William Gilbert Endowed C of E Primary School and Nursery
Progression in our Design & Technology Curriculum

	EYFS Designer	Year 1 Designer	Year 2 Designer	Year 3 Designer	Year 4 Designer	Year 5 Designer	Year 6 Designer
EYFS National Curriculum	**Understanding the world: technology** • Children recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. **Expressive art and design: exploring and using media and materials** • Children … safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function.	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		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 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		**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 • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria		**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 • 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.		**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 • Use the basic principles of a healthy and varied diet to prepare dishes • Understand where food comes from.		**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.			

Design	Work within different contexts such as story- based, home, school, playground. Generate ideas from existing examples. Begin to talk about their designs Make a simple plan before making.	**Year 1** •Describe what their products are for. •Use existing knowledge to generate their own original designs. •Begin to develop and communicate ideas by talking and drawing. **In addition to above Year 2** •State what products they are designing and making. •Say whether their products are for themselves or other users. Describe what their products are for. •Say how their products will work and how they're suitable for intended users. •Use simple design criteria to help develop their ideas.	**Year 3** •Work confidently within a range of contexts, such as the home, school, leisure and industry. •Describe the purpose of their products and indicate design features. •Gather information about the needs and wants of individuals or groups. •Develop their own design criteria thinking about the user. •Model ideas using prototypes. •Use annotated diagrams and some computer- aided design packages, to develop and communicate ideas. •Begin to take account of the availability of resources. **In addition to above Year 4** •Use, some cross-sectional drawings and computer aided design packages, to develop and communicate ideas. •Make design decisions that take account of the availability of resources and needs of user	**Year 5** • Work confidently in a wide range of contexts, e.g. Culture, industry, enterprise and wider environment. Describe in detail, the purpose of their products. • Find out what the user wants(surveys) and incorporate that into the design. Develop their own design criteria and use this to inform their ideas. • Develop a simple design specification to guide their thinking. • Model ideas using prototypes and pattern pieces. • Draw cross-sectional drawings, diagrams and computer-aided design packages, to develop and communicate ideas. • Research ideas make them realistic and environmentally friendly. **In addition to above Year 6** • Carry out research to find out what user wants, design (with detailed specifications) an appropriate (realistic and sustainable) product to meet their needs. • Make design decisions that take account of the availability of resources

Make	Shows some planning skills by suggesting what to do next. Selects from a range of materials and components. Begins to follow safety procedures.	**Year 1** • Selects from a range of tools, materials and components. • Follows procedures for safety and hygiene. • Uses a range of materials, components, construction kits, textiles, food ingredients and mechanical products. • Measures, marks out, shapes and cuts most materials **In addition to above Year 2** • Plans, selects tools and materials. Explains their choices. Measures, marks out, cuts, shapes, assembles, joins and combines materials and components. • Begins to use finishing techniques, including those from art and design sessions	**Year 3** • Select suitable tools, materials and components. Explain their choices. • Order the main stages of making. • Follow procedures for safety and hygiene. • Use a wide range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients. • Measures, marks out, cuts and shapes materials and components with some accuracy. • Assembles, joins and combines many materials with some accuracy. • Applies finishing techniques. **In addition to above Year 4** • Measures, marks out, cuts and shapes materials and components with accuracy. • Accurately assemble, join and combine most materials. Accurately apply several finishing techniques.	**Year 5** • Selects materials and components suitable to the task. • Produce appropriate lists of tools, equipment and materials that they will need. • Order stages and formulate step-by-step plans as guide to making. • Follow procedures for safety and hygiene. • Use an extensive range of materials resourcefully and components e.g. textiles, mechanical, construction kits and electrical. • Measures, marks out, cuts and shapes materials and components with 100% accuracy. • Accurately assemble, joins and combines most materials. • Accurately apply a range of finishing techniques, including those from art and design sessions. • Use techniques that involve several steps. **In addition to above Year 6** • Use resourcefulness, resilience and innovation, when tackling practical problems. Explains next steps in learning, drawing from prior experience.

