



# Design and Technology

Intent: DT should provide children with a real life context for learning. At Chaddlewood we want to create opportunities for children to thrive in the wider world. Through the DT curriculum, children should be inspired by engineers, designers, chefs and architects to enable them to create a range of structures, mechanisms, textiles, electrical systems and food products with a real life purpose. Children design products with a purpose in mind and an intended user of the products. Food technology is implemented across the school with children developing an understanding of where food comes from, the importance of a varied and healthy diet and how to prepare this.

DT at Chaddlewood is planned using the NC subject content as assigned to each key stage. We then use knowledge and skills combined as a basis to design, make and evaluate their products and dishes.

DT projects are often made cross curricular-linking to other subjects taught.

The planning format follows an immersion, review and assessment and skills and knowledge rich phases. Lessons are differentiated by outcome and assessments are made against the assessment framework mapped out for each year group, for each unit.

Cooking skills are progressive from EYFS to year 6 and are broken down into small steps which are assigned to year groups. This is to ensure that when a Chaddlewood child reaches year 6 they can confidently use a range of these skills to create a variety of dishes successfully.

Planning also provides the opportunity to embed previous learning and develop links between lessons and their objectives. Connections are made with previously taught DT topics as part of the 'overlap of learning' and to consolidate and deepen understanding. We share photos of what the children have learnt in previous year groups and use this tool to retrieve prior knowledge.

At Chaddlewood we believe there are 6 essentials of DT which we use to pitch our projects effectively so they can reach their full potential. The focusses for these are: user, purpose, functionality, design decisions, innovation, authenticity.

When working, it is essential that children know how to stay safe and use a variety of tools correctly. This is paramount in all areas of DT. For example in cooking we always start our practical lessons by working through the 6 steps to safe cooking preparation; tie long hair back, remove jewellery, put on a clean apron, make sure your equipment and food prep area is clean, roll up sleeves and wash hands.

Skills and knowledge	Foundation	Year 1	Year 2
Substantive themes 2025 -Mechanics	<ul style="list-style-type: none"> <li>• Mechanics: N/A</li> <li>• Textiles</li> <li>• Structures - Traps</li> <li>• Nutrition- Fruit Kebabs,</li> </ul>	Mechanics: Moving pictures Textiles - Puppets Structures - Bridges Nutrition- Jam turnovers	Mechanics: carts Textiles- Christmas decorations Structures- N/A Nutrition- Healthy Pizzas, Burritos

<p>-textiles -structures -nutrition -electronics</p>	<p>Healthy wraps • Electronics- N/A</p>	<p>Electronics-</p>	<p>Electronics- N/A</p>
<p>Cross curricular connections</p>	<p>Communication and Language - talk about what makes a good design English - Traditional tales topic Science - exploring properties of materials. Art - Experimenting and exploring materials and being imaginative</p>	<p>Science - waterproof testing, balanced diets History - famous pirates (Sir Francis Drake) ICT - using photography and on-screen programs to communicate ideas Fruit salads- Art- Archimboldo Jam tarts- literacy instruction writing</p>	<p>ICT- research Science- materials and their properties. History- Stone Age Pizzas- science/plants Burritos- well-being week</p>
<p>Overlap of learning: which other areas in other year groups or topics does this relate to?</p>	<p>Build on skills learned at pre-school/nursery and home</p> <ul style="list-style-type: none"> <li>• Eatwell guide all year groups</li> <li>• Drawing ideas Y1/2</li> <li>• Y1/Y2 - selecting appropriate tools for making</li> </ul>	<p>KS1</p> <ul style="list-style-type: none"> <li>• Understand where food comes from:</li> <li>• F/Yr2- selecting appropriate tools for making.</li> <li>• Researching using ICT Yr 2</li> <li>• Running stitch used in Yr 2 with less support. Y2 will use a cross stitch.</li> <li>• Drawing ideas- Y2/F.</li> <li>• <b>eatwell guide all year groups</b></li> </ul>	<p>KS1</p> <ul style="list-style-type: none"> <li>• Understand where food comes from: Recap Y1, wheat (carbs), Dairy, oil and spreads. Knife skills- bridge and claw hold.</li> <li>• F/Yr1- selecting appropriate tools for making.</li> <li>• Researching using ICT Yr 1</li> <li>• Running stitch used in Yr 1- less support in Y2 move onto using cross stitch.</li> <li>• Drawing ideas- Y1/F.</li> <li>• eatwell guide all year groups</li> </ul>
<p>Knowledge content To know that...</p>	<p><u>Trap</u> -It is important to plan what you are going to make, before making it. (Plan, Do Review) - I need to explore different materials before I make something. - I can explore different joining techniques. - I can make a trap that I think will be strong.</p>	<p><u>Puppets</u> - Different tools can help us in different ways (for example to make something stronger).. - What a running stitch is. - How to use a running stitch. - Different people will have different ideas and I will be able to decide upon how I could have improved my design. - I need to be careful of scissors</p>	<p><u>Christmas Decorations</u> -Fabric can be joined using a running stitch. -What a cross-stitch is. -That there are lots of different ways to attach sequins and pom poms onto their decoration.  <u>Stone Age carts</u> -how the wheel and axle work together.</p>

