Corpus Christi Catholic Primary Year 4 Design and Technology Curriculum Overview			
	Autumn Topic	**Spring Topic**	**Summer Topic**
Topic	**Digital world:** **Mindful moments timer**	**Electrical Systems:** **Torches**	**Mechanical systems:** **Making a slingshot**
Skills to develop:	• Create a design criteria for an electronic timer based on analysis of existing products. • Apply an understanding of computer programming to instruct and control a Micro:bit to function as a timer. • Design, make and develop a prototype case for a mindful moment timer. • Design a logo for a mindfulness company using computer aided design.	• Explore electrical items and how they work. • Analyse and evaluate electrical products. • Design a torch which satisfies both the design and success criteria. • Assemble a torch which satisfies the success criteria.	• Build a car Chassis. • Design a shape that reduces air resistance. • Make a model based on a chosen design. • Assemble the panels of the body to the chassis correctly. • evaluate the speed of my design based on the understanding that some cars are faster than others as a result of: 1. Body shape 2. Stored energy in the elastic band 3. Accuracy of the angle in the chassis and axle
Key Learning/Sticky Knowledge	• To understand what variables are in programming. • To know some of the features of a Micro:bit.	• To understand that electrical conductors are materials which electricity can pass through.	• To understand that all moving things have kinetic energy. • To understand that kinetic energy is the energy that something

	• To know that an algorithm is a set of instructions to be followed by the computer. • To know that it is important to check my code for errors (bugs). • To know that a simulator can be used as a way of checking that your code works before installing it onto an electronic device.	• To understand that electrical insulators are materials which electricity cannot pass through. • To know that a battery contains stored electricity that can be used to power products. • To know that an electrical circuit must be complete for electricity to flow. • To know that a switch can be used to complete and break an electrical circuit.	(object/person) has by being in motion. • To know that air resistance is the level of drag on an object as it is forced through the air. • To understand that the shape of a moving object will affect how it moves due to air resistance.
Key Vocabulary	Research, advantage, disadvantage, criteria, design, ergonomic, timer, program, loop, coding, block Variable, pause, bug, debug, instructions, net, template, develop, join, assemble, test, form, function, prototype	Battery, bulb, buzzer, conductor, circuit, circuit, diagram, electricity, insulator, series circuit, switch Component, design, design criteria, diagram, evaluation, LED	Chassis, energy, kinetic, mechanism, air resistance Design, structure, graphics, research, model, template
Links to previous learning	Computing- Programming.		Science – Uses of everyday materials (Y2).
Cross Curricular Links	Computing- Design, write and debug programs that accomplish specific goals, including controlling or simulating physical systems Computing- Use search technologies effectively, appreciate how results are selected and ranked.	Science- Identify common appliances that run on electricity. Science- Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.	

		Science- Identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery.	