DT Knowledge Progression Framework

Disciplinary Knowledge

	F2	Year 1	Year 2	Year 3
Designing	• Explore and use a range of resources and effects to express their ideas and feelings. • Communicate ideas both verbally and through simple drawings.	• Use their own ideas to design a product. • Describe how their own ideas work. • Draw simple designs, labelling key parts of their product.	• Understand and explain the purpose of their product. • Draw simple designs, labelling key parts of their product and the tools and materials they will use to make it. • Explain why they have chosen specific materials/ingredients to use.	• Consider the audience and purpose of products they design. • Prove that their design meets a set design brief. • Draw labelled designs which detail material choices and the suitability of them.
Making	• Explore and use a range of resources and effects to express their ideas and feelings. • Use small tools safely and competently. • Develop their fine motor skills when using a range of small tools to shape, assemble, join and finish.	• Use a range of tools safely. • Use their own ideas to make a product. • Use simple templates. • Assemble and join different materials using a variety of methods. • Use simple finishing techniques modelled by the teacher.	• Select and use tools carefully, explaining why you have chosen them. • Use simple templates to ensure materials are of uniform size. • Select the most appropriate method to join materials together when making simple products. • Use simple sewing techniques. • Use a range of finishing techniques to improve the appearance of a product.	• Follow a step-by-step plan choosing the most appropriate equipment, materials and tools. • Work accurately to measure, make cuts and make holes. • Select their own finishing technique using a range of equipment including ICT.

Evaluating	• Share their creations. • Begin to talk about the process they have used and changes made during this process.	• Describe how something works. • Explain what they like and dislike about existing products. • Explain what they like and dislike in their own models and products. • Begin to explain what works well in their products.	• Explain what works well and not so well in existing products as well as their own. • Simply explain what they might change/how they improve their product if they made it again.	• Explain how a finished product could be improved. • Understand why a model or product has or has not been successful.
Technical Knowledge	• Explore what products are, how they are used and how they work.	• Explore ways to make a model stronger. • Explore ways to make a model move.	• Explain which product would be stronger and more stable from a given selection. • Know what a simple mechanism is and understand that it creates movement.	• Understand how mechanisms create movement. • Select the most appropriate mechanism to use when making a product.

Food Technology	• Use small tools safely, including cutlery. • Explore some of the process involved in food preparation. • Understand that fruits and vegetables are grown.	• Know where fruit and vegetables come from. • Understand how to handle and prepare food safely and hygienically.	• Follow basic food handling and hygiene principles when preparing food. • Develop an awareness of what makes a healthy balanced diet.	• Weigh out ingredients to use in a recipe. • Know when food is ready for harvesting. • Demonstrate hygienic food preparation and handling.

Substantive Knowledge

	Year 1	Year 2

Food (Cooking and Nutrition)	• Know that food comes from plants and animals.
	• Know that different fruits and vegetables come from different types of plants.
	• Know that fruits and vegetables are edible parts of a plant.
	• Know that vegetables can grow above or below ground.
	• Know that fruits have seeds and vegetables do not.
	• Know that blenders are used to mix ingredients together into a smooth liquid.
	• Know that the 'bridge' method can be used to cut food safely.
		• Know that a 'diet' refers to the food and drink that a person or animal usually eats.
		• Know what the 5 main food groups are
		  ○ Carbohydrates
		  ○ Fruits and Vegetables
		  ○ Proteins
		  ○ Dairy
		  ○ Foods high in fat/sugar
		• Know that we should eat the correct amount of a range of foods to maintain a balanced diet.
		• Know that ingredients are the items in a mixture or recipe.
		• Know that different foods provide our bodies with different nutrients.

Structures	• Know that a structure is something which has been made and put together. • Know that the shape of materials can be changed to improve a structure's strength and stiffness. • Begin to know that different structures can be used for different purposes. • Know that cylindrical shapes are a strong type of structure.	• Know that a structure can be made from different parts. • Know that shapes and structures with wider and flatter bases/legs are the most stable. • Know that the shape of a structure affects its strength. • Know that a stable structure has been fixed and is unlikely to change or move. • Know that strong and stable structures do not easily break or bend.

