Design and Technology Knowledge Progression Map - Cycle A

The learning journey for Design Technology begins in The Early Years with statements from the 2021 Development Matters are prerequisite skills for the DT curriculum. I
The most relevant statements for DT are taken from the Physical development and Expressive Art and Design areas of learning. In our Early Years we understand the importance of 'the unique child' and therefore understand that children will take individual journeys to reach these goals. Adults are aware of the journey that children in our Early Years embark on and use assessment of the children and in the moment planning to identify their next steps and ensure progression for each individual child.

You may hear:	Vocabulary
"I wonder why..." "What if..." "How could we..." "What do you think..." "What can you...? "Tell me about..." "What might happen if..." "How can we find out about..." "How could we decide..."	fruit vegetables safety knife blade tool edge handle chop slice cut saucepan blender chopping board hob boil blend mix packaging recyclable metal plastic reusable join stick cut bend slot scissors measure materials fix thread weave pattern sew sewing needle embroider design evaluate waterproof absorb prediction variable experiment investigation float sink junk

Rising 3's	Autumn	Spring	Summer
		Themes: Nursery Rhymes Where Do You Like to Shop?	Themes: Bears, bears, bears! What lives in the garden?
		Explore materials with different properties. Explore materials with different properties. Explore natural materials, indoors and outside	Explore different materials, using all their senses to investigate them Use their imagination as they consider what they can do with different materials. Make simple models, which express their ideas
Nursery	**Autumn**	**Spring**	**Summer**
	Themes: Would You like to Snuggle up with a book? What is your favourite toy?	Nursery Rhymes Where Do You Like to Shop?	Themes: Bears, bears, bears! What lives in the garden?

	Describes an object by its size, shape or colour Select shapes appropriately: flat surfaces for building Combine shapes to make new ones – an arch, a bigger triangle etc. Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. Make simple models.	Explore collections of materials with similar and/or different properties Explore collections of materials with similar and/or different properties.	Use one-handed tools and equipment, for example, making snips in paper with scissors. Explore different materials freely, in order to develop their ideas about how to use them and what to make. Develop their own ideas and then decide which materials to use to express them. Join different materials and explore different textures.
Rec	**Autumn**	**Spring**	**Summer**
	Themes: What makes me special? Who lives in the woods?	Themes; Do you like gravy on your ice-cream? Is there room on the bus?	Themes: Who put the colours in the rainbow? To Infinity and beyond!
	To know how to work safely and hygienically To use some cooking techniques (spreading, cutting) Make healthy choices about food Use one-handed tools and equipment. To explore different techniques for joining materials To share their creations To explore different techniques for joining materials	To know how to work safely and hygienically To identify and name healthy foods To understand the importance of healthy food choices To learn where food comes from To experiment with different mark making tools such as art pencils, pastels, chalk To explore different techniques for joining materials (Glue Stick, PVA, Masking Tape, Tape)	To plan what they are going to make (cooking, wood work, construction, junk modelling) To draw more detailed pictures of people and objects To manipulate materials To create observational drawings To know how to work safely and hygienically To use some cooking techniques (spreading, cutting, threading, coring, mixing, grating, adding flavours)

	Develop their small motor skills so that they can use a range of tools competently, safely and confidently. To work with different shapes to make their own collages To use some cooking techniques (spreading, cutting, threading, coring) –	To use some cooking techniques (spreading, cutting, threading, coring, mixing) Sandwiches, Fruit Kebabs To know the name of tools. To use natural objects to make a piece of art To share creations and talk about the process To make props and costumes for different role play scenario linked to traditional tales To know how to work safely and hygienically	To share creations, talk about process and evaluate their work To invent their own narratives, making costumes and resources To explore different techniques for joining materials (Glue Stick, PVA, Masking Tape, Tape, Split Pins)
KSI Year 1/2	**Autumn**	**Spring**	**Summer**
	Theme: Textiles (How can you repurpose an item of clothing?) **Food and Nutrition** (What does healthy mean?)	**Theme: Mechanisms** (Are bigger wheels always better?) **Understanding Materials** (How can you waterproof a hat?)	**Theme: Food and Nutrition** (How healthy is your food?) **Structures** (How strong is a piece of paper?)
	National Curriculum Links: **Cooking and Nutrition** Understand where food comes from Use the basic principles of a healthy and varied diet ***Design***	**National Curriculum Links:** ***Design*** Design purposeful, functional, appealing products for themselves and other users based on design criteria ***Make*** Select from and use a wide range of materials and components, including construction materials, according to their characteristics	**National Curriculum Links:** ***Cooking and Nutrition*** Understand where food comes from Use the basic principles of a healthy and varied diet ***Design*** Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-

