



**Design and Technology Curriculum – Year 1 and 2 – Cycle A**

[Please refer to Previous Years' Geography assessment documents linked to hierarchies](#)

[Link to DT Association guidance](#) – [Link to Projects on a Page Documents](#)

Non- Negotiables	Developing Planning and Communicating Ideas	Evaluating Processes and Products	Knowledge and Understanding of Materials and Components
Year 1	<ul style="list-style-type: none"> <li>Design purposeful, functional, appealing products for themselves and other users based on design criteria</li> <li>Generate, develop, model and communicate their ideas through talking, drawing, templates, mockups and, where appropriate, information and communication technology</li> </ul>	<ul style="list-style-type: none"> <li>Explore and evaluate a range of existing products</li> <li>Evaluate their ideas and products against design criteria</li> </ul>	<ul style="list-style-type: none"> <li>Build structures, exploring how they can be made stronger, stiffer and more stable</li> </ul>
Year 2	Design purposeful, functional, appealing products for themselves and other users based on design criteria <ul style="list-style-type: none"> <li>Generate, develop, model and communicate their ideas through talking, drawing, templates, mockups and, where appropriate, information and communication technology.</li> </ul>	<ul style="list-style-type: none"> <li>Identify what they could have done differently or how they could improve their work in future</li> </ul>	<ul style="list-style-type: none"> <li>Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.</li> </ul>
<b>Term</b>	<b>Autumn</b>	<b>Spring</b>	<b>Summer</b>
<b>Topic</b>	Eat More Fruit and Veg!	Incy Wincy Spider – winding mechanism	Building a home - habitats
<b>Resources</b>	Fruits and vegetables to taste, small knives, graters, plates, bowls, blenders, spoons, chopping boards	picture book showing 'Incy Wincy Spider', construction kits suitable for making winding mechanisms, card, cardboard boxes, doweling, string, cotton reels, pegs, lolly sticks for handles, masking tape, glue, pipe-cleaners, stapler, materials for finishing eg coloured papers and card, fabric, felt-tip pens, paint, scissors, snips, hole punch, bradawl, hacksaw, sawing jig	Permission to go on a local walk, iPads (photos), Photos of different types of homes from history and around the world, boxes, card, glue, masking tape, blu-tack, scissors, paper, cup-cake cases, hole punches, tubes, matchsticks, lollypop sticks, paint
<b>Vocabulary</b>	Chop, cut, peel, slice, grate, mix, pour, stir, flesh, seeds, pips, skin, peel, juice, pith, hygiene, names of vegetables and fruits to be used,	<ul style="list-style-type: none"> <li>designing eg explore, investigate, choose, decide, brainstorm, fast, faster, fastest, slow, slower, slowest, quick, quicker, quickest</li> <li>making eg collecting, punching, connecting, fixing, straight, doweling, masking tape, hole punch, cotton reel</li> <li>knowledge and understanding eg axle, winding mechanism, stable, structure, handle, turning, free, fixed, second, minute, timer</li> </ul>	Detached, semi-detached, flats, maisonette, tepee, thatched, bungalow, brick, stone, tile,
<b>Lesson 1</b>	Year 1: to identify and describe familiar fruits and vegetables Year 2: to gather data about the most popular fruits and vegetables <b>Activities:</b> Provide opportunities for children to examine a range of fruit/vegetables. <i>Do you know what this is called? Where is it grown?</i> Provide opportunities for children to handle and smell fruit/vegetables and to describe them through talking, drawing and labelling. Choose two contrasting fruit/vegetables <i>eg apple and banana or carrot and tomato</i> and investigate the inside by cutting them in half. Explain terms <i>eg peel, skin, flesh</i> . Y1s sorting fruits/vegetables. Y2s Finding out about favourite fruits and vegetables – presenting findings in a pictogram <b>Outcomes:</b> Year 1 – identify and describe fruits and vegetables that are familiar to them Year 2 – identify and describe familiar fruits and vegetables Gather data about the most popular fruits and vegetables Present data on a pictogram	Year 1: to explore and understand what a winding mechanism is Year 2: to understand how a winding mechanism works and name its parts <b>Activities:</b> Children will explore what a winding mechanism is and identify its different parts. They will observe carefully what happens when such a mechanism works. They will to make simple drawings to show how the mechanism works. <b>Outcomes:</b> Year 1 - talk about how the winding mechanisms are made Make labelled diagrams Year 2 – talk about how the winding mechanisms are made and how they work to make labelled drawings that show how the mechanisms work	Year 1: to explore different types of houses and identify shapes Year 2: to explore different types of houses and identify features <b>Activities:</b> Take a walk in the local environment to observe and discuss houses and homes. Ask the children to draw examples of different types of buildings they have seen and label the main features <i>eg doors, windows, chimneys, walls, roof</i> and relate the main features to basic mathematical shapes <i>eg walls - rectangles</i> . Discuss different types of houses and homes. <i>What are they called? What are the similarities/differences? What are they made from? Why are they made like this? What are they like inside?</i> Explore different types of houses around the world, as well as the shapes found on a house. <b>Outcomes:</b> Year 1 - recognise and name some different types of homes and their main features show through simple drawings the main features of a building, recognise and name mathematical shapes <i>eg square, rectangle, triangle, circle</i> , in the context of buildings Year 2 - recognise and name some different types of homes, including those in different countries, and their main features show through simple drawings the main features of a building, with a sense of proportion recognise and name mathematical shapes <i>eg square, rectangle, triangle, circle, symmetry</i> , in the context of buildings
<b>Lesson 2</b>	Year 1: to explore a range of fruits and vegetables using their senses	Year 1: to know how to make a winding mechanism	Year 1: to investigate how to join and combine shapes to make a house

