



Design & Technology—Progression of Knowledge and Skills

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer2
EYFS	Structures: (in preparation for Year 1) • Experience of using construction kits to build walls, towers and frameworks. • Experience of using of basic tools e.g. scissors or hole punches with construction materials e.g. plastic, card. • Experience of different methods of joining card and paper. Food: (in preparation for Year 1) • Experience of common fruit and vegetables, undertaking sensory activities i.e. appearance taste and smell. • Experience of cutting soft fruit and vegetables using appropriate utensils. Wheels and Axles (in preparation for Year 1) • Assembled vehicles with moving wheels using construction kits. • Explored moving vehicles through play. • Gained some experience of designing, making and evaluating products for a specified user and purpose. • Developed some cutting, joining and finishing skills with card. Textiles: (in preparation for Spring Year 2) Prior learning • Explored and used different fabrics. • Cut and joined fabrics with simple techniques. • Thought about the user and purpose of products					



Design & Technology—Progression of Knowledge and Skills

Year 1	Design	Make	Evaluate	Technical Knowledge and Understanding
<u>Autumn Term:</u> Structure: <i>Freestanding Structures (bridges)</i> <u>Spring Term:</u> Food: <i>Preparing fruit and vegetables (fruit kebabs)</i> <u>Summer Term:</u> Mechanisms: <i>Wheels and Axles (toy cars)</i>	<u>Autumn Term:</u> Lesson 2: Generate ideas based on simple design criteria and their own experiences, explaining what they could make. Lesson 5: Generate ideas based on simple design criteria and their own experiences, explaining what they could make. <u>Spring Term:</u> Lesson 4: - 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. <u>Summer Term:</u> Lesson 2: - Generate initial ideas and simple design criteria through talking and using own experiences. - Develop and communicate ideas through drawings and mock-ups.	<u>Autumn Term:</u> Lesson 3: Select new and reclaimed materials and construction kits to build their structures. Lesson 6: - Plan by suggesting what to do next. - Select and use tools, skills and techniques, explaining their choices. - Select new and reclaimed materials and construction kits to build their structures. Lesson 7: Use simple finishing techniques suitable for the structure they are creating. <u>Spring Term:</u> Lesson 5: - 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 <u>Summer Term:</u> Lesson 3: - Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. - Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.	<u>Autumn Term:</u> Lesson 1: Explore a range of existing free-standing structures in the school and local environment e.g. everyday products and buildings. Lesson 4: Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. Lesson 8: Evaluate their product by discussing how well it works in relation to the purpose, the user and whether it meets the original design criteria. <u>Spring Term:</u> Lesson 3: Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. Lesson 6: Evaluate ideas and finished products against design criteria, including intended user and purpose. <u>Summer Term:</u> Lesson 4: - Explore and evaluate a range of products with wheels and axles. - Evaluate their ideas throughout and their products against original criteria.	<u>Autumn Term:</u> Lesson 2: Know and use technical vocabulary relevant to the project. Lesson 4: Explore how paper, through twisting, folding, bending or manipulating, can be made stronger. <u>Spring Term:</u> Lesson 1: - 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 Guide</i> - Know and use technical and sensory vocabulary relevant to the project. Lesson 2: Understand where a range of fruit and vegetables come from e.g. farmed or grown at home Lesson 3: Know and use technical and sensory vocabulary relevant to the project. <u>Summer Term:</u> Lesson 1: - Explore and use wheels, axles and axle holders. - Distinguish between fixed and freely moving axles. - Know and use technical vocabulary relevant to the project.



