Hallam Fields Junior School - Curriculum Overview - DT

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	**Structures: Constructing a Castle –** Learning about the features of a castle, pupils design and make one of their own. Using configurations of handmade nets and recycled materials to make towers and turrets and constructing a stable base.	**Textiles: Cushions –** Pupils learn two new sewing skills: cross stitch and appliqué and then apply these to the design, decoration and assembly of their own cushions.		**Mechanical Systems: Pneumatic Toys –** Exploring how squashed air can be used to create movement within a mechanism and applying this to design and build a working pneumatic toy. Understanding that different diagrams have their own purpose and using different drawings as part of the design process.		**Food: Eating Seasonally –** Discovering when and where fruits and vegetables are grown and learning about seasonality in the UK. Pupils respond to a brief to design and make a vegetable tart.
Year 4	**Electrical: Torches –** Applying their scientific understanding of electrical circuits, pupils design and create a torch made from recycled and reclaimed materials and objects. They then evaluate their products against a set design criteria.	**Structures: Pavilions –** Exploring pavilion structures, learning what they are used for and investigating how to create strong and stable structures before designing and creating their own pavilions, complete with cladding.		**Food: Adapting a Recipe-** Evaluating existing biscuits recipes, children then work in groups to adapt a simple biscuit recipe to create a biscuit suited to a chosen target audience. They ensure that their creation comes within a given budget of overheads and ingredients.		**Mechanical Systems: Making a Slingshot Car –** Using lollipop sticks, wheels, dowels and straws to create a moving car. Pupils build a car chassis and design the body of the car, giving consideration to how the shape will affect the car's air resistance. They then construct and test their cars.
Year 5	**Structures: Bridges -** Learning about different types of bridges and exploring how the strength of structures can be affected by the shapes used within them. Pupils then create their own bridge and test its durability - using woodworking tools and techniques.	**Food: What Could Be Healthier?** Researching and modifying a traditional bolognese sauce recipe to improve the nutritional value before then cooking an adapted version and creating packaging that fits a given design criteria.		**Electrical: Doodlers –** Exploring series circuits and introducing motors. Pupils investigate existing products and use their problem-solving skills to establish how they think the products have been constructed, before then creating their own doodler.	**DT Link to Computing Unit using Crumble**: Programming A – Selection in Physical Computing.	**Textiles: Stuffed Toys** - Designing and making a stuffed toy. Pupils learn a new stitch - blanket stitch - which they use to join the fabric together for their toys, before creating and adding decoration.
Year 6	**Food: Come Dine with Me –** Researching and preparing a three-course meal and taste-testing and scoring their outcomes.	**Mechanical Systems: Making a Pop Up Book** - Creating a four-page pop-up story book design, incorporating a range of functional mechanisms that use levers, sliders, layers and spacers to give the illusion of movement through interaction.		**Textiles: Waistcoats -** Selecting fabrics, using templates, pinning, decorating and stitching materials together to create a waistcoat.	**DT Link to Computing Unit using Micro:Bit**: Programming B – Sensing.	**Electrical: Steady Hand Game** – Designing and creating a steady hand game, using nets to make the bases and applying knowledge of electrical circuits to build an operational circuit with a flashing bulb. .