	<p>Year 2: to identify different parts of fruits and vegetables  <b>Activities:</b> Evaluate existing products to determine what the children like best (preference tests) <i>eg fresh potato salad, canned potato salad, home-made potato salad</i>. Create a picture and word database by drawing/photographing foods and scanning them into a computer. Brainstorm all the different things that can be made with fruit and vegetables.  <b>Outcomes:</b>  Year 1 – explore a range of fruits and vegetables using their senses  To draw and label a variety of fruits and vegetables  Year 2 – to identify different parts of fruit and vegetables, such as skin, flesh and seeds  use sensory vocabulary to describe texture, taste and appearance  To draw, label and describe a variety of fruits and vegetables</p>	<p>Year 2: to know how to make a winding mechanism, using tools safely and accurately  <b>Activities:</b> Children will explore techniques for making a winding mechanism - for holding axles to enable them to turn <i>eg</i> punching holes in the side of a box, using clothes pegs or triangular pieces of card with holes punched. Demonstrate the techniques and discuss possible difficulties <i>eg</i> what happens when the axles are not parallel. Show the children how to cut, fix and use appropriate amounts of masking tape, or plastic tubing, to secure the cotton reels on the axle if there is a loose fit  <b>Outcomes:</b>  Year 1 - understand techniques for making winding mechanisms from construction materials  use tools accurately  Year 2 – use tools accurately and safely  talk about strengths and weaknesses of different ways of making characters</p>	<p>Year 2: to investigate how to join and combine shapes to make a house with hinge doors and windows  <b>Activities:</b> Explain how designers use models to communicate ideas to others and develop designs. Investigate and develop techniques for joining sheet materials and 3D containers with masking tape or glue. The children to try different ways of making hinges. Discuss the different methods. Build rectangular frames using appropriate construction kit components. Show them to the children and ask them to explore making the frames more stable <i>eg by adding further parts, by having a wider base or by constructing walls in different configurations</i>. Discuss the outcomes with the children. The children create hinges by scoring and bending card and joining a second piece with masking tape.  <b>Outcomes:</b>  Year 1 - basic joining techniques for 3D modelling using glues and masking tape  to make simple hinges  how to make structures more stable  to use construction kits to aid modelling  Year 2: Make an effective hinge  Can select and use a variety of techniques for joining materials successfully  Suggest ways of improving their structures making them stronger</p>
<p><b>Lesson 3</b></p>	<p>Year 1: to be able to use a knife and grater safely  Year 2: to identify ways of working safely with sharp objects such and knives and graters  <b>Activities:</b> Discuss basic food hygiene practices with the children. Ask the children to practise using hand tools and simple food-processing skills <i>eg washing, grating, peeling, slicing, squeezing</i>. Discuss the different effects achieved by different processes.  <b>Outcomes:</b>  Year 1 – use a knife and grater safely  Know why we should wash hands before preparing food  Year 2 – identify ways of working safely with knives and graters  Identify ways of working hygienically with food  Follow health and safety procedures when preparing food</p>	<p>Year 1: to identify criteria for their design  Year 2: to select tools and materials and use correct vocabulary to name and describe them  <b>Activities:</b> Children will investigate ways of making the spider, sun and rain. Discuss the importance of the size of the drum on a ‘winder’. The bigger the drum the faster it winds up for a given winding speed. Explore using different drum sizes.  <b>Outcomes:</b>  Year 1- talk about what their design has to do to work well  Year 2 - apply what they have learnt through IDEAs and FPTs in their designing and making</p>	<p>Year 1: to investigate ways of creating a room  Year 2: to investigate ways of creating the interior of a house  <b>Activities:</b> Ask the children to build a room of their choice from construction kits and add appropriate furniture and fittings. The children could practise using a hole punch accurately to make a paper chain decoration or a chain with their names on. The children could cut and fasten two pieces of card using a treasury tag to make a decorative hanging. The children could create hinges by scoring and bending card and joining a second piece with masking tape. The children could make a simple paper/card sculpture to practise using an appropriate amount of glue.  <b>Outcomes:</b></p>
<p><b>Lesson 4</b></p>	<p>Year 1: to understand that fruits and vegetables are an important part of a healthy diet  Year 2: to design a salad/smoothie for a purpose  <b>Activities:</b> Discuss healthy eating advice <i>eg eating more fruit and vegetables</i>. Survey the quantities of fruit/vegetables that are eaten in the class. Display as a pictogram.  <b>Outcomes:</b>  Year 1: understand that fruits and vegetables are important to a healthy diet  Design a salad/smoothie  Year 2: understand why fruits and vegetables are important to a healthy diet  To design a salad/smoothie</p>	<p>Year 1: to assemble and combine materials to make a winding mechanism  Year 2: to assemble, join and combine materials to make a winding mechanism refining their model as work progresses  <b>Activities:</b> Remind children of the correct use of tools and, if necessary, demonstrate and give children the opportunity to practise using specific tools and equipment <i>eg</i> how to use a hacksaw and sawing jig to cut doweling  <b>Outcomes:</b>  Year 2 select appropriate tools and materials and name them</p>	<p>Year 1: to design a house with a purpose  Year 2: to design a house for a particular purpose  <b>Activities:</b> Discuss the different buildings seen and encourage the children to think about the sort of home they might make. <i>Who it is for? What do they need? What might it be like?</i>  Show the children the materials available and ask them to discuss their ideas. <i>How could we do this?</i>  Children will use their previously taught skills to design a house. They will discuss who it is for and select their materials and join and combine them to construct a home choosing appropriate techniques.  <b>Outcomes:</b>  Year 1 - to use their own experiences when developing ideas  say how they are going to make their model  to make suggestions as to how to proceed</p>