Design & Technology—Progression of Knowledge and Skills

Year 2	Design	Make	Evaluate	Technical Knowledge and Understanding
<u>Autumn Term:</u> Food: <i>Preparing vegetables (vegetable salad)</i> <u>Spring Term:</u> Textiles: <i>Templates and Joining Techniques (Making a Tudor House)</i> <u>Summer Term:</u> Mechanisms: <i>Sliders and Levers (Making a Lighthouse Keeper's Scene)</i>	<u>Autumn Term:</u> Lesson 2: • 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. <u>Spring Term:</u> Lesson 2: • 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 <u>Summer Term:</u> Lesson 2: • 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.	<u>Autumn Term:</u> Lesson 3: • 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. <u>Spring Term:</u> Lesson 3: • 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 Lesson 4: • 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. <u>Summer Term:</u> Lesson 3: • 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 they are creating. Lesson 4: • 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 they are creating.	<u>Autumn Term:</u> Lesson 2: Taste and evaluate a range of fruit and vegetables to determine the intended user's preferences. Lesson 4: Evaluate ideas and finished products against design criteria, including intended user and purpose. <u>Spring Term:</u> Lesson 1: Explore and evaluate a range of existing textile products relevant to the project being undertaken. Lesson 5: Evaluate their ideas throughout and their final products against original design criteria. <u>Summer Term:</u> Lesson 1: Explore a range of existing books and everyday products that use simple sliders and levers. Lesson 4: Evaluate their product by discussing how well it works in relation to the purpose and the user and whether it meets design criteria.	<u>Autumn Term:</u> Lesson 1: • 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, including that fruit and vegetables are part of the Eatwell Guide. <u>Spring Term:</u> Lesson 1: Understand how simple 3-D textile products are made, using a template to create two identical shapes. Lesson 4: • Understand how simple 3-D textile products are made, using a template to create two identical shapes. • Know and use technical vocabulary relevant to the project. <u>Summer Term:</u> Lesson 1: • Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement. • Know and use technical vocabulary relevant to the project. Lesson 3: • Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement. • Know and use technical vocabulary relevant to the project. Lesson 4: • Explore and use sliders and levers. • Understand that different mechanisms produce different types of movement. • Know and use technical vocabulary relevant to the project.

End of Key Stage 1 Expectations (Design & Technology)

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

Design

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology

Make

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

Technical knowledge

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

Cooking and Nutrition:

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.



Design & Technology—Progression of Knowledge and Skills

Year 3	Design	Make	Evaluate	Technical Knowledge and Understanding
Autumn Term: Textiles: 2D to 3D Product (Make a fabric product) Spring Term: Structures Shell Structures (Shell structure for a canopic jar) Summer Term: Food: Healthy and Varied Diet (Healthy Soda bread for a specific user)	Autumn Term: Lesson 2: - 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. Spring Term: Lesson 2: - Generate realistic ideas and design criteria collaboratively through discussion, focusing on the needs of the user and purpose of the product. - Develop ideas through the analysis of existing products and use annotated sketches and prototypes to model and communicate ideas. Summer Term: Lesson 3: - Generate and clarify ideas through discussion to develop design criteria including appearance, taste, texture and aroma for a particular user and purpose. - Use annotated sketches to communicate ideas.	Autumn Term: Lesson 3: Select and use a range of appropriate tools with some accuracy e.g. cutting, joining and finishing. Lesson 4: - Plan the main stages of making. - Select and use a range of appropriate tools with some accuracy. - Select fabrics and fastenings according to their functional and aesthetic qualities. Spring Term: Lesson 3: - Order the main stages of making. - Select and use appropriate tools to measure, mark out, cut, score, shape and assemble with some accuracy. - Explain their choice of materials according to functional properties and aesthetic qualities. Lesson 4: - Order the main stages of making. - Select and use appropriate tools 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 finishing techniques suitable for the product they are creating. Summer Term: Lesson 5: - Plan the main stages of a recipe, listing ingredients, utensils and equipment. - Select and use appropriate utensils and equipment to prepare and combine ingredients.	Autumn Term: Lesson 1: Investigate a range of 3-D textile products relevant to the project. Lesson 5: - Test their product against the original design criteria and with the intended user. - Take into account others' views. Spring Term: Lesson 1: Investigate and evaluate a range of existing shell structures including the materials, components and techniques that have been used. Lesson 4: - Test and evaluate their own products against design criteria and the intended user and purpose. - Technical Knowledge and Understanding: - Develop and use knowledge of how to construct strong, stiff shell structures. - Know and use technical vocabulary relevant to the project. Summer Term: Lesson 1: Carry out sensory evaluations of a variety of ingredients and products. Lesson 6: Can I evaluate my soda bread using sensory language and design criteria?	Autumn Term: Lesson 1: Know and use technical vocabulary relevant to the project. Lesson 3: - Understand how to securely join two pieces of fabric together. - Understand the need for patterns and seam allowances. Lesson 4: Know how to strengthen, stiffen and reinforce existing fabrics. Spring Term: Lesson 1: - Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. - Know and use technical vocabulary relevant to the project. Lesson 2: - Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. - Know and use technical vocabulary relevant to the project. Lesson 3: - Develop and use knowledge of how to construct strong, stiff shell structures. - Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. - Know and use technical vocabulary relevant to the project. Summer Term: Lesson 1: Know and use relevant technical and sensory vocabulary appropriately. Lesson 2: - Understand the principles of a healthy and varied diet. - Know about a range of ingredients and how they contribute to a healthy product. Lesson 4: Know about a range of ingredients and whether they are grown, reared or caught. Lesson 5: Know how to use appropriate equipment and utensils to prepare and combine food.