Evaluate	Begin to talk about their design ideas and what they are making. Think about how to make their products better. Begin to explore what products are, who they are for, how they are used, where they are from	**Year 1** • Talk about their design ideas, what they are making and how to improve it. • Explore what products are, what they are made from, who they are for, how they are used, where they are from. • Talk about likes and dislikes of existing products. **In addition to above Year 2** • Make simple judgements about their products and ideas against design criteria. • Write about likes and dislikes of existing products with reasons.	**Year 3** • Identify the strengths and areas for development in their ideas and products. • Consider the views of others. • Refer to their design criteria as they design and make. • Use their design criteria to evaluate their completed products. • Analyse how well products have been designed and made; which materials and methods were used and which were successful; how well the products worked; whether they achieved their purpose and the needs/wants of the users. • Recognise successful inventors, designers, chefs and engineers, who have been influential in the design and technology industries. **In addition to above Year 4** • Investigate and analyse: who designed the products; where and when products were designed and made; Whether products can be recycled or re-used.	**Year 5** • Identify strengths/ weaknesses in their products. • Refer to their design criteria as they design and make to evaluate and improve. • Critically evaluate the design, impact and quality against their original specification. • Investigate and analyse: how well products have been designed and made; why materials have been chosen; what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users. • Investigate and analyse: who designed the products; where and when products were designed and made; consider cost and sustainability. Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries. **In addition to above Year 6** • Consider their design against original plan, intended user, quality and fitness for purpose • Evaluate their ideas and products against their original design specification. Investigate and analyse: how much products cost to make; how innovative and sustainable the materials in products are; what impact products have.

William Gilbert Endowed C of E Primary School and Nursery
Progression in our Design & Technology Curriculum

<table>
<tr><td>Technical Knowledge</td><td>Pupils recognise that a range of technology is used in places such as homes and schools.

They select and use technology for particular purposes. They show an interest in toys with buttons and mechanisms.

Begin to know about the simple working characteristics of materials and components.

Begin to understand the movement of simple mechanisms such as levers, sliders and wheels.

Know that food ingredients should be combined according to their sensory characteristics</td><td><u>Year 1</u>

• They know how to operate simple equipment and show an interest in toys with buttons, flaps and simple mechanisms and operate them successfully.
• Know about the movement of simple mechanisms such as levers, sliders, wheels and axles.
• Begin to use the correct technical vocabulary for projects.

<u>In addition to above Year 2</u>

• Pupils understand the working characteristics of materials and components.
• Understand how freestanding structures can be made stronger, stiffer and more stable.
• Recognise that 3D textiles products can be assembled from two identical fabric shapes.</td><td colspan="2"><u>Year 3</u>

• Pupils know how to use learning from science and mathematics to help design and make products that work.
• They understand that materials have functional and aesthetic qualities. Recognise that materials can be combined and mixed to create more useful characteristics.
• Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products.
• Program a computer to control their products.

<u>In addition to above Year 4</u>

• Use maths and science to help design and make products that work.
• Make strong, stiff shell structures for a purpose. Know that a single fabric shape can be used to make a 3D textile product. Recognise a range of fresh, pre-cooked and processed foods</td><td><u>Year 5</u>

• Know how mechanical systems such as levers and linkages create movement.
• Program a computer to control their products.
• Know that mechanical systems e.g. cams, pulleys or gears create movement.
• Explore more complex electrical circuits and components.
• Program a computer to monitor changes in the environment and control their products.
• Reinforce and strengthen a 3D framework.
• Know that 3D textile products can be made from a combination of fabric shapes.
• Adapt recipes by adding or substituting one or more ingredients.
<u>In addition to above Year 6</u>

• Make strong structures for a purpose. Reinforce and strengthen a 3D framework.
• Make a 3D textile fabric shape.
• Recreate and adapt existing and new recipes by adding or substituting a range of ingredients.</td></tr>
<tr><td>Cooking and Nutrition</td><td>Recognise that we all need to eat to grow and be healthy

• Be aware that we need to eat more of some foods and less of others
• With support, are able to eat sociably with others
• Recognise the importance of drinking water
• Know the importance of brushing teeth twice a day
• Understand that food that has been dropped on the floor, touched with dirty hand or has turned mouldy should not be eaten and can make people ill
• Understand that some foods need to be washed before they are safe to eat (e.g. fruits and vegetables)</td><td>Across KS1 pupils should know:
<u>Where food comes from</u>
• that all food comes from plants or animals
• that food has to be farmed, grown elsewhere (e.g. home) or caught