			Year 2 - to use their own experiences when developing ideas apply what they have learnt through IDEAs/FPTs in their designing and making to clarify their ideas through discussion
<b>Lesson 5</b>	<p>Year 1: know rules for working safely with food Year 2: to follow a design to make a salad/smoothie</p> <p><b>Activities:</b> Explain and remind the rules for working safely with food – safe use of equipment and importance of hygiene. Demonstrate how fruit and vegetables change when they are cooked <i>eg baked apple and a raw apple, boiled potato and a raw potato</i>. Set up a salad bar and ask the children to select and combine their own mixtures. Make a simple salad and ask the children to experiment with different dressings/liquids <i>eg lemon juice, water</i>. <i>What is the impact on the end product of each?</i></p> <p><b>Outcomes:</b> Year 1: follow rules for food safety and hygiene Make their salad/smoothie design Year 2: identify and follow rules for food safety and hygiene Follow a design to make a smoothie/salad Identify and follow rules for food safety and hygiene</p>	<p>Year 1: explore ways of making strong bases Year 2: apply ways to make a mechanism more stable</p> <p><b>Activities:</b> Children will be encouraged to make well-constructed structures. How is it going to move? How will you join the pieces so that it can move? How could you make it stronger? Where are the weak points? How could you reinforce them? Are there different ways of making this? Which would give the best results?</p> <p><b>Outcomes:</b> Year 1 – use materials to construct a strong base Understand that some materials can be stronger than others Join materials Year 2 - construct a winding mechanism that works and has a straight axle and strong base Understand that some materials can be stronger than others Join materials successfully</p>	<p>Year 1: To follow design to make a house Year 2: To assemble, join and combine 3D materials</p> <p><b>Activities:</b> Children follow their designs to create their house, using the skills they have previously learnt. They will also need to consider building safely and problems that may occur. They will construct a model by joining and combining 2D and 3D materials in appropriate ways.</p> <p><b>Outcomes:</b> Year 1 – to follow their designs to make a house to assemble, join and combine 2D and 3D materials into a model to use basic tools safely Year 2 - to follow their designs to make a house to choose, assemble, join and combine 2D and 3D materials into a model to use basic tools safely <i>eg scissors and snips</i> safely and effectively</p>
<b>Lesson 6</b>	<p>Year 1: to talk about what I think and feel about my salad/smoothie Year 2: to evaluate a design against a design criteria</p> <p><b>Activities:</b> Discuss with children the possible products they might design and make <i>eg fruit salads, vegetable salads, fruit drinks</i>. <i>How can you make fruit and vegetables interesting to eat? What could you use? What will it look/taste like?</i></p> <p>Allow the children to decide, in pairs or small groups, what type of product they want to make <i>eg juicy fruit salad, colourful vegetable salad</i> and why it is appropriate for their target group. Discuss how much of each fruit and vegetable might be needed. Discuss how to plan the work. <i>What will you need? Where will you work? Who will do what? How much time do you have? What will you need to do first?</i></p> <p>Encourage the children to select appropriate fruit/vegetables and to prepare the foods appropriately.</p> <p>Encourage them to present their food attractively. Encourage them to record what they have done through drawing and writing and to comment on their finished</p> <p><b>Outcomes:</b> Year 1 –talk about their finished product and say what they think and feel about them suggest appropriate fruit and vegetables for a product select and use appropriate equipment and ingredients Year 2 - suggest appropriate fruit and vegetables for a product based on their tasting experiences select and use appropriate equipment and ingredients to achieve the shapes and sensory properties required for their product talk about their finished product, and record through pictures and words how it looks and tastes and how well it matches their original ideas and chosen target group</p>	<p>Year 1: to evaluate a winding mechanism Year 2: to evaluate against design criteria</p> <p><b>Activities:</b> Children will Discuss what they have done and evaluate how well the toy works in relation to their design criteria.</p> <p><b>Outcomes:</b> Year 1 – to talk about what went well and what could be improved Year 2 - talk about their finished products in relation to their design criteria</p>	<p>Year 1: to use a finishing technique to improve my house Year 2: to use a finishing technique to improve the quality of my house</p> <p><b>Activities:</b> Encourage the children to add finish and detail to the home using paint and/or collage materials.</p> <p>Encourage the children to talk about their finished homes and the main features they have added. Discuss strengths and areas for development. Talk about their finished home saying what they have done well, what they are particularly pleased with, and which parts might have been done better</p> <p>Highlight specific learning points drawn from the children's work.</p> <p><b>Outcomes:</b> Year 1 - to say what they think and feel about their finished houses. Year 2 - to use a finishing technique to improve the overall quality of their house to evaluate products they have made, commenting on the main features, suggesting possible improvements Evaluate the work of others and give their opinions in a constructive way</p>