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Year 4	Design	Make	Evaluate	Technical Knowledge and Understanding
<u>Autumn Term:</u> Food: Healthy and Varied Diet (Make biscuits) <u>Spring Term:</u> Electrical systems Simple Programming (Make an electrical sign) <u>Summer Term:</u> Mechanical Systems: Levers and Linkages (Pop-up page)	<u>Autumn Term:</u> Lesson 3: - Generate and clarify ideas through discussion to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. - Use annotated sketches to develop and communicate ideas. <u>Spring Term:</u> Lesson 3: - information about users' needs and develop design criteria for a product that is fit for purpose. - Generate, develop and communicate ideas through annotated sketches. <u>Summer Term:</u> Lesson 3: - Generate ideas and develop design criteria focusing on user and purpose. - Use annotated sketches to develop and communicate ideas.	<u>Autumn Term:</u> Lesson 4: - Plan the main stages of a recipe, listing ingredients, utensils and equipment. - Select and use appropriate utensils and equipment to prepare and combine ingredients. <u>Spring Term:</u> Lesson 4: - Order the main stages of making. - Select and use tools and equipment to cut, shape, join and assemble with some accuracy. - Connect simple electrical components in a series circuit to achieve a functional outcome. <u>Summer Term:</u> Lesson 2: Develop skills in measuring, marking out, cutting, joining and assembling mechanisms. Lesson 4: - Order the main stages of making. - Select and use tools and materials to cut, shape and join with some accuracy. - Apply mechanisms to create a functional product.	<u>Autumn Term:</u> Lesson 1: Carry out sensory evaluations of a variety of ingredients and products. Lesson 5: - Evaluate the ongoing work and the final product with reference to design criteria and the views of others. - Carry out sensory evaluations using appropriate vocabulary. <u>Spring Term:</u> Lesson 1: Investigate and analyse a range of existing battery-powered products, considering how they work and their purpose. Lesson 2: Investigate examples of switches and how they work in different products. Lesson 5: Evaluate their ideas and products against their own design criteria and identify strengths and areas for improvement. <u>Summer Term:</u> Lesson 1: Investigate, analyse and evaluate books and other products that use lever and linkage mechanisms. Lesson 5: Evaluate their products against design criteria and user needs, identifying strengths and areas for improvement.	<u>Autumn Term:</u> Lesson 1: Know and use relevant technical and sensory vocabulary appropriately. Lesson 2: - Understand the principles of a healthy and varied diet. - Know about a range of ingredients and how they contribute to a healthy product. Lesson 3: Know and use relevant technical and sensory vocabulary appropriately Lesson 4: Know how to use appropriate equipment and utensils to prepare and combine food. <u>Spring Term:</u> Lesson 1: Know and use technical vocabulary relevant to electrical systems (e.g. battery, switch, circuit, light). Lesson 2: Understand how switches act as input devices to control circuits and outputs such as bulbs or LEDs. Lesson 3: Know and use technical vocabulary relevant to electrical systems and design (e.g. switch, circuit, light, user, purpose). Lesson 4: Understand how to construct a simple series circuit and use it within a product. Lesson 5: Understand how electrical systems function and how faults can be identified and corrected. <u>Summer Term:</u> Lesson 1: - Understand how simple lever and linkage mechanisms create movement. - Know and use technical vocabulary relevant to mechanisms (e.g. lever, linkage, pivot, input, output). Lesson 2: - Understand how lever and linkage mechanisms create movement. - Distinguish between fixed and loose pivots. Lesson 3: - Understand how lever and linkage mechanisms can be used to create movement in a product. - Know and use technical vocabulary relevant to mechanisms (e.g. lever, linkage, pivot, input, output). Lesson 4: Understand how lever and linkage mechanisms are constructed and used within a product. Lesson 5: Understand how mechanisms perform within a finished product and how changes can improve function.