	<p>- I can test the hat and evaluate and talk about what happened.</p> <p><u>Christmas cake</u>          -Christmas cakes come in different shapes and sizes.          I need to keep my hands clean when I am making something to eat.          - How to use a rolling pin, spoon, sieve, and cutters..          - There are different foods that I like and dislike.          - the cake mixture will change when it is cooked.          - I need to think about what I think my Christmas cake will look like and what I would change next time.</p> <p><u>Healthy Wraps</u>          -Different vegetables are grown in different ways.          - That some foods grow on/under the ground, or from a bush.          - We need to stay healthy by eating a balanced diet.          - vegetables are a healthy food.          -begin to know that there are different food groups.          - I need to be careful whilst using a knife.          -which foods are a healthy option for a wrap.          -I can talk about the vegetables and food that I like and dislike.</p> <p><u>Fruit kebabs</u>          -Different fruits are grown in different ways.          - That some foods grow on the ground, from a tree or from a bush.          - We need to stay healthy by eating a balanced diet.          - fruit is a healthy food.          - I need to be careful whilst using a knife.</p>	<p>and when I am sewing.</p> <p><u>Bridge for pirate ships</u>          - Different tools can help us in different ways (for example to join things together or to make something waterproof).          - Things can be made stronger in different ways.          - I can improve my plank as I go along by testing how strong it is.          - Masking tape and cello tape can be useful in different ways.</p> <p><u>Moving Picture</u>          - It is important to plan what you are going to make, before making it.          - I can improve my design as I go along.          - I need different tools to make something.          - A computer/laptop/chromebook can help us to make my moving picture even better.          - I can use a slider to make something move.          - I can use a lever to make something move.</p> <p><u>Jam turnover</u>          - I need to keep my hands clean when I am making something to eat.          - How to use a rolling pin, spoon, cake tin, cookie cutter, knives and pastry brush.          - There are different foods that I like and dislike.          - I need to be careful of hot jsm whilst I am making my jam turnover.          - I need to think about what I did well and what I could do better next time.</p> <p><u>Makey Makey (added value)</u>          - The internet is a series of connected systems.          - Electronic devices work by passing</p>	<p>-the difference between a moving and fixed axle.          -that recycled materials can be joined and cut using lots of different tools (cold glue gun, stapler, wire, tape)          - that some tools are more appropriate to use than others for a particular tasks.          -that designing and evaluating their products and existing products are a valuable part of the making process.</p> <p><u>Healthy Pizzas</u>          - ways to prepare ingredients safely and hygienically.          -about healthy eating and the eatwell plate. Focussing on where flour(wheat), yoghurt, oil, tomato sauce and their toppings would be placed on it.          - where flour and dairy products come from and the process of how they end up in our supermarkets.          -which equipment and utensils can be used to complete cooking tasks and how to use these safely eg Knives, grater, peeler, chopping board, juicer, oven (kitchen), bowls, spoon, tin opener, fork, scissors, multicooker, spatula, sieve, scales          - what the bridge and claw hold is          -how to cut soft and hard vegetables and some meat.          -how to use a fork hold to cut an onion.          -that designing and evaluating their products and existing products are a valuable part of the making process.</p> <p><u>Burritos</u>          - that designing and evaluating their products and existing products are a valuable part of the</p>
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	<p>-I can create repeated patterns using the fruit.  -I can talk about the fruit I like and dislike.</p>	<p>electrical currents through them.  - Programs can be debugged in order to correct problems.</p>	<p>making process.  - what the bridge and claw hold is  -how to cut soft and hard vegetables.  -ways to prepare ingredients safely and hygienically.  -about healthy eating and the eatwell plate. Focussing on where rice, tortilla wraps, lime, herbs, beans would be placed.  - know where these ingredients have come from.  - which equipment and utensils can be used to complete cooking tasks and how to use these safely eg Knives, grater, peeler, chopping board, juicer. Multicooker, bowls, wooden spoon, tin opener, fork, scissors</p>
<p><b>Work in a range of contexts</b>  <i>for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment]</i></p> <p><b>Design:</b> Purposeful, functional, appealing products for themselves and other users based on a design criteria.</p>	<p>ELG: They safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.  Plan, Do, Review- shoemaker 2D shoe (end result may vary from year to year based on topic).  Explore shoes and discuss design for themselves with clear purpose.</p> <p>ELG: Children use what they have learnt about media and materials in original ways, thinking about uses and purposes. They represent their own ideas, thoughts and feelings through design and technology.  Plan- Draw and label their ideas.</p> <p>Do- Trap for the big bad wolf. (end result may vary from year to year based on topic).</p>	<p>Puppet- show for peers  Bridge for pirate ships- Sir Francis Drake  Moving Picture- Class book.  Jam turnover- plans to be repeated at home</p>	<p>Xmas dec- family member  Healthy Pizza- themselves  Burritos- themselves</p>