**Assessment Criteria**

	<b>Exploring Existing Products</b>	<b>Developing Ideas</b>	<b>Making New Products</b>	<b>Evaluating</b>
<b>Year 1</b>	<ul style="list-style-type: none"> <li>• I can make evaluative comments about existing products.</li> </ul>	<ul style="list-style-type: none"> <li>• I can use pictures and words to show what I want to do.</li> </ul>	<ul style="list-style-type: none"> <li>• I can name, choose and use tools appropriately.</li> <li>• I can assemble and join materials and parts to make a model that reflects my ideas.</li> <li>• I can use scissors to cut along a straight or curved line accurately.</li> <li>• I can, with some support, join fabrics using simple running stitch.</li> </ul>	<ul style="list-style-type: none"> <li>• I can evaluate my own product against design criteria.</li> </ul>
<b>Year 2</b>	<ul style="list-style-type: none"> <li>• I can identify existing products which use mechanisms, and explain how they work.</li> </ul>	<ul style="list-style-type: none"> <li>• I can use pictures, words and models to describe my design.</li> </ul>	<ul style="list-style-type: none"> <li>• I can measure, cut, shape and join a range of materials.</li> <li>• I can incorporate a simple electrical circuit into a model.</li> <li>• I can attach a wheel to a chassis to make a vehicle with an axle.</li> <li>• I can incorporate simple flap or folds into a product.</li> <li>• I can use simple finishing techniques to improve my product's appearance.</li> </ul>	<ul style="list-style-type: none"> <li>• I can identify how I could improve my work in the future.</li> </ul>