

Decoy Primary Design and Technology Curriculum



Year 1

Topics	Key Learning	Vocabulary
<p>Autumn Mechanisms – sliders and levers</p> <p>Spring Freestanding structures</p> <p>Summer Food – preparing vegetables</p>	<p>Designing</p> <ul style="list-style-type: none"> • Generate ideas based on simple design criteria and their own experiences, explaining what they could make. • Develop, model and communicate their ideas through drawings and mock-ups with card and paper and talking • Design appealing products for a particular user based on simple design criteria. • Generate initial ideas and design criteria through investigating a variety of fruit and vegetables. • Communicate these ideas through talk and drawings. <p>Making</p> <ul style="list-style-type: none"> • Plan by suggesting what to do next. • Select and use tools, explaining their choices, to cut, shape and join paper and card. • Use simple finishing techniques suitable for the product or structure they are creating. • Select and use tools, skills and techniques, explaining their choices. • Select new and reclaimed materials and construction kits to build their structures. • Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely. • Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. <p>Evaluating</p> <ul style="list-style-type: none"> • Explore a range of existing books and everyday products that use simple sliders and levers. • Explore a range of existing freestanding structures in the school and local environment e.g. everyday products and buildings. 	<p>slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards design, make, evaluate, user, purpose, ideas, design criteria, product, function</p> <p>cut, fold, join, fix</p> <p>structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved</p> <p>metal, wood, plastic</p> <p>circle, triangle, square, rectangle, cuboid, cube, cylinder, user, purpose, ideas, fruit and vegetable names, names of equipment and utensils sensory vocabulary</p> <p>e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients,</p>



	<ul style="list-style-type: none"> • Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. • Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. • Evaluate ideas and finished products against design criteria, including intended user and purpose. <p>Technical knowledge and understanding</p> <ul style="list-style-type: none"> • Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement. • Know how to make freestanding structures stronger, stiffer and more stable. • Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The eatwell plate</i>. • Know and use technical and sensory vocabulary relevant to the project. 	<p>investigating tasting, arranging, popular,</p>
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Year 2

Topics	Key Learning	Vocabulary
<p>Autumn Mechanisms – wheels and axles</p> <p>Spring Food – preparing fruit</p> <p>Summer</p>	<p>Designing</p> <ul style="list-style-type: none"> • Design a functional and appealing product for a chosen user and purpose based on simple design criteria. • Generate, develop, model and communicate their ideas as appropriate through talking, drawing, templates, mock-ups and information and communication technology. • Generate initial ideas and simple design criteria through talking and using own experiences also through investigating a variety of fruit and vegetables. • Communicate these ideas through talk and drawings. <p>Making</p>	<p>names of existing products, joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function</p>



<p>Textiles – templates and joining techniques</p>	<ul style="list-style-type: none">• Select from and use a range of tools and equipment to perform practical tasks such as marking out, cutting, joining and finishing.• Select from and use textiles according to their characteristics.• Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.• Use simple utensils and equipment to e.g. peel, cut, slice, squeeze, grate and chop safely.• Select from a range of fruit and vegetables according to their characteristics e.g. colour, texture and taste to create a chosen product. <p>Evaluating</p> <ul style="list-style-type: none">• Explore and evaluate a range of existing textile products relevant to the project being undertaken.• Evaluate their ideas throughout and their final products against original design criteria.• Explore and evaluate a range of products with wheels and axles.• Taste and evaluate a range of fruit and vegetables to determine the intended user’s preferences.• Evaluate ideas and finished products against design criteria, including intended user and purpose. <p>Technical knowledge and understanding</p> <ul style="list-style-type: none">• Understand how simple 3-D textile products are made, using a template to create two identical shapes.• Understand how to join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling.• Explore different finishing techniques e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.• Know and use technical and sensory vocabulary relevant to the project• Explore and use wheels, axles and axle holders.	<p>vehicle, wheel, axle, axle holder, chassis, body, cab assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism names of tools, equipment and materials used fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular,</p>
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	<ul style="list-style-type: none"> • Distinguish between fixed and freely moving axles. • Understand where a range of fruit and vegetables come from e.g. farmed or grown at home. • Understand and use basic principles of a healthy and varied diet to prepare dishes, including how fruit and vegetables are part of <i>The Eatwell plate</i>. 	
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Year 3