<p><b>Design:</b> Talking, drawing, templates, Mock ups, ICT (where appropriate).</p>	<p>Christmas Cakes - talk about different cakes that you can get when celebrating different events. Using ICT look at different designs of Christmas cake. Tell the children they will be decorating their own cake, children to do a simple design of the cake.</p> <p>Use of different templates of shoes. Research on shoes using ICT</p>	<p>Puppet- Annotated drawing of idea. Use of template. Bridge for pirate ships- Research using ICT Moving Picture- Drawing of idea Jam turnover- drawing, talking Makey Makey - Drawing of electrical circuit, ICT</p>	<p>Xmas decs- Template based on child's design criteria, drawing, talking Stone Age carts- Mock up wheels and axles, drawing, talking Stone Age carts- research using ICT carts and equipment. Healthy pizza- drawing, talking Burritos- Drawing, talking</p>
<p><b>Make: Tools and joining</b> Select from and use a range of tools and equipment to perform practical tasks. For example cutting, shaping, construction materials, joining structures.</p> <p>Tools</p>	<p>Forest school- Using natural materials to weave and create different things. Twig frames, spiders webs and towers. Using tools such as bow saw, knife and loppers to change the size of natural material.</p> <p>Joining- (caterpillar) exploration of joining using treasury tags, glue, masking tape, hole punch</p> <p>Christmas cakes - sieves, knives, mixing bowls and spoons. Select ingredients that go into a traditional Christmas cake.</p>	<p>Tools used- scissors, glue, masking tape, hole punch, duct tape, cold glue gun (where appropriate)</p> <p>Moving pictures- scissors, glue, masking tape (where appropriate)</p> <p>Bridge for pirate ships- scissors, glue, masking tape, hole punch, duct tape, cold glue gun (where appropriate)</p> <p>Jam tarts - rolling pin, spoon, cake tin, cookie cutter, knives, pastry brush, bowls</p> <p>Makey Makey - Use of ICT</p>	<p>Tools used- Scissors, glue, junior hacksaw, workbench, masking tape, stapler, cold glue gun, needle and thread.</p> <p>Carts- Scissors, glue, junior hacksaw, workbench, masking tape, stapler, cold glue gun. Hole punch</p> <p>Pizzas- Knives, grater, peeler, chopping board, juicer, oven (kitchen), bowls, spoon, tin opener, fork, scissors, multicooker, spatula, sieve, scales</p> <p>Burritos- Knives, grater, peeler, chopping board, juicer. Multicooker, bowls, wooden spoon, tin opener, fork, scissors</p>
<p><b>Textiles</b></p>	<p>Weaving - using a variety of materials (threading skills)</p>	<p>Puppet- running stitch (supported). Children attach other details using glue.</p>	<p>Xmas Decs- running stitch and cross stitch. Children attach, sequins or other details using stitches or glue.</p>
<p><b>Make:</b> Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.</p>	<p>Threading- beads, pasta tubes, natural materials.</p> <p>Construction (free exploration) - duplo, lego, intastar, junk modelling.</p>	<p>Different ways of joining together to construct a pirate ship and suitable materials to make a ship out of.</p>	<p>Carts- constructing a carts using recyclable materials</p> <p>Pizzas- Knives, grater, peeler, chopping board, juicer, oven (kitchen), bowls, spoon, tin opener, fork, scissors. Select from a range of ingredients chosen from</p>

