CUSP Design Technology Mixed Year Group Progression Map

	Year 1/2 Cycle A	Year 1/2 Cycle B	Year 3/4 Cycle A	Year 3/4 Cycle B	Year 5/6 Cycle A	Year 5/6 Cycle B
AUTUMN	**Understanding Materials Block D** **How can you waterproof a hat?** Pupils will investigate materials to discover whether they absorb or resist water. Pupils will also use wax or oil crayons to create a waterproof coating for a paper hat which they have made by creasing and folding a sheet of paper.	**Mechanisms Block A** **How can you make a picture move?** Pupils will investigate how sliders work. They will design and make their own card slider product.	**Food and Nutrition Block A** **What's really in your food?** Pupils will explore the difference between freshly made food and mass-produced food. The unit will focus on common foods that are part of a healthy diet but are often bought pre□made and can contribute to poor physical and mental health.	**Textiles Block A** **How can you make a box out of cloth?** Pupils will explore ways to stiffen fabric. They will have the opportunity to cover a box with cloth and then go on to create a rigid box out of fabric.	**Structures Block D** **How strong is a piece of spaghetti?** Pupils will test the strength of spaghetti and then apply what they have learned to construct a tower that is at least one metre tall.	**Systems Block B** **How can we keep ourselves safe on the road?** Pupils will draw on the knowledge they have learnt so far to design and make a road safety belt. Pupils will write a simple program for a micro:bit and evaluate their outcome against the design brief.
SPRING	**Food and Nutrition Block E** **How healthy is your food?** Pupils will learn how foods that are pre-made and processed can often be unhealthy. This block lets pupils practise skills and make food that will help improve their energy, mood and future health.	**Food and Nutrition Block C** **How does food affect your senses?** Pupils will learn that eating is a sensory experience. They will learn about the nutritional value of vegetables and why colourful food can be better for you. They will use a range of culinary techniques to create and modify dishes that appeal to the senses.	**Structures Block D** **Which shape will give a structure stability?** Pupils will explore which shapes can be used to provide stability in structures. They will use a range of materials to investigate 3D shapes and in Lesson 3 they will collaborate on a class geodesic dome structure	**Mechanisms Block C** **How can you do a lot of work with little effort?** Pupils will investigate various linkages and levers to design and make their own linkages and levers product. Pupils will select and use a variety of modelling materials to create their final outcomes.	**Electrical Systems Block E** **Can switches perform more than one function?** Pupils will learn how switches can be combined with electrical components in different ways to change the functionality of a product.	**Food and Nutrition Block D** **What can you learn from different cultures' diets?** Pupils will look to different countries to see what can be learnt from different cultures. The recipes chosen showcase how certain foods can contribute to good health and wellbeing. Pupils will also learn how modern British food represents an eclectic mix of cultures.
SUMMER	**Structures Block F** **How strong is a piece of paper?** Pupils will learn how wheels and axles work together. They will build simple wheel mechanisms. They will explore how the size of the wheel and position of the axles affects the movement of simple vehicles.	**Textiles Block E** **How can two squares of fabric keep you warm?** Pupils will learn how to sew pieces of fabric together to form a pouch. They will be able to name the parts of a needle and may be able to thread it.	**Electrical Systems Block E** **How useful are switches?** Pupils will learn how different types of switches work within electrical circuits and how these can be used to perform a function in a product.	**Systems – Block E** **How are things powered?** Pupils will look at different types of energy and how these can be used to power different devices. They will consider how design choices are influenced by energy sources.	**Textiles Block F** **How can you reduce, recycle and repurpose?** Pupils will learn how they can reduce waste by recycling and repurposing snack packets and plastic bags into useful items.	**Mechanisms Block F** **How can you lift a car onto a roof?** Pupils will investigate how pulleys and gears work. They will design and make their own pulleys and gears products, selecting and using a variety of modelling materials to create final outcomes.