



Haseltine Primary School

DT Curriculum



Overall Aims (as stated in the National Curriculum):

To develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

To build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.

To critique, evaluate and test their ideas and products, and the work of others.

To understand and apply the principles of nutrition and learn how to cook – with an emphasis on savoury dishes.

Within this, we also have Haseltine Aims:

DT works best in context and should be **linked to children's current learning**, working across the curriculum, from numeracy and literacy to topic work.

DT learning is strongest when it is **enquiry-based**, i.e. the children should always be given **time to investigate** materials, tools, prototypes, and there should always be room in the making process for experimentation and evaluation; the latter can always form part of writing lessons.

As they move through KS2, the children should take an active role in forming the design brief, and there should be increasing focus on creating appealing and well-functioning end products.



Haseltine Primary School

DT Curriculum



Reception

Skills Overview

Think of ideas, and with help can put them into practice
 Know the features of familiar products
 Use pictures and words to describe what they want to do.
 Talk about their own and others' learning.
 Describe how their product works

Food	Textiles	Mechanisms	Structures
Use a mixing bowl to prepare a mixture (Role Play) Make a food product (with help) Understand the need to wash their hands and keep surfaces clean when preparing food.	Describe textiles and the way they feel. Make products from textiles With help, measure, mark out and cut fabric Join fabrics using glue	Cut materials using scissors Describe the properties of materials that have been used.	Make structures Describe the materials used to make structures.



Haseltine Primary School

DT Curriculum



Year 1

Skills Overview

Think of ideas and plan what to do next, based on what they know about materials and components.

Select the appropriate tools, techniques and materials, explaining choices.

Use models, pictures and words to describe designs.

Recognize what they have done well in their learning.

Food	Textiles	Mechanisms	Structures
<p>Prepare food safely and hygienically.</p> <p>Describe properties of food ingredients – taste, smell, texture and consistency</p> <p>Sourcing, where do our food come from?(trip to the local shops</p>	<p>Alter textiles to make them stronger.</p> <p>Become increasingly accurate when using scissors to cut out.</p> <p>Use glue, tying or simple stitch to join textiles.</p>	<p>Explore how moving objects work.</p> <p>Look at wheels, axels, turning mechanisms, hinges and simple levers.</p> <p>Make a product that moves using a turning mechanism or a lever/hinge.</p>	<p>Make materials for structures stronger by folding, joining or rolling.</p>

Year 2



Haseltine Primary School

DT Curriculum



Skills Overview Generate ideas for a given brief Plan the design process (selecting tools, techniques and materials, explaining choices, using models, diagrams and text to describe designs) Recognize what they have done well in their learning and suggest improvements			
Food	Textiles	Mechanisms	Structures
Weigh/measure ingredients accurately. Describe food products using properties Look at seasonal fruit and vcegables- How they are grown and harvested) Understand how to store food for long-life and hygiene	Make accurate measurements of textiles using cm Use scissors precisely when cutting out. Understand that textiles have different properties and select the most appropriate textile for the job.	Investigate and use a range of joints	Understand how structures can be made stronger by shape.



Haseltine Primary School

DT Curriculum



Year 3

Skills overview

Generate ideas and recognise that designs have to meet a range of different needs.

Make realistic plans to achieve their aims.

Think ahead about the order of process, choosing appropriate tools, equipment, materials, components and techniques.

Clarify ideas using labelled sketches and models to communicate the details of designs.

Identify where evaluations have led to improvements in the product.

Think about ways to create a well finished product that would appeal to users.

Mechanical/moving components	Food	Malleable Materials	Stiff and flexible sheet materials	Textiles
Explore mechanical movement using hydraulics and pneumatics.	Select ingredients for a food product-Savory dishes/sourcing	Use the most appropriate malleable material for a product	Use folding and scoring to shape materials accurately	Select appropriate textiles for my product
Use forces knowledge to incorporate magnets (Year 3 cont.)	Work in a safe and hygienic way	Shape the product carefully, using techniques and tools	Make cuts accurately (scissors and saws)	Use sharp scissors accurately to cut textiles



Haseltine Primary School

DT Curriculum



<p>into mechanical designs/moving models.</p>	<p>Think about the presentation of the food product to impress the intended user.</p> <p>Describe food product in terms of taste, texture, flavor and relate this to the intended purpose of the food.</p> <p>Make a product that requires cooking</p>	<p>that lead to a high quality finish</p> <p>Describe the qualities of my material and explain why it will be the most suitable choice.</p>	<p>Make holes accurately (punch, drill)</p> <p>Join materials to make products using permanent and temporary fastenings.</p>	<p>Know that the texture and properties of material affect choice</p> <p>Improve the design as the process goes on.</p>
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Haseltine Primary School

DT Curriculum



Year 4

Skills Overview

Generate ideas by collecting and using information. (link to numeracy, data handling)

Take the views of users' into account when designing products (application of research)

Plan effectively and collaboratively, selecting the most appropriate techniques and tools to make a product.

Communicate alternative ideas using words, labelled sketches and models showing awareness of the constraints of the design.

Reflect on designs and develop them bearing in mind the way they will be used.