			<p>evaluations</p> <p>Burritos- Knives, grater, peeler, chopping board, juicer. Multicooker, bowls, wooden spoon, tin opener, fork, scissors. Select from a range of ingredients chosen from prior knowledge.</p>
<b>Health and safety</b>	<p>Forest School safety rules linked to using tools. 1:1 when using knives, loppers, bow saw 1:1 when cutting vegetables using a knife</p>	<p>Hot jam whilst making jam turnovers.  Scissor and sewing safety.  Makey Makey - Electrical circuits and wires</p>	<p>1:1 support when using junior hacksaw and mitre. Show children how to use tools safely eg stapler, scissors, cold glue gun to be used with an adult also.  Pizzas/burritos-1:1 using knives peelers and graters. Careful near hot ovens/multi cooker.  Textiles- sharp needles</p>
<b>Evaluating:</b> Explore range of existing products, Evaluate a range of existing products	<p>Christmas Cakes - look at cakes and talk about how they are different from each other and if they look like their designs.  Shoes - explore existing products, look at different hats and their purpose.</p>	<p>Moving pictures- tab books Puppets- looks at different types of puppets. Jam turnovers- Food tasting Makey Makey - Comparing successful and unsuccessful attempts at making a circuit work.</p>	<p>Xmas decs- Explore and evaluate a range of existing xmas decs 2D and 3D. Stone Age carts- Look at existing carts and what equipment they use. Look at existing cars and how they move. Healthy pizzas- explore and evaluate a variety of pizzas Burritos- Evaluate the ingredients normally used in burritos and decide what must be used and what is our choice.</p>
<b>Evaluating:</b> Their ideas and products against design criteria	<p>Review/Evaluate - Speech bubbles with their ideas, thoughts and feelings recorded in books.</p>	<p>Bridges to test the joining material and strength of bridge.  All other products evaluated against design criteria.</p>	<p>Stone Age Carts- testing wheels and axles to then create a design criteria. Design criteria developed from what an astronaut might need.  All other products evaluated against design criteria.</p>
<b>Technical knowledge:</b> build structures exploring how they can	<p>Traps - model making - how can you make your model stronger, stiffer or a different shape and height.</p>	<p>Bridge for pirate ships- comparisons of different bridges, then alteration as needed.</p>	<p>Carts- Exploring how we can attach materials securely.</p>