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Year 4	Design	Make	Evaluate	Technical Knowledge and Understanding
<u>Autumn Term:</u> Food: Healthy and Varied Diet (Make biscuits) <u>Spring Term:</u> Electrical systems Simple Programming (Make an electrical sign) <u>Summer Term:</u> Mechanical Systems: Levers and Linkages (Pop-up page)	<u>Autumn Term:</u> Lesson 3: - Generate and clarify ideas through discussion to develop design criteria including appearance, taste, texture and aroma for an appealing product for a particular user and purpose. - Use annotated sketches to develop and communicate ideas. <u>Spring Term:</u> Lesson 3: - information about users' needs and develop design criteria for a product that is fit for purpose. - Generate, develop and communicate ideas through annotated sketches. <u>Summer Term:</u> Lesson 3: - Generate ideas and develop design criteria focusing on user and purpose. - Use annotated sketches to develop and communicate ideas.	<u>Autumn Term:</u> Lesson 4: - Plan the main stages of a recipe, listing ingredients, utensils and equipment. - Select and use appropriate utensils and equipment to prepare and combine ingredients. <u>Spring Term:</u> Lesson 4: - Order the main stages of making. - Select and use tools and equipment to cut, shape, join and assemble with some accuracy. - Connect simple electrical components in a series circuit to achieve a functional outcome. <u>Summer Term:</u> Lesson 2: Develop skills in measuring, marking out, cutting, joining and assembling mechanisms. Lesson 4: - Order the main stages of making. - Select and use tools and materials to cut, shape and join with some accuracy. - Apply mechanisms to create a functional product.	<u>Autumn Term:</u> Lesson 1: Carry out sensory evaluations of a variety of ingredients and products. Lesson 5: - Evaluate the ongoing work and the final product with reference to design criteria and the views of others. - Carry out sensory evaluations using appropriate vocabulary. <u>Spring Term:</u> Lesson 1: Investigate and analyse a range of existing battery-powered products, considering how they work and their purpose. Lesson 2: Investigate examples of switches and how they work in different products. Lesson 5: Evaluate their ideas and products against their own design criteria and identify strengths and areas for improvement. <u>Summer Term:</u> Lesson 1: Investigate, analyse and evaluate books and other products that use lever and linkage mechanisms. Lesson 5: Evaluate their products against design criteria and user needs, identifying strengths and areas for improvement.	<u>Autumn Term:</u> Lesson 1: Know and use relevant technical and sensory vocabulary appropriately. Lesson 2: - Understand the principles of a healthy and varied diet. - Know about a range of ingredients and how they contribute to a healthy product. Lesson 3: Know and use relevant technical and sensory vocabulary appropriately Lesson 4: Know how to use appropriate equipment and utensils to prepare and combine food. <u>Spring Term:</u> Lesson 1: Know and use technical vocabulary relevant to electrical systems (e.g. battery, switch, circuit, light). Lesson 2: Understand how switches act as input devices to control circuits and outputs such as bulbs or LEDs. Lesson 3: Know and use technical vocabulary relevant to electrical systems and design (e.g. switch, circuit, light, user, purpose). Lesson 4: Understand how to construct a simple series circuit and use it within a product. Lesson 5: Understand how electrical systems function and how faults can be identified and corrected. <u>Summer Term:</u> Lesson 1: - Understand how simple lever and linkage mechanisms create movement. - Know and use technical vocabulary relevant to mechanisms (e.g. lever, linkage, pivot, input, output). Lesson 2: - Understand how lever and linkage mechanisms create movement. - Distinguish between fixed and loose pivots. Lesson 3: - Understand how lever and linkage mechanisms can be used to create movement in a product. - Know and use technical vocabulary relevant to mechanisms (e.g. lever, linkage, pivot, input, output). Lesson 4: Understand how lever and linkage mechanisms are constructed and used within a product. Lesson 5: Understand how mechanisms perform within a finished product and how changes can improve function.



