you explain why we have day and night? How can we appreciate the distances between and the sizes of the Sun, Earth and Moon? What can we learn about the solar system and the other planets in it? Who was Neil Armstrong and what would you ask him if you met him? How could you create a moon surface and create a moon buggy? Reflection: Could you create a simulated moon landing and film it? Working Scientifically: compare the time of day at different places on the Earth through internet links and direct communication; create simple models of the solar system; construct simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day. Literacy Link: This topic provides opportunities for children to complete a fact file on a chosen planet. They could also complete a set of questions they would ask Neil Armstrong.
Resources Range of materials, beakers, tigtag video clips, bicarbonate soda	Resources Materials for building parachute (plastic bags, egg boxes, bubble wrap), tigtag online video clips, marbles	Resources Photographs to show changes (children can bring in from home), ipads – ageify app	Resources plasticine (for group planet models), tigtag