Topics	Key Learning	Vocabulary
<p>Autumn Food – salad snacks</p> <p>Spring Mechanical systems – levers and linkages</p> <p>Summer Structures – shell structures</p>	<p>Designing</p> <ul style="list-style-type: none"> • Generate realistic ideas and their own design criteria through discussion, focusing on the needs of the user. • Use annotated sketches and prototypes to develop, model and communicate ideas. • Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and the functional and aesthetic purposes of the product. • Develop ideas through the analysis of existing shell structures and use computer-aided design to model and communicate ideas. • Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. <p>Making</p> <ul style="list-style-type: none"> • Order the main stages of making. • Select from and use appropriate tools with some accuracy to cut, shape and join paper and card. • Select from and use finishing techniques suitable for the product they are creating. • Plan the order of the main stages of making. 	<p>mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output</p> <p>linear, rotary, oscillating, reciprocating</p> <p>user, purpose, function</p> <p>prototype, design criteria, innovative, appealing, design brief, shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity</p> <p>marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating</p>



- Select and use appropriate tools and software to measure, mark out, cut, score, shape and assemble with some accuracy.
- Explain their choice of materials according to functional properties and aesthetic qualities.
- Use computer-generated finishing techniques suitable for the product they are creating.
- Plan the main stages of a recipe, listing ingredients, utensils and equipment.
- Select and use appropriate utensils and equipment to prepare and combine ingredients.
- Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.

Evaluating

- Investigate and analyse books and, where available, other products with lever and linkage mechanisms.
- Evaluate their own products and ideas against criteria and user needs, as they design and make.
- Investigate and evaluate a range of shell structures including the materials, components and techniques that have been used.
- Test and evaluate their own products against design criteria and the intended user and purpose.
- Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.
- Evaluate the ongoing work and the final product with reference to the design criteria and the views of others

Technical knowledge and understanding

- Understand and use lever and linkage mechanisms.
- Distinguish between fixed and loose pivots.
- Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes.

font, lettering, text, graphics,
decision, evaluating, design
brief design criteria,
innovative, prototype
name of products, names of
equipment, utensils,
techniques and ingredients
texture, fresh, savoury
sensory evaluations



	<ul style="list-style-type: none"> • Develop and use knowledge of how to construct strong, stiff shell structures. • Know how to use appropriate equipment and utensils to prepare and combine food. • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately. 	
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Year 4

Topics	Key Learning and Competancies	Vocabulary
<p>Autumn Electrical systems – simple circuits and switches</p> <p>Spring Food – sandwiches</p> <p>Summer Textiles – 2D shape to 3D product</p>	<p>Designing</p> <ul style="list-style-type: none"> • Generate and clarify ideas through discussion with peers and adults to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. • Use annotated sketches and appropriate information and communication technology, such as web-based recipes, to develop and communicate ideas. • Gather information about needs and wants, and develop design criteria to inform the design of products that are fit for purpose, aimed at particular individuals or groups. • Generate, develop, model and communicate realistic ideas through discussion and, as appropriate, annotated sketches, cross-sectional and exploded diagrams. • Generate realistic ideas through discussion and design criteria for an appealing, functional product fit for purpose and specific user/s. • Produce annotated sketches, prototypes, final product sketches and pattern pieces. <p>Making</p> <ul style="list-style-type: none"> • Plan the main stages of a recipe, listing ingredients, utensils and equipment. • Select and use appropriate utensils and equipment to prepare and combine ingredients. 	<p>name of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet planning, design criteria, purpose, user, annotated sketch, sensory evaluations series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb</p>



- Select from a range of ingredients to make appropriate food products, thinking about sensory characteristics.
- Plan and order the main stages of making.
- Select from and use tools and equipment to cut, shape, join and finish with some accuracy.
- Select from and use materials and components, including construction materials and electrical components according to their functional properties and aesthetic qualities.
- Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing.
- Select fabrics and fastenings according to their functional characteristics e.g. strength, and aesthetic qualities e.g. pattern.

Evaluating

- Carry out sensory evaluations of a variety of ingredients and products. Record the evaluations using e.g. tables and simple graphs.
- Evaluate the ongoing work and the final product with reference to the design criteria and the views of others.
- Investigate and analyse a range of existing battery-powered products and a range of 3-D textile products relevant to the project.
- Evaluate their ideas and products against their own design criteria and identify the strengths and areas for improvement in their work.
- Investigate
- Test their product against the original design criteria and with the intended user.
- Take into account others' views.
- Understand how a key event/individual has influenced the development of the chosen product and/or fabric.

Technical knowledge and understanding

- Know how to use appropriate equipment and utensils to prepare and combine food.

holder, wire, insulator, conductor, crocodile clip control, program, system, input device, output device, user, purpose, function, prototype, design criteria, innovative, appealing, design brief
fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance
purpose, design, model, evaluate, functional, investigate, label, drawing, aesthetics, function, pattern pieces



	<ul style="list-style-type: none"> • Know about a range of fresh and processed ingredients appropriate for their product, and whether they are grown, reared or caught. • Know and use relevant technical and sensory vocabulary appropriately • Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. • Apply their understanding of computing to program and control their products. • Know how to strengthen, stiffen and reinforce existing fabrics. • Understand how to securely join two pieces of fabric together. • Understand the need for patterns and seam allowances. 	
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Year 5

Topics	Key Learning and Competancies	Vocabulary
<p>Autumn Structures – Frame structures</p> <p>Spring Food – savoury scones</p> <p>Summer Electrical systems – monitoring and control</p>	<p>Designing</p> <ul style="list-style-type: none"> • Carry out research into user needs and existing products, using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide the development of their ideas and products, taking account of constraints including time, resources and cost. • Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification. • Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. • Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. • Develop a design specification for a functional product that responds automatically to changes in the environment. 	<p>frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs</p>



- Generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams.