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Year 5 (Page 1)

Autumn Term: Structure: Frame Structures (Anderson Shelter)

Design

Autumn Term:

Lesson 1:

- Generate and clarify ideas through discussion to identify effective structural features
- Use annotated sketches to develop and communicate ideas

Lesson 2:

- Generate, develop and model innovative ideas through discussion and prototypes
- Use annotated sketches to develop and communicate ideas

Lesson 3:

- Carry out research into user needs and existing products
- Use annotated sketches to develop and communicate ideas

Lesson 4:

- Develop a simple design specification to guide the development of ideas and products. Take account of constraints including time, resources and cost
- Generate, develop and model innovative ideas through discussion and annotated sketches
- Use annotated sketches to develop and communicate ideas

Lesson 5:

- Generate, develop and model innovative ideas through discussion and prototypes
- Use annotated sketches to develop and communicate ideas

Make

Autumn Term:

Lesson 5:

- Formulate a clear plan, including a step-by-step list of what needs to be done and lists of resources to be used
- 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

Evaluate

Autumn Term:

Lesson 1:

- Investigate and evaluate a range of existing frame structures
- Consider how well they meet user needs and purposes

Lesson 2:

- Investigate and evaluate how different framework designs perform
- Identify strengths and areas for development through testing

Lesson 3:

- Investigate and evaluate a range of existing frame structures
- Consider how well the Anderson shelter met its user needs and purpose

Lesson 4:

- Consider how designs meet the intended user and purpose
- Use design criteria to guide decisions

Lesson 5:

- Critically evaluate their products against their design specification, intended user and purpose
- Identify strengths and areas for development, and carry out appropriate tests
- Technical Knowledge:
- Understand how to strengthen, stiffen and reinforce 3-D frameworks
- Know and use technical vocabulary relevant to the project

Technical Knowledge and Understanding

Autumn Term:

Lesson 1:

- Understand how to strengthen, stiffen and reinforce 3-D frameworks
- Know and use technical vocabulary relevant to the project

Lesson 2:

- Understand how to strengthen, stiffen and reinforce 3-D frameworks
- Know and use technical vocabulary relevant to the project

Lesson 3:

- Understand how to strengthen, stiffen and reinforce 3-D frameworks
- Know and use technical vocabulary relevant to the project

Lesson 4:

- Understand how to strengthen, stiffen and reinforce 3-D frameworks
- Know and use technical vocabulary relevant to the project



Design & Technology—Progression of Knowledge and Skills

Year 5 (Page 2)

Design

Make

Evaluate

Technical Knowledge and Understanding

Spring Term:

Food:

Celebrating Culture and Seasonality
(Making pizza)

Spring Term:

Lesson 1:

- Generate innovative ideas through research and discussion to develop a design brief and criteria
- Use words and annotated sketches to develop and communicate ideas

Lesson 2:

- Generate innovative ideas through research and discussion to develop a design brief and criteria
- Explore a range of ideas and make design decisions based on preferences and findings

Lesson 3:

- 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 and annotated sketches to develop and communicate ideas

Lesson 4:

- Generate innovative ideas through research and discussion with peers and adults to develop a design brief and criteria for a design specification
- Use words and annotated sketches to develop and communicate ideas

Summer Term:

Lesson 1: Generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams.

Lesson 2: Generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams

Lesson 3:

- Develop a design specification for a functional product that responds automatically to changes in the environment
- Generate, develop and communicate ideas through discussion, annotated sketches and pictorial representations of electrical circuits or circuit diagrams

Spring Term:

Lesson 4:

- 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 ingredients
- Make, decorate and present the food product appropriately for the intended user and purpose

Summer Term:

Lesson 2: Competently select and accurately assemble materials, and securely connect electrical components to produce a reliable, functional product

Lesson 4:

- Formulate a step-by-step plan to guide making, listing tools, equipment, materials and components
- 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

Spring Term:

Lesson 1:

- Carry out research into existing products and ingredients
- Ask questions to understand ingredients, source and nutritional value

Lesson 2:

- Carry out sensory evaluations of a range of relevant products and ingredients
- Record the evaluations using tables, charts or simple rating systems

Lesson 3:

- Use design criteria to guide decisions
- Consider how designs meet the intended user and purpose

Lesson 4:

- Evaluate the final product with reference back to the design brief and design specification
- Take into account the views of others when identifying improvements

Lesson 5:

- Evaluate the final product with reference back to the design brief and design specification, taking into account the views of others when identifying improvements
- Carry out sensory evaluations of a range of relevant products and ingredients

Summer Term:

Lesson 5:

- 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

Spring Term:

Lesson 1:

- Understand about seasonality in relation to food products and the source of ingredients

- Know and use relevant technical and sensory vocabulary

Lesson 2:

