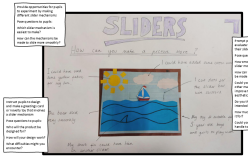
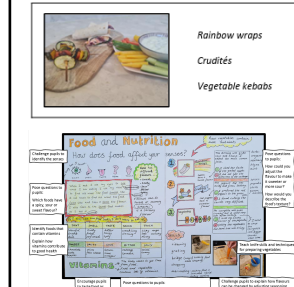
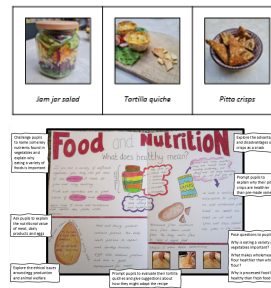
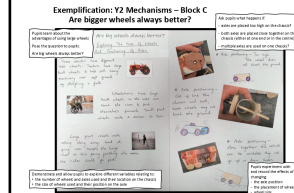
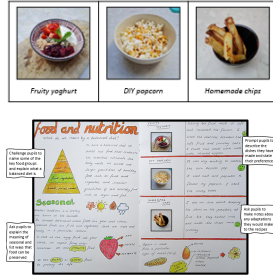
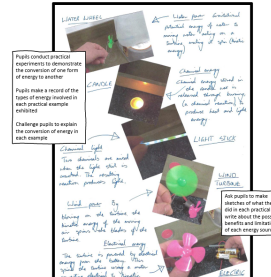
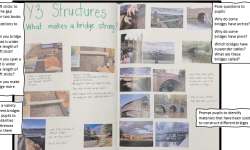
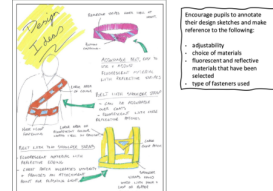
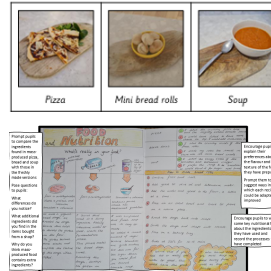
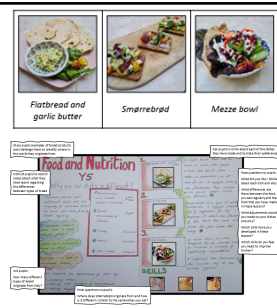
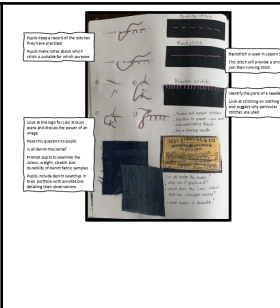
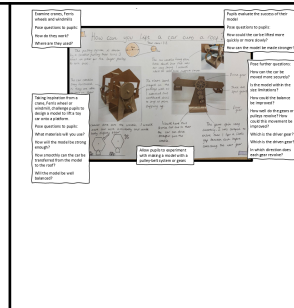
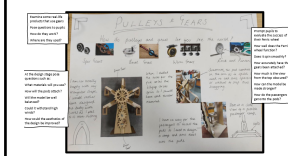
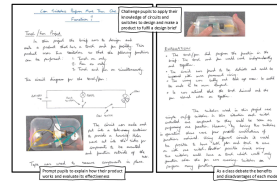
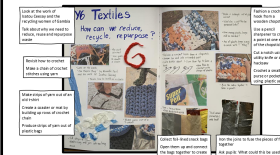
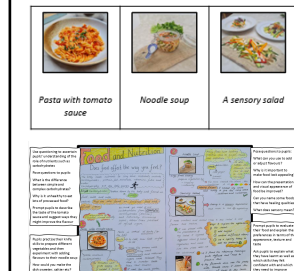


CUSP Design and Technology – Core Content and Expectation

Core Content	Autumn	Spring	Summer
Year 1	Mechanisms	Structures	Food + Nutrition
	Sliders and levers How can you make a picture move? (Block A) 	Freestanding structures How can you stop a tower from toppling over? (Block B) 	Vitamins in food Why are vegetables the best? (Block F) 
Year 1 Expectations	- Know common uses of sliders - Know different methods to create card slides - Know how sliders can create simple mechanisms - Be able to design and make a slider product - Be able to evaluate the success of their outcomes and recommend improvements	- Know a freestanding structure is a structure that stands on its own foundation or base without attachment to anything else - Be able to build structures that are freestanding using a range of different materials	- Know the importance of including a range of vegetables in a diet - Be able to peel, grate, season and breadcrumb a range of vegetables
Year 2	Textiles	Food + Nutrition	Mechanisms
	Stiffening and strengthening fabric How can you make a box out of cloth? (Block A) 	Processed food How healthy is your food? (Block E) 	Axels and wheels Are bigger wheels always better? (Block C) 
Year 2 Expectations	- Know how to cut out shapes with have been created by using a template - Know how to use a range of basic sewing skills - Be able to use a template to transfer a pattern	- Know the difference between fresh food and ultra-processed foods - Be able to shape and form ingredients to make delicious food - Be able to suggest appropriate energy sources for design problems	- Know how wheels and axles work together - Know how the size and position of wheels affects how they move - Be able to design and make simplistic lever and linkage products - Be able to evaluate the success of outcomes and recommend improvements
Year 3	Food + Nutrition	Systems	Structures

