



Design and Technology Knowledge Progression Map - Cycle B

The learning journey for Design Technology begins in The Early Years with statements from the 2020 Development Matters are prerequisite skills for the DT curriculum. 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:

- "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

	Autumn	Spring	Summer
Rising 3's		Themes: Do you want to be a superhero? Do you want to be a real-life superhero?	Themes: What a wonderful world! Under the Sea
		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			
	Themes:	Do you want to be a superhero?	Themes:



	<p>It's good to be me! Where would you like to go?</p>	<p>Do you want to be a real-life superhero?</p>	<p>What a wonderful world! Under the Sea</p>
	<p>Describes an object by its size, shape or colour</p> <p>Select shapes appropriately: flat surfaces for building Combine shapes to make new ones – an arch, a bigger triangle etc.</p> <p>Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park.</p> <p>Make simple models.</p> <p>Use all of the senses in hands on exploration</p>	<p>Explore collections of materials with similar and/or different properties</p> <p>Explore collections of materials with similar and/or different properties.</p>	<p>Use one-handed tools and equipment, for example, making snips in paper with scissors.</p> <p>Explore different materials freely, in order to develop their ideas about how to use them and what to make.</p> <p>Develop their own ideas and then decide which materials to use to express them.</p> <p>Explore collections of materials with similar and/or different properties.</p> <p>Join different materials and explore different textures.</p>
Rec	Autumn	Spring	Summer
	<p>Themes: What makes me special? Who lives in the woods?</p>	<p>Themes; Do you like gravy on your ice-cream? Is there room on the bus?</p>	<p>Themes: Who put the colours in the rainbow? To In-finity and beyond!</p>
	<p>To know how to work safely and hygienically</p> <p>To use some cooking techniques (spreading, cutting)</p> <p>Make healthy choices about food</p> <p>Use one-handed tools and equipment.</p>	<p>To know how to work safely and hygienically</p> <p>To identify and name healthy foods</p> <p>To understand the importance of healthy food choices</p> <p>To learn where food comes from</p>	<p>To plan what they are going to make (cooking, wood work, construction, junk modelling)</p> <p>To draw more detailed pictures of people and objects</p> <p>To manipulate materials</p> <p>To create observational drawings</p>



	<p>To explore different techniques for joining materials</p> <p>To share their creations</p> <p>To explore different techniques for joining materials</p> <p>Develop their small motor skills so that they can use a range of tools competently, safely and confidently.</p> <p>To work with different shapes to make their own collages</p> <p>To use some cooking techniques (spreading, cutting, threading, coring) –</p>	<p>To experiment with different mark making tools such as art pencils, pastels, chalk</p> <p>To explore different techniques for joining materials (Glue Stick, PVA, Masking Tape, Tape)</p> <p>To use some cooking techniques (spreading, cutting, threading, coring, mixing) Sandwiches, Fruit Kebabs</p> <p>To know the name of tools.</p> <p>To use natural objects to make a piece of art</p> <p>To share creations and talk about the process</p> <p>To make props and costumes for different role play scenario linked to traditional tales</p> <p>To know how to work safely and hygienically</p>	<p>To know how to work safely and hygienically</p> <p>To use some cooking techniques (spreading, cutting, threading, coring, mixing, grating, adding flavours)</p> <p>To share creations, talk about process and evaluate their work</p> <p>To invent their own narratives, making costumes and resources</p> <p>To explore different techniques for joining materials (Glue Stick, PVA, Masking Tape, Tape, Split Pins)</p>
KSI Year 1/2	<p style="text-align: center;">Autumn</p> <p>Theme: Mechanisms (How Can you make a picture move?)</p> <p>Structures (How can you stop a tower from toppling over?)</p> <p style="text-align: center;">National Curriculum Links:</p>	<p style="text-align: center;">Spring</p> <p>Theme: Food and Nutrition (How does food affect your senses?)</p> <p>Understanding Materials (Can you build with bread?)</p> <p style="text-align: center;">National Curriculum Links:</p>	<p style="text-align: center;">Summer</p> <p>Theme: Textiles (How can two squares of fabric keep you warm?)</p> <p>Food and Nutrition (Why are vegetables the best?)</p> <p style="text-align: center;">National Curriculum Links:</p>



Design

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 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

Cooking and Nutrition

Understand where food comes from

Use the basic principles of a healthy and varied diet

Design

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 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

explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Cooking and Nutrition

Understand where food comes from

Use the basic principles of a healthy and varied diet

Design

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 wide range of materials and components, including construction materials, according to their characteristics

Evaluate

Explore and evaluate a range of existing products

Technical Knowledge

explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Substantive Knowledge

To know fabric can be joined together using a running stitch



Substantive Knowledge

To know Common uses of sliders

To know different methods to create card sliders

To know how sliders can create simple mechanisms

To know that a freestanding structure is a structure that stands on its own foundation or base without attachment to anything else

Disciplinary Knowledge:

Design and make a slider product

Evaluate the success of their outcomes and recommend improvements

Be able to build structures that are freestanding using a range of different materials

Wider Curriculum Links:

Literature:

Practical Pop-ups and Paper Engineering by Trish Phillips and Ann Montanaro (teacher resource)

Build structures, exploring how they can be made stronger, stiffer and more stable

Substantive Knowledge

To know why colourful food can be healthier

To know how different foods can affect their senses

To know building materials, have different properties which enable them to be used for different purposes

Disciplinary Knowledge:

Be able to Peel, chop and grate a selection of vegetables

Modify food to suit their food senses

To be able to identify, sort and select materials that can be used in construction

To be able to combine materials

Wider Curriculum Links:

Literature:

Oliver's Vegetables by Vivian French
The Three Little Pigs: An Architectural Tale by Steven Guarnaccia
The Three Little Wolves and the Big Bad Pig by Eugene Trivizas
Frank Lloyd Wright for Kids:
His Life and Ideas by Kathleen Thorne-Thomsen

To know the types and names of tools needed for sewing

To know the importance of including a range of vegetables in a diet

Disciplinary Knowledge:

To be able to create a running stitch

To be able select tools for sewing

To thread a needle

To be able to peel, grate, season and breadcrumb a range of vegetables

Wider Curriculum Links:

Art: The Bayeux Tapestry (1077)

Literature:

The Mitten by Jan Brett
Extra Yarn by Mac Barnett
Sewing for Kids by Alexa Ward
Ladybird Histories: The Battle of Hastings by Chris Baker
The Battle of Hastings (Why do we remember?) by Claudia Martin
The Vegetables We Eat by Gail Gibbons

Key vocabulary:

Binca

sewing

felt



	<p>New Pop-up Paper Projects: Step-by-step paper engineering for all ages by Paul Johnson (teacher resource)</p> <p>How Was That Built? by Roma Agrawal 13 Buildings Children Should Know by Annette Roeder Galileo's Leaning Tower Experiment by Wendy Macdonald</p> <p>Key vocabulary:</p> <ul style="list-style-type: none"> Slider Slot Bridge push pull rigid tower topple lean foundation balance perpendicular 	<p>Amazing Science: Materials by Sally Hewitt</p> <p>Science:</p> <p>Animals Inc. humans</p> <p>Key vocabulary:</p> <ul style="list-style-type: none"> senses vitamins sensory ribboning caramelize marinade construction properties architect modify cement solidify 	<ul style="list-style-type: none"> running stitch attach pouch function variety texture vitamins nutritious pane
<p>Future Learning KS2</p>	<p>Design</p> <p>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</p> <p>generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design</p>		



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.