- Know and use relevant technical and sensory vocabulary
- Understand how ingredients and preparation affect taste, texture and appearance

Lesson 3:

- Know and use relevant technical and sensory vocabulary
- Understand how ingredients affect taste, texture and appearance

Lesson 4:

- Know how to use utensils and equipment safely and appropriately to prepare and cook food
- Know and use relevant technical and sensory vocabulary

Lesson 5:

- Know and use relevant technical and sensory vocabulary
- Understand how ingredients and preparation affect taste, texture and appearance

Summer Term:

Lesson 1:

- Understand and use electrical systems in their products
- Know and use technical vocabulary relevant to the project

Lesson 2:

- Understand and use electrical systems in products;
- Understand the use of computer control systems in products;
- Know and use technical vocabulary relevant to the project

Lesson 4:

- 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

- Know and use technical vocabulary relevant to the project

Lesson 5:

- Apply their understanding of computing to program, monitor and control their products
- Know and use technical vocabulary relevant to the project



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Year 6 (Page 1)	Design	Make	Evaluate	Technical Knowledge and Understanding
Autumn Term: Textiles: Combining Different Shape Fabrics (<i>Design, make and evaluate a bag</i>) Spring Term: Food: Celebrating Culture and Seasonality (<i>Savoury Muffin</i>)	Autumn Term: Lesson 3: • Generate innovative ideas by carrying out research including surveys, interviews and questionnaires • 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 Spring Term: Lesson 3: • 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.	Autumn Term: Lesson 2: 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. Lesson 4: • 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. Spring Term: Lesson 4: • 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	Autumn Term: Lesson 1: Investigate and analyse textile products linked to their final product Lesson 5: • 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 Spring Term: Lesson 1: 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. Lesson 2: 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. Lesson 5: • 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.	Autumn Term: Lesson 1: • 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 Lesson 2: Fabrics can be strengthened, stiffened and reinforced where appropriate Lesson 3: A 3-D textile product can be made from a combination of accurately made pattern pieces, fabric shapes and different fabrics Lesson 4: • 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 • Lesson 5: Fabrics can be strengthened, stiffened and reinforced where appropriate Spring Term: Lesson 1: • Understand about seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary. Lesson 2: Know and use relevant technical and sensory vocabulary. Lesson 3: Understand about seasonality in relation to food products and the source of different food products. Lesson 4: • Know how to use utensils and equipment including heat sources to prepare and cook food • Know and use relevant technical and sensory vocabulary Lesson 5: • Understand about seasonality in relation to food products and the source of different food products. • Know and use relevant technical and sensory vocabulary.



Design & Technology—Progression of Knowledge and Skills

Year 6 (Page 2)	Design	Make	Evaluate	Technical Knowledge and Understanding
Summer Term: Mechanical Systems Pulleys or Gears (Mechanical System with pulleys or gears for a specific user)	Summer Term: Lesson 3: • Generate innovative ideas by carrying out research using surveys, interviews, questionnaires and web-based resources. • Develop a simple design specification to guide their thinking. • Develop and communicate ideas through discussion, annotated drawings, exploded drawings and drawings from different views.	Summer Term: Lesson 4: • Produce detailed lists of tools, equipment and materials. 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.	Summer Term: Lesson 1: Investigate, analyse and evaluate existing everyday products and existing or pre-made toys that incorporate gear or pulley systems Lesson 5: • 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.	Summer Term: Lesson 1: • Understand that mechanical and electrical systems have an input, process and an output. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. • Know and use technical vocabulary relevant to the project. Lesson 2: • Understand that mechanical and electrical systems have an input, process and an output. • Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. • Know and use technical vocabulary relevant to the project. Lesson 3: • Understand that mechanical and electrical systems have an input, process and an output. • Know and use technical vocabulary relevant to the project. Lesson 4: • Understand that mechanical and electrical systems have an input, process and an output. • Know and use technical vocabulary relevant to the project. Lesson 5: • Understand that mechanical and electrical systems have an input, process and an output. • Know and use technical vocabulary relevant to the project.

End of Key Stage 2 Expectations (Design & Technology)

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment]. When designing and making, pupils should be taught to

When designing and making, pupils should be taught to:

Design

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

Make

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

Evaluate

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work
- understand how key events and individuals in design and technology have helped shape the world

Technical knowledge

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition:

- understand and apply the principles of a healthy and varied diet
- prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.