	Design purposeful, functional, appealing products for themselves and other users based on design criteria Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology ***Make*** Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Select from and use a wide range of materials and components, including construction materials, according to their characteristics ***Evaluate*** Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria ***Technical Knowledge*** Build structures, exploring how they can be made stronger, stiffer and more stable Explore and use mechanisms (for example, levers, sliders, wheels and axles) in their products	Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] ***Evaluate*** Explore and evaluate a range of existing products Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria **Substantive Knowledge** To know how wheels and axles work together To know that the size and position of wheels affects how they move To know materials can be modified to become waterproof To know origami comes from the Japanese words: ori – folding and kami – paper **Disciplinary Knowledge:** To be able to create a simple wheel mechanism To use wheel mechanisms to propel a simple vehicle To be able to make paper waterproof To be able to transform flat paper by folding and creasing to form a hat **Wider Curriculum Links:**	ups and, where appropriate, information and communication technology ***Make*** Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] Select from and use a wide range of materials and components, including construction materials, according to their characteristics ***Evaluate*** Explore and evaluate a range of existing products Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria **Substantive Knowledge** To know the difference between fresh food and ultra-processed foods To know paper becomes stronger when it is folded To know a load is the amount of weight a structure must carry **Disciplinary Knowledge:** To be able to shape and form ingredients to make delicious food

	Substantive Knowledge To know how to cut out shapes which have been created by using a template To know how to use a range of basic sewing skills To know why vegetables are so important to our health To know what processed foods are **Disciplinary Knowledge:** To be able to use a template to transfer a pattern To be able to cut out and join fabric shapes using a template To be able to prepare a range of salad vegetables To be able to shape and season a bread snack **Wider Curriculum Links:** **Science:** Animals Inc. Humans **Literature:** The Quilt by Valériane Leblond The All-Together Quilt by Lizzy Rockwell The Quiltmaker's Gift by Jeff Brumbeau How Your Body Works by Rosie Dickens **Key vocabulary:** patchwork overstitch	**History:** Karl Friedrich Benz (1844 – 1929) Arthur Wellesley (1769 – 1852) **Science:** Everyday Materials **Literature:** The Christmasaurus by Tom Fletcher and Shane Devries Mrs. Armitage on Wheels by Quentin Blake The Story of the Car by Giles Chapman Newspaper Boy and Origami Girl by Michael Foreman Where My Wellies Take Me by Michael and Clare Morpurgo Everyday Materials by Peter Riley How Things Work: Materials by Anne Claybourne Materials by Sally Hewitt **Key vocabulary:** wheel axle axle holder chassis rotate position centre manipulate flexible barrier waterproof resist absorbent	To use a range of culinary techniques To be able to fold paper to increase strength and stability. To test and record how much weight paper can hold **Wider Curriculum Links:** **Science:** animals Inc. Humans, Materials **History:** Dame Zaha Mohammad Hadid (1950 – 2016) **Literature:** Lift-the-Flap Questions and Answers About Food by Katie Daynes Newspaper Boy and Origami Girl by Michael Foreman Cardboard Box Engineering: Cool, Inventive Projects for Tinkerers, Makers & Future Scientists by Jonathan Adolph The World is Not a Rectangle by Jeanette Winter Little People Big Dreams – Zaha Hadid by Maria Isabel Sanchez Vegara Little Leaders: Visionary Women Around The World by Vashti Harrison **Key vocabulary:** Ingredients fibre protein processed

	repurpose template applique quilt free range processed coagulate vitamins protein wholemeal		vitamins starch paper crease corrugated pillar story load
Future Learning KS2	**Design** use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design **Make** select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities **Evaluate** investigate and analyse a range of existing products evaluate their ideas and products against their own design criteria and consider the		

	views of others to improve their work understand how key events and individuals in design and technology have helped shape the world **Technical knowledge (ICT & Science** apply their understanding of how to strengthen, stiffen and reinforce more complex structures understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages] understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors] apply their understanding of computing to program, monitor and control their products. **Cooking and nutrition** understand and apply the principles of a healthy and varied diet prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.