

Design and Technology curriculum overview

<u>Nursery</u>	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Topic	Selecting resources and using tools	Textiles	Cooking & Nutrition	Mechanisms	Structures	
Focus	Select and use activities and resources, with help when needed.	Talking about existing products and sharing opinions.	To talk about what fruits and vegetables they like and do not like.	To make designs with moving parts, that might not work as they should.	To discuss what they want to make and think about what they will need.	
Learning outline	To achieve a goal they have chosen or one which is suggested to them.	To explore cutting different materials using scissors. To explore threading and wrapping string or wool.	To explore chopping and fine motor activities. To explore cutting using scissors. To explore preparing fruits and vegetables that they will eat themselves.	To Talk about what they will make and how they will make it. To begin to talk about which parts will move.	To align, arrange and balance objects. To explore joining objects together. To explore folding paper and card. To discuss what they have made and what they like about it. To begin to identify what parts they would improve.	
Learning objectives	To be confident in choosing their own goals and be able to choose resources and activities that help them achieve it. To develop simple scissors skills. To use of range of brush and pencil sizes. To use tools when using playdough.	To know names for some different materials. To know that materials can be put together when making.	To explore fruits and find seeds. To know that plants are grown. To know that we eat fruits and vegetables. To begin to understand some differences between fruits and vegetables.	To know objects can have moving parts. To begin to use simple terms to discuss existing moving mechanisms (round and round, up and down).	To understand that structures can fall, break or bend. To know that buildings are built and should not fall or break.	

<u>Reception</u>	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Topic	Structures		Cooking and nutrition	Textiles	Structures	
Focus	Junk modelling		Soup	Bookmarks	Boats	
Seasonal Crafts	<u>Hibernation box</u> Designing and making a hibernation box, children consider the function of a product.	<u>Sliding picture</u> Creating a sliding mechanism chimney picture, children develop their cutting and joining skills.	<u>Flower threading</u> Creating their own threading cards, children practise using scissors and a hole punch.	<u>Hanging decoration</u> Designing a hanging egg decoration, children make choices about how to decorate.	<u>Designing a rainbow salad and making a rainbow salad</u> Researching, designing and making a colourful and healthy salad.	
Learning outline	Exploring materials through junk modelling, children develop their scissor skills and awareness of different materials and joining techniques. Children begin to make verbal plans and material choices before starting and problem solve while making their model.		Learning about vegetables and where they come from while preparing to make a soup. Children describe the taste of a range of vegetables and design a soup recipe as a class. They practise cutting skills and prepare the vegetables for their class soup before testing the final product.	Developing fine motor skills through a range of threading activities before moving on to use binka and a needle. Children design a bookmark, considering what to include and why and then follow their designs to complete their bookmarks.	Considering the properties of materials through water play, children discover which materials are waterproof and whether they float or sink. Children evaluate a variety of boats and use their new-found knowledge to design and make a boat that is waterproof and floats.	
Learning objectives	To explore and investigate the tools and materials in the junk modelling area. To develop scissor skills. To investigate cutting different materials. To learn how to plan and select the correct resources needed to make a model. To verbally plan and create a junk model. To share a finished model and talk about the processes in its creation. To explore different ways to temporarily join materials together.		To explore fruits and vegetables and the differences between them. To use adjectives to describe how fruits and vegetables look, feel, smell and taste. To listen to and recall elements from the story 'The Best Pumpkin Soup.' To explore a pumpkin and describe it using the five senses. To design a fruit and vegetable soup recipe. To practise cutting with a knife. To learn how to use a knife safely. To observe and help (where appropriate) with the use of tools to prepare ingredients. To describe the finished product and evaluate the process. To design food packaging.	To develop threading and weaving skills. To practise and apply weaving skills to a specific material e.g. paper. To practise and apply threading skills with specific materials e.g. hessian and wool. To use threading or sewing to design a product (bookmark). To create a textiles product (bookmark) following their own design. To reflect with children on how they have achieved their aims.	To understand what waterproof means and to test whether materials are waterproof. To test and make predictions for which materials float or sink. To compare the uses of boats. To investigate how the shape and structure of boats affects the way they move. To design a boat. To create a boat based upon their own design.	
Lessons	1: Exploring junk modelling 2: Cutting and scissor skills 3: Choosing resources 4: Making models 5: Evaluation and presentation 6: Temporary joins		1: Fantastic fruits and vegetables 2: Pumpkin soup 3: Designing soup 4: Fine motor skills 5: Making soup 6: Designing soup packaging	1: Exploring threading and weaving 2: Paper weaving 3: Sewing with hessian 4: Designing a bookmark 5: Creating bookmarks Evaluating bookmarks	1: Waterproof materials 2: Floating and sinking 3: Boats 4: Investigating boats 5: Designing boats 6: Creating and testing boats	