Making

- Competently select from and use appropriate tools to accurately measure, mark out, cut, shape and join construction materials to make frameworks.
- Use finishing and decorative techniques suitable for the product they are designing and making.
- Write a step-by-step recipe, including a list of ingredients, equipment and utensils
- Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients.
- Make, decorate and present the food product appropriately for the intended user and purpose.
- Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product.
- Create and modify a computer control program to enable their electrical product to respond to changes in the environment.
- Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components.

Evaluating

- Investigate and evaluate a range of existing frame structures.
- Critically evaluate their products against their design specification, intended user and purpose, identifying strengths and areas for development, and carrying out appropriate tests.

Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.

fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality
utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble
design specification, innovative, research, reed switch, toggle switch, push-to-make switch, push-to-break switch, light dependent resistor (LDR), tilt switch
light emitting diode (LED), bulb, bulb holder, battery, battery holder, USB cable, wire, insulator, conductor, crocodile clip
control, program, system, input device, output device, series circuit, parallel circuit



- Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.
- Understand how key chefs have influenced eating habits to promote varied and healthy diets.
- Continually evaluate and modify the working features of the product to match the initial design specification.
- Test the system to demonstrate its effectiveness for the intended user and purpose.
- Research key events and individuals relevant to frame structures.

Technical knowledge and understanding

- Understand how to strengthen, stiffen and reinforce 3-D frameworks.
- Know how to use utensils and equipment including heat sources to prepare and cook food.
- Understand about seasonality in relation to food products and the source of different food products.
- Know and use relevant technical and sensory vocabulary.
- Understand and use electrical systems in their products.
- Understand the use of computer control systems in products.
- Apply their understanding of computing to program, monitor and control their products.



Topics	Key Learning and Competancies	Vocabulary
<p>Autumn Textiles – combining different fabric shapes</p> <p>Spring Food – bread, celebrating seasonality and culture</p> <p>Summer Food - celebrating seasonality and culture</p>	<p>Designing</p> <ul style="list-style-type: none"> • Generate innovative ideas through research including surveys, interviews and questionnaires and discussion with peers and adults to develop a design brief and criteria for a design specification. • Explore a range of initial ideas, and make design decisions to develop a final product linked to user and purpose. • Use words, annotated sketches and information and communication technology as appropriate to develop and communicate ideas. • Develop, model and communicate ideas through talking, drawing, templates, mock-ups and prototypes and, where appropriate, computer-aided design. • Design purposeful, functional, appealing products for the intended user that are fit for purpose based on a simple design specification. <p>Making</p> <ul style="list-style-type: none"> • Write a step-by-step recipe, including a list of ingredients, equipment and utensils • Select and use appropriate utensils and equipment accurately to measure and combine appropriate ingredients. • Make, decorate and present the food product appropriately for the intended user and purpose. • Produce detailed lists of equipment and fabrics relevant to their tasks. • Formulate step-by-step plans and, if appropriate, allocate tasks within a team. • Select from and use a range of tools and equipment to make products that are accurately assembled and well finished. Work within the constraints of time, resources and cost. 	<p>ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs</p> <p>fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality</p> <p>utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble</p> <p>design specification, innovative, research, evaluate, design brief seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces</p> <p>name of textiles and fastenings used, pins,</p>



	<p>Evaluating</p> <ul style="list-style-type: none">• Carry out sensory evaluations of a range of relevant products and ingredients. Record the evaluations using e.g. tables/graphs/charts such as star diagrams.• Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements.• Understand how key chefs have influenced eating habits to promote varied and healthy diets.• Investigate and analyse textile products linked to their final product.• Compare the final product to the original design specification.• Test products with intended user and critically evaluate the quality of the design, manufacture, functionality and fitness for purpose.• Consider the views of others to improve their work. <p>Technical knowledge and understanding</p> <ul style="list-style-type: none">• Know how to use utensils and equipment including heat sources to prepare and cook food.• Understand about seasonality in relation to food products and the source of different food products.• Know and use relevant technical and sensory vocabulary.• A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics.• Fabrics can be strengthened, stiffened and reinforced where appropriate.	<p>needles, thread, pinking shears, fastenings, iron transfer paper</p> <p>design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype</p>
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