<p>be made stronger, stiffer and more stable</p>		<p>Consideration of masking tape/ cellotape effectiveness. What materials can be adapted to be made stronger, stiffer and more stable.</p>	
<p><b>Technical knowledge:</b> explore and use mechanisms for example, levers, sliders, wheels and axles], in their products.</p>	<p>Moving joints on animals (frog)</p>	<p>Moving pictures- lever and slider Weather picture only using paper and slider. Printed pictures for lever using ICT.  Class pop up book.</p>	<p>Stone Age carts- Wheels and axles.</p>
<p><b>Cooking and Nutrition:</b> Prepare dishes (see skills sheet)  use the <u>basic principles</u> of a healthy and varied diet to prepare dishes.  Understand where food comes from</p>	<p>Explore healthy and unhealthy foods. Healthy week detectives- Children use ICT, books, body (science link).  Talk about and make healthy food- Wraps, milk shake and fruit kebabs.  Festivals week - explore, discuss and make and different food eaten by other religions.- Burfi (coconut sweets), make fruit jellies, cook and taste saffron rice with sultanas and Krah Prashad (children observe raw food cooked and how it is changed using heat) Children watch a video about the different foods they will make and follow recipe prompt sheets with adult guidance.</p>	<p>Eatwell guide- Explore the sections of the eatwell guide and place <u>fruit and vegetables</u> ingredients onto it.  Understand where food comes from: <b>fruit and veg, protein, unhealthy foods outside the eatwell guide (eaten small and less often). Focus on fruit and vegetables and if they grow on the ground, in a tree, on a bush etc.</b></p>	<p>Eatwell guide- Explore the sections of the eatwell guide and place a variety of ingredients onto it. Focus on where the pizza and burrito ingredients would be placed.  Understand where food comes from: Recap Y1,Y2- <b>wheat (carbs), Dairy, oil and spreads foods and where they come from.</b></p>
<p><b>Vocabulary</b></p>	<p>Healthy, not so healthy, fruit, vegetables, sugars - sweets, meat,dairy, oils, vitamins, cooked, raw, hot,cold, heat, hard, soft, teeth, bones, body, safety in the kitchen.  Join, strong, weak, stable, firm,</p>	<p><b>Puppets</b> Plan, shape, template, glue, design, running stitch, needles  <b>Pirate Bridges</b> model, plan, shape, glue, tape, design, evaluate</p>	<p><b>Stone Age carts-</b> diagram , design, axle, vehicle, steering wheel, storage, evaluate, mock up, research, chassis, dowel, masking tape, plastic, reclaimed materials, sellotape, junior hacksaw, bench hook, glue gun, scissors,</p>

	<p>construct, texture, rough, smooth, light, heavy, fit for purpose, change, improve, safely</p>	<p><b>Moving Picture</b> Paper, pattern, plan, template, glue, tape, design, evaluate</p> <p><b>Jam turnovers</b> Ingredients, recipe, Healthy, not healthy, fibre, carbohydrates, protein, fruit, vegetables, oil, spread, meat diary,</p> <p><b>Makey Makey</b> Program      Code Algorithm    Instruction Debug        Login Chromebook</p>	<p><b>Pizzas-</b> Diagram, design, Healthy, not healthy, fibre, carbohydrates, protein, fruit, vegetables, oil, spread, meat, diary, processed farm to fork, evaluate, recipe, grate, dice, chop, crush, sieve, bake, mix, hygienic, measuring jug, scales, mixing bowl, spatula, oven</p> <p><b>Christmas decorations-</b> Diagram, design, Running and cross stitch, fabric, pin, attach, join, evaluate, pattern, template, needles,</p> <p><b>Burritos-</b> design, Healthy, not healthy, fibre, carbohydrates, protein, fruit, vegetables, oil, spread, meat diary, evaluate, recipe, grate, dice, chop, bowl, wooden spoon, multi cooker, knife, wrap</p>
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