Across KS1 pupils should know:
<u>Food preparation, cooking and nutrition</u>
• how to name and sort foods into the five groups in ‘The Eat Well Guide’
• that everyone should eat at least five portions of fruit and vegetables every day
• how to prepare simple dishes safely and hygienically, without using a heat source
• how to use techniques such as cutting, peeling and grating</td><td colspan="2">Across KS2 pupils should know:
<u>Where food comes from</u>
• that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world
<u>Food preparation, cooking and nutrition</u>
• how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source
• how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking

<u>Food preparation, cooking and nutrition</u>
• that a healthy diet is made up from a variety and balance of different food and drink, as depicted in ‘The Eat Well Guide’
• that to be active and healthy, food and drink are needed to provide energy for the body</td><td><u>Where food comes from</u>
In late KS2 pupils should also know:
• that seasons may affect the food available
• how food is processed into ingredients that can be eaten or used in cooking

<u>Food preparation, cooking and nutrition</u>
• that recipes can be adapted to change the appearance, taste, texture and aroma
• that different food and drink contain different substances – nutrients, water and fibre – that are needed for health</td></tr>
</table>

William Gilbert Endowed C of E - Design Technology Progression of Skills

Early Years

Design	Work within different contexts such as story- based, home, school, playground. Generate ideas from existing examples. Begin to talk about their designs.
Make	Shows some planning skills by suggesting what to do next. Selects from a range of materials and components. Begins to follow safety procedures.
Evaluate	Begin to talk about their design ideas and what they are making. Think about how to make their products better. Begin to explore what products are, who they are for, how they are used, where they are from
Technical Knowledge	Pupils recognise that a range of technology is used in places such as homes and schools. They select and use technology for particular purposes. They show an interest in toys with buttons and mechanisms. Begin to know about the simple working characteristics of materials and components. Begin to understand the movement of simple mechanisms such as levers, sliders and wheels. Know that food ingredients should be combined according to their sensory characteristics
Cooking and Nutrition	*With close supervision children undertake the following fine motor skills:* • Use scissors as an alternative to knives – snip soft food. • Peel soft vegetables using a peeler (e.g. cucumber) • Use the claw grip to cut soft fruit using a serrated vegetable knife (e.g. fruit) **Cooking/Food preparation** • With supervision children will • Mix, stir and combine ingredients • Use hands to shape dough into small balls or shapes • With help assemble and arrange cold ingredients (e.g. fruit kebabs) • With help, use hands to rub fat into flour (e.g. gruffalo crumble) *Although children will not be cooking hot food, children should understand how hot food is cooked safely by:* • Observing adults using the hob, oven, toaster and microwave