	Food and Nutrition How does food affect your body and mind? (Block D)		Power How are things powered? (Block E)		Spanning gaps What makes a bridge strong? (Block F)	
Year 3 Expectations	- Know food can help body and mind - Know how to prepare and cook a range of vegetables - Be able to peel and grate a range of vegetables - Be able to add flavour and texture to foods	- Know different types of energy - Know why designers need to carefully consider energy sources - Be able to identify how things are powered - Be ables to suggest appropriate energy sources for design problems	- Know bridges are structures that allow people and vehicles to cross over an open space - Know towers, piers and arches provide strength to a bridge - Be able to design and build a beam bridge that can hold the weight of 100 pennies - Be ables to identify and name parts of a bridge			
Year 4	Systems Systems Design and make a road safety belt. Block B		Food and Nutrition Food & Nutrition Exploring healthy food from different countries Block A		Structures Structures Frames – strengthening bridges Block E	
Year 4 Expectations	- Know technology can be used to program and control a product - Be able to combine elements of their design knowledge to fulfil a brief	- Know that cheap processed food often contains additives, salt and sugar, which makes it less healthy than unprocessed food - Be able to peel, grate and chop vegetables to make economical, tasty and healthy food	- Know Triangles provide stability in a structure - Know structural engineers work with architects to ensure structures withstand forces - To be able to Make triangles to form and join trusses - To be able to i dentify the forces that affect structures			
Year 5	Food + Nutrition	Textiles	Mechanisms			

	Food and Nutrition Learn from different cultures' diets Block D 	Textiles How fabric is ideal for creating a functional and hard wearing lunch bag. Block C 	Mechanisms Exploring how you can lift a car onto a roof Block F. 	
Year 5 Expectations	• Know some foods and key ingredients from other cultures • Know how other cultures' food can be nutritious • Be able to make, roll and cook a flatbread • Be able to prepare a range of vegetables • Be able to present foods to a high standard	• To know how to waterproof cotton fabric • To know which fabrics are both functional and hardwearing • To be able to use beeswax to waterproof cotton fabric • To be able to repurpose a pair of jeans	• To know types of gears and terminology relating to gears • To know common uses of pulleys and gears • To know how pulleys and gears can change the direction of movement • To be able to design and make products that use pulleys and gears to lift loads • To be able to evaluate the success of their outcomes and recommend improvements	
Year 6	Mechanisms Mechanisms Pully systems and gears - make a model Ferris wheel Block B 	Systems Electrical System (linked with Science unit) Block E 	Textiles Textiles Repurposing recycled materials Block F 	Food + Nutrition Food & Nutrition The difference between slow release and quick release carbs Block C 
Year 6 Expectations	• To know types of pulley systems and gears • To know common uses of pulleys and gears • To know how pulleys and gears can create simple mechanisms and change direction of movement • to be able to Design and make a model Ferris wheel powered by gears • To be able to evaluate the success of their outcomes and	• To know more than one switch can be used to change the functionality of a product • To be able to use switches to adapt a product in response to a design brief	• To know plastic waste can be recycled and repurposed into practical, useful items • To be able to make a crochet hook out of a chopstick • To be able to use plastic bags and snack packets to create practical items	• To know the difference between slow release and quick release carbohydrates • To know how food can improve their mood and energy levels • To be able to dice, slice, peel, grate and cook a range of vegetables • To be able to make a sauce and a stock Use height and colour to improve the visual appeal of food

	<i>recommend improvements</i>			
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Skills Mapping:

Year Group	Food & Nutrition	Mechanisms	Structures	Textiles	Systems
Year 1	Summer	Autumn	Spring		
Year 2	Spring	Summer		Autumn	
Year 3	Autumn		Summer		Spring
Year 4	Spring		Summer		Autumn
Year 5	Autumn	Summer		Spring	
Year 6	Summer	Autumn		Spring	Autumn (Science)
Total units	6	4	3	3	3

Subject content

Key stage 1

Pupils should be taught:

to use a range of materials creatively to design and make products

to use drawing, painting and sculpture to develop and share their ideas, experiences and imagination

to develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space

about the work of a range of artists, craft makers and designers, describing the differences and similarities between different practices and disciplines, and making links to their own work.

Key stage 2

Pupils should be taught to develop their techniques, including their control and their use of materials, with creativity, experimentation and an increasing awareness of different kinds of art, craft and design.

Pupils should be taught:

to create sketch books to record their observations and use them to review and revisit ideas

to improve their mastery of art and design techniques, including drawing, painting and sculpture with a range of materials [for example, pencil, charcoal, paint, clay]

about great artists, architects and designers in history.

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