Textiles	• Know that 'joining' means connecting 2 pieces of material together.
	• Know that there are different methods of joining fabric.
	  ○ staples
	  ○ glue
	  ○ pins
	• Know that a template can be used to cut out the same shape multiple times.
		• Know that sewing is a method of joining fabric.
		• Know how to perform a running stitch.
		• Know that it is important to tie a knot after the final stitch to secure the sewing.
		• Know that templates can be used to ensure materials are cut to the same size.

Mechanisms	• Know that a mechanism is a moving part of a product.	• Know that a mechanism is a collection of moving parts that work together to produce movement.

	• Know that a slider mechanism moves an object from side to side.
	• Know that a slider mechanism has:
	  ○ a slider
	  ○ slots
	  ○ guides
	  ○ an object
	• Know that bridges and guides are bits of card which restrict the movement of a slider.
		• Know that there is an input and output in a mechanism.
		• Know that a lever turns around a pivot.
		• Know that a pivot is the point around which a lever moves.
		• Know that linkages are made from connected levers that transfer movement.
		• Know that changing the length or position of a lever/linkage can affect the movement produced.
		• Know that mechanisms can change the direction or type of movement.

Key Vocabulary

F2
blade – the sharp part of a knife which is used to cut **chop –** to cut food into smaller pieces using a knife **chopping board –** a board used for cutting foods **handle –** the part of a knife that you hold **join/fix –** to fasten 2 items together **knife –** a tool used for cutting, slicing and chopping **mix –** to put different things together so they become one **safely –** working carefully to avoid harm **taste –** to recognise the flavour of a food by eating it **threading –** to pass thread through a hole or slit **weaving –** to pass thread or strips over and under each other
Year 1
In addition to F2… **blender –** a machine which mixes ingredients together into a smooth liquid **design –** a plan of something you intend to make (often a drawing). **evaluate –** to reflect on whether a product meets the original design brief or could have been improved **fabric –** cloth or material made by knitting or weaving fibres **flavour –** the way something tastes **fruit – a** part of a plant containing seeds which can be eaten **glove puppet –** a puppet which fits over the hand so your fingers can operate its head and arms **healthy –** foods which are high in nutrients and low in fats/sugars **ingredients –** the items needed to make a food dish **mechanism –** the part of a product that creates movement **net –** what a 3D shape would look like if it was opened up and laid flat **nutrients** – Substances in foods which living things need to make energy, develop and grow **purpose –** how the product is going to be used **recipe –** a list of ingredients and instructions to make a food dish **seed –** a small part of a plant from which new plants can grow **sliders –** a strong bar which moves forwards and backwards in a straight line **smoothie –** a combination of fruit and vegetables blended together to make a smooth drink **stable/strong –** something which stays standing when weight or force is put on it

structure – a building or object made from more than one part
template – a piece of card/paper in the shape of your final product which is placed on the fabric and cut around
test – a trial to see if a product means a design brief and is fit for purpose
vegetable – a part of a plant which can be eaten
vine – plants with long stems which climb up walls or lie on the ground
weak – something which is likely to fall or break when weight or force is put on it

Year 2

In addition to F2 and Y1…

appearance – what a product looks like
balanced diet – eating a variety of foods from all 5 food groups
carbohydrates – foods which give our body its main source of energy (eg: bread, potatoes, pasta)
design brief – a list of what a product must have/do
diet – the food that a person eats
fats/sugars – foods which give us a short burst of energy
grate – to shred food into smaller pieces using a grater
man-made – things which have been made by humans
natural – things which have been made as a result of nature
needle – a thin piece of metal with a point which has an eye at one end for a piece of thread to pass through
peel – to remove the skin from a fruit or vegetable
proteins – foods which help our body to repair itself and build muscles (eg: fish, meat, beans, nuts)
running stitch – a line of evenly spaced stitches which go straight along a piece of fabric without overlapping
sew – to join 2 pieces of fabric with stitches
thread – a long thin strand of cotton
slider mechanism-moves an object from side to side.