Identify what is working well and what can be improved. Come up with solutions to problems as they happen. Improve products after testing.

Make a product with a good finish.

Electrical and mechanical components	Food	Malleable Materials	Stiff and flexible sheet materials	Textiles
Understand that mechanisms create movement Use simple circuits to illuminate or create	Make a food product using a selection of ingredients to meet an identified need. (e.g... lunchtime snack, (Where do these	Use suitable malleable materials selected for the purpose of the product.	Measure using mm and then use scoring, and folding to shape materials accurately with a focus on precision.	Textile work incorporates the views of intended users' and for the purpose.



Haseltine Primary School

DT Curriculum



<p>(Year 4 cont.)</p> <p>motion. Make a product that uses both electrical and mechanical components</p>	<p>ingredients come from) healthy sandwich, low gluten).</p> <p>Work in a safe and hygienic way.</p> <p>Produce well-presented food that is packaged using other DT skills.</p> <p>Understand that some are unsafe eaten raw. Understand that cooking alters the flavour and texture of foods and use this knowledge in designs.</p>	<p>Make a product that is fit for purpose and improve it in response to a user's point of view.</p> <p>Apply a high quality finish (e.g. using carving, paint, glaze, varnish etc).</p> <p>Use both hands and other tools to mould materials into very accurate shapes that will do the intended job well.</p> <p>Know that products may need further improvement as the material changes as it</p>	<p>Make cuts (scissors, snips, saw) accurately, reject pieces that are not accurate and improve the technique.</p> <p>Make holes (punch, drill) accurately</p> <p>Use methods of working that are precise so that products have a high quality finish.</p> <p>Make joins that are strong and stable, giving extra strength to the products. And/or joins that are flexible to allow for dismantling or folding.</p>	<p>Use art textiles skills such as stitching to help create a product that is sturdy and fit for purpose.</p> <p>Textile products include structural changes, such as plaiting or weaving to create new products such as rope, belts, bracelets etc.</p>
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Haseltine Primary School

DT Curriculum



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Year 5				
Skills Overview				
Draw on and use various sources of information, including an understanding of familiar products, to help develop own ideas.				
Clarify ideas through discussion, drawing and modelling, modifying them where appropriate.				
Use CAD to develop products where appropriate.				
Communicate ideas, within group and wider setting (whole class, year group, school...)				
Test and evaluate products, showing understanding of the situations the products will have to work.				
Be aware that resources may be limited (budget, time, availability)				
Evaluate products and how information sources were used to inform the design.				
Make products that are well finished using a range of art and other finishing techniques.				
Electrical and mechanical components	Food	Mouldable Materials	Stiff and flexible sheet materials	Textiles



Haseltine Primary School

DT Curriculum



<p>Choose components that can be controlled by switches, or by ICT equipment.</p> <p>(Year 5 cont)</p>	<p>Use science knowledge of micro-organisms to store and prepare food properly.</p> <p>Use science knowledge of reversible (ice cream!) and irreversible changes (bread, jelly, custard!) to create food products that combine to make a new material that can then be described using its sensory qualities.</p>	<p>Select materials based on the final finished product's use.</p> <p>Products have a high degree of precision and do the intended job well (e.g. a handle on a cup is designed to be an insulator)</p> <p>Products are carefully finished to add extra appeal. This sometimes includes the addition of other materials (e.g. container for a wax candle)</p>	<p>Measure and select materials with cost and workability in mind.</p> <p>Make very careful and precise measurements so that joins, holes and openings are in exactly the right place.</p> <p>Ensure that edges are finished by sometimes adding other materials. (e.g. edging strips)</p> <p>Create products that are well received by intended users.</p> <p>Hide some joints for aesthetic effect.</p>	<p>Products have an awareness of commercial appeal.</p> <p>Experiment with a range of materials until the right mix of affordability, appeal and purpose is found.</p> <p>Combine art skills to add colour and texture.</p> <p>Mark out using own patterns and templates</p> <p>Join textiles using art skills of stitching, embroidering and plaiting to make a durable and desirable product.</p>
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DT Curriculum





Haseltine Primary School

DT Curriculum



Year 6

Skills overview

Discuss designs with others, present ideas effectively

List the functions that the final design must meet and compare designs with this list

Produce sequenced drawings/documentation with an explanation of the use of tools, equipment, materials etc.

Use CAD where appropriate.

Make prototypes to check that ideas would work

Select the best design and develop it further

Explain any alterations, modifications and improvements.

Test and evaluate the product

(Use all skills and knowledge to make production props)



Haseltine Primary School

DT Curriculum



(Year 6 cont) Electrical and mechanical components	Food	Mouldable Materials	Stiff and flexible sheet materials	Textiles
Use science skills (resistance, batteries in series or parallel, variable resistance to dim lights or control speed) or ICT skills (coding to control remotely) to alter the way electrical products behave. Use precise electrical connections. Use other DT skills to create housings for mechanical components	Use proportions and ratio to produce recipes of my food product, scaling up and down for different quantities.	Use a range of tools, equipment, materials, components and processes.	Use a range of tools, equipment, materials, components and processes.	Use a range of tools, equipment, materials, components and processes.



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DT Curriculum



(3D Printer opportunity!)				
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