<u>Year 1</u>	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Topic	Mechanisms	Structures	Textiles	Mechanisms	Cooking and nutrition	Celebrate KS1's achievements in D&T.
Focus	Making a moving story book	Constructing a windmill	Simple stitches	Wheels and axles	Smoothies	▪ Celebrate KS1's achievements in D&T, with a gallery of their products. ▪ Rotate the classes and ask them to provide feedback and ask questions to their peers. ▪ Set an invention challenge with scrap and recycled materials. ▪ Provide the pupils with a variety of textures and joining methods before sharing their ideas. ▪ Extra-curricular trips. You could plan to take the pupils to see what happens in the world of production, material sourcing, invention and mechanisms. ▪ As overflow time to complete units where other school events takeover or to provide more time for classes to complete projects.
Learning outline	Experiment with sliders before planning and making three pages of a moving story book, based on a familiar story, drawing the page backgrounds, creating the moving parts and assembling it.	Construct a windmill to complete a request from a user. Develop an understanding of different types of windmill, how they work and their key features. Begin to use technical skills such as making evenly spaced cuts and adding weight to ensure a successful structure.	Examining fabrics, practising basic sewing techniques and identifying how different materials are made from threads.	Learn about the main components of a wheeled vehicle. Develop understanding of how wheels, axles and axle holders work; problem-solve why wheels won't rotate; to design and build their own vehicle designs.	Handle and explore fruits and vegetables and learn how to identify fruit, before undertaking taste testing to establish chosen ingredients for a smoothie they will make, with accompanying packaging.	
Learning Objectives	To explore making mechanisms. To design a moving storybook. To construct a moving picture. To evaluate my finished product.	To create a stable structure. To use tools and equipment accurately to make part of a structure. To join parts of a structure. To evaluate a structure.	To name some objects made of fabric. To describe the look and feel of different fabrics. To thread a needle. To make a series of stitches that match each other in embroidery fabric. To choose colours and shapes for a design. To explain their ideas to others verbally and with a sketch. To choose materials based on their texture. To follow the general position of the lines of a design with stitches.	To understand how wheels move. To identify what stops wheels from turning. To design a moving vehicle. To build a moving vehicle.	To identify if a food is a fruit or a vegetable. To identify where plants grow and which parts we eat. To taste and compare fruit and vegetables. To make a fruit and vegetable smoothie.	
Lessons	1: Exploring sliders and movement 2: Design 3: Construction 4: Testing and evaluating.	1: Exploring stability 2: Building stable towers 3: Stabilising structures with weight 4: Designing a stable pencil pot 5: Making a stable pencil pot	1: What is fabric? 2: Making stitches 3: Designing bunting 4: Stitching a design 5: Finishing and evaluating bunting	1: Wheels 2: Improving wheels: Part one 3: Improving wheels: Part two 4: Designing a pull-along toy 5: Making a pull-along toy	1: Fruits 2: Growing 3: Cutting and juicing 4: Testing ingredients 5: Making smoothies 6: Evaluating	

<u>Year 2</u>	AUTUMN 1	AUTUMN 2	SPRING 1	SPRING 2	SUMMER 1	SUMMER 2
Topic	Mechanisms	Cooking and nutrition	Mechanisms	Structures	Textiles	Celebrate KS1's achievements in D&T.
Focus	Fairground wheel	Balanced diet	Making a moving monster	A chair for bear	Pouches	▪ Celebrate KS1's achievements in D&T, with a gallery of their products. ▪ Rotate the classes and ask them to provide feedback and ask questions to their peers. ▪ Set an invention challenge with scrap and recycled materials. ▪ Provide the pupils with a variety of textures and joining methods before sharing their ideas. ▪ Extra-curricular trips. You could plan to take the pupils to see what happens in the world of production, material sourcing, invention and mechanisms. ▪ As overflow time to complete units where other school events takeover or to provide more time for classes to complete projects.
Learning outline	Design and create a functional Ferris wheels, consider how the different components fit together so that the wheels rotate and the structure stands freely. Select appropriate materials and develop their cutting and joining skills.	Explore and learn what forms a balanced diet, pupils will taste test ingredient combinations from different food groups that will inform a wrap design of their choice which will include a healthy mix of protein, vegetables and dairy.	After learning the terms: pivot, lever and linkage, pupils design a monster that will move using a linkage mechanism. Pupils practise making linkages and experiment with various materials to bring their monsters to life.	Investigating strong shapes and the properties of stiff and flexible materials by designing a chair inspired by the story 'There's a Bear on My Chair'.	Introduction to sewing. Pupils make their own template, accurately cut their fabric and sew a basic running stitch.	
Learning Objectives	To explore wheel mechanisms and design a Ferris wheel. To select appropriate materials. To build and test a moving wheel. To make and evaluate a structure with a rotating wheel.	To recognise foods and their food groups. To identify the balance of food groups in a meal. To identify an appropriate piece of equipment to prepare a given food. To select balanced combinations of ingredients. To design based on criteria. To evaluate a dish based on design criteria.	To look at objects and understand how they move. To look at objects and understand how they move. To explore different design options. To make a moving monster.	To describe how chairs are made for different users and purposes. To explain how design briefs and design criteria help when making a new product. To describe how making a material thicker makes it more stiff. To understand and use the vocabulary of strong, weak, stiff and flexible. To select suitable materials and join them securely. To evaluate a product against the design criteria. To improve parts of a product based on the design criteria.	To sew a running stitch. To sew a running stitch. To join fabrics using a running stitch. To decorate a pouch using fabric glue or stitching.	
Lessons	1: Design a fairground wheel 2: Planning the build 3: Building the frame and wheels 4: Surveying design options 5: Adding pods and decorations	1: Food groups 2: Balanced meals 3: Preparing ingredients 4: Taste testing ingredients 5: Planning recipes 6: Creating and evaluating wraps	1: Pivots, levers and linkages 2: Making linkages 3: Designing a monster 4: Making my monster	1: All about chairs! 2: How does the shape of something affect its strength? 3: How does the thickness of a material affect its strength? 4: Making a chair for bear 5: Evaluating, improving and finishing a chair for bear	1: Running stitch 2: Using a template 3: Making a pouch 4: Decorating a pouch	