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Year 1	
Design	• Describe what their products are for. • Use existing knowledge to generate their own original designs. • Begin to develop and communicate ideas by talking and drawing. • Designing a smoothie carton, using traditional or digital (ICT) methods based on a chosen ingredient combination; selecting fruits and vegetables for a smoothie recipe *(Food: Fruit and Vegetables smoothie – Kapow unit YEAR B)* • Designing for a client and considering the client's preferences and requirements, following a basic list of criteria (*Structures: Windmills – Kapow unit YEAR B)* • Sketching, measuring and planning the chassis of a vehicle, including a computer based digital racing flag design (*Mechanisms: Wheels and Axles – Kapow unit YEAR B)* • Planning for a set brief, following simple criteria, designing a healthy wrap *(Food: A balanced diet – Kapow unit YEAR A)* • Devising and using design criteria, planning for the design and creation of a mechanical toy, drawing simple diagrams to express ideas. *(Mechanisms: Moving Monsters – Kapow unit YEAR A)* • Designing for others, using criteria and applying knowledge of structures through planning (*Structures: Baby bear's chair – Kapow unit YEAR A)*
Make	• Selects from a range of tools, materials and components. • Follows procedures for safety and hygiene. • Uses a range of materials, components, construction kits, textiles, food ingredients and mechanical products. • Measures, marks out, shapes and cuts most materials • Preparing, chopping and blending fruit and vegetables *(Food: Fruit and Vegetables smoothie – Kapow unit YEAR B)* • Using templates and nets, selecting from basic crafting tools and materials (paper, card, scissors and glue) to create a functional mechanical windmill (*Structures: Windmills – Kapow unit YEAR B)* • Adapting mechanisms, measuring and cutting accurately to a design brief, working to scale and identifying commonly used materials for wheels (*Mechanisms: Wheels and Axles – Kapow unit YEAR B)* • Preparing food safely and hygienically, chopping and slicing safely using a bridge or claw grip *(Food: A balanced diet – Kapow unit YEAR A)* • Cutting and assembling accurately, selecting appropriate crafting materials and tools such as card, paper, glue and paper fasteners *(Mechanisms: Moving Monsters – Kapow unit YEAR A)* • Identifying flaws in pre-modelled design and thinking about ways to fix or strengthen them, cutting and assembling accurately, selecting from materials based on their characteristics (*Structures: Baby bear's chair – Kapow unit YEAR A)*
Evaluate	• Talk about their design ideas, what they are making and how to improve it. • Explore what products are, what they are made from, who they are for, how they are used, where they are from. • Talk about likes and dislikes of existing products. • Trialling and exploring combinations of ingredients, specifying favourite combinations *(Food: Fruit and Vegetables smoothie – Kapow unit YEAR B)* • Exploring different forms of windmill structures, testing the finished windmill (*Structures: Windmills – Kapow unit YEAR B)* • Researching and testing mechanisms (*Mechanisms: Wheels and Axles – Kapow unit YEAR B)* • Conducting product research, trialing and feeding back on food taste, texture and aroma *(Food: A balanced diet – Kapow unit YEAR A)* • Carrying out primary research, exploring and discussing existing objects which have linkages, levers and pivots *(Mechanisms: Moving Monsters – Kapow unit YEAR A)* • Exploring natural and man-made structures, testing and evaluating, analysing existing chairs including those by established designers (*Structures: Baby bear's chair – Kapow unit YEAR A)*
Technical Knowledge	• They know how to operate simple equipment and show an interest in toys with buttons, flaps and simple mechanisms and operate them successfully. • Know about the movement of simple mechanisms such as levers, sliders, wheels and axles. • Begin to use the correct technical vocabulary for projects. • Developing awareness of different structure formats, forming an understanding of how to turn 2D nets into 3D shapes (*Structures: Windmills – Kapow unit YEAR B)* • Investigating how wheels work as part of a full mechanism including axles and axle holders (*Mechanisms: Wheels and Axles – Kapow unit YEAR B)* • Identifying inputs and outputs as part of a mechanism, developing an understanding of how linkages, levers and pivots operate together *(Mechanisms: Moving Monsters – Kapow unit YEAR A)* • Understanding strength, stability and stiffness, knowing that different shapes can strengthen or weaken structures, know materials can be manipulated to improve strength and stiffness (*Structures: Baby bear's chair – Kapow unit YEAR A)*

Cooking and Nutrition	**Food Preparation** Teach how to ensure surfaces and equipment are clean, hands are clean/hair tied back/appropriate clothing Prepare simple dishes – safely and hygienically – without using a heat source Use the claw grip to cut soft fruit using a serrated vegetable knife (e.g. fruit) Model how to use the bridge hold to cut firmer foods using a serrated vegetable knife (e.g. apple)	**Knife and Equipment Skills** **Teach and closely supervise:** • Use the claw grip to cut soft and firmer foods using a serrated vegetable knife (e.g. cucumber, celery, peppers) • Model how to use the bridge hold to cut firmer foods using a serrated vegetable knife (e.g. apple) • Cut softer food into evenly sized largish pieces (e.g. tomatoes) **With moderate supervision:** • Use cups or electronic scales to measure and weigh. • Mix, stir and combine liquid and dry ingredients **Independently:** • Peel soft vegetables using a peeler (e.g. cucumber) • Use a small table knife for spreading soft spreads on to bread • Use hands to shape dough into small balls or shapes • Assemble and arrange cold ingredients
	• Recognising the difference between fruit and vegetables, describing texture and taste, developing knowledge about where fruit and vegetables grow, identifying parts of a plant *(Food: Fruit and vegetable smoothie – Kapow unit YEAR B)* • Identifying each of the food groups, understanding what makes a balanced diet, developing an awareness of hidden sugars in everyday foods *(Food: A balanced diet – Kapow unit YEAR A)*	

William Gilbert Endowed C of E - Design Technology Progression of Skills	
Year 2	
Design	**In addition to Year 1** • State what products they are designing and making. • Say whether their products are for themselves or other users. Describe what their products are for. • Say how their products will work and how they're suitable for intended users. • Use simple design criteria to help develop their ideas. • Designing a smoothie carton, using traditional or digital (ICT) methods based on a chosen ingredient combination; selecting fruits and vegetables for a smoothie recipe *(Food: Fruit and Vegetables smoothie – Kapow unit YEAR B)* • Designing for a client and considering the client's preferences and requirements, following a basic list of criteria (*Structures: Windmills – Kapow unit YEAR B)* • Sketching, measuring and planning the chassis of a vehicle, including a computer based digital racing flag design (*Mechanisms: Wheels and Axles – Kapow unit YEAR B)* • Planning for a set brief, following simple criteria, designing a healthy wrap *(Food: A balanced diet – Kapow unit YEAR A)* • Devising and using design criteria, planning for the design and creation of a mechanical toy, drawing simple diagrams to express ideas. *(Mechanisms: Moving Monsters – Kapow unit YEAR A)* • Planning for manufacture, establishing and using a design criteria to help focus and evaluate their work, utilizing research to inform idea generation *(Structures: Castles – Kapow unit YEAR A)*
Make	**In addition to Year 1** • Plans, selects tools and materials. Explains their choices. Measures, marks out, cuts, shapes, assembles, joins and combines materials and components. • Begins to use finishing techniques, including those from art and design sessions • Preparing, chopping and blending fruit and vegetables *(Food: Fruit and Vegetables smoothie – Kapow unit YEAR B)* • Using templates and nets, selecting from basic crafting tools and materials (paper, card, scissors and glue) to create a functional mechanical windmill (*Structures: Windmills – Kapow unit YEAR B)* • Adapting mechanisms, measuring and cutting accurately to a design brief, working to scale and identifying commonly used materials for wheels (*Mechanisms: Wheels and Axles – Kapow unit YEAR B)* • Preparing food safely and hygienically, chopping and slicing safely using a bridge or claw grip *(Food: A balanced diet – Kapow unit YEAR A)* • Cutting and assembling accurately, selecting appropriate crafting materials and tools such as card, paper, glue and paper fasteners *(Mechanisms: Moving Monsters – Kapow unit YEAR A)* • Using more demanding practical skills (paper engineering/paper folding techniques) including traditional and digital net creation using computer-aided-design (CAD) (*Structures: Castles – Kapow unit YEAR A)*
Evaluate	**In addition to above Year1** • Make simple judgements about their products and ideas against design criteria. • Write about likes and dislikes of existing products with reasons. • Trialling and exploring combinations of ingredients, specifying favourite combinations *(Food: Fruit and Vegetables smoothie – Kapow unit YEAR B)* • Exploring different forms of windmill structures, testing the finished windmill (*Structures: Windmills – Kapow unit YEAR B)* • Researching and testing mechanisms (*Mechanisms: Wheels and Axles – Kapow unit YEAR B)* • Conducting product research, trialing and feeding back on food taste, texture and aroma *(Food: A balanced diet – Kapow unit YEAR A)* • Carrying out primary research, exploring and discussing existing objects which have linkages, levers and pivots *(Mechanisms: Moving Monsters – Kapow unit YEAR A)* • Reflecting on their project as it progresses, evaluating their own and other's final product (*Structures: Castles – Kapow unit YEAR A)*
Technical Knowledge	**In addition to Year 1** • Pupils understand the working characteristics of materials and components. • Understand how freestanding structures can be made stronger, stiffer and more stable. • Recognise that 3D textiles products can be assembled from two identical fabric shapes. • Developing awareness of different structure formats, forming an understanding of how to turn 2D nets into 3D shapes (*Structures: Windmills – Kapow unit YEAR B)* • Investigating how wheels work as part of a full mechanism including axles and axle holders (*Mechanisms: Wheels and Axles – Kapow unit YEAR B)* • Identifying inputs and outputs as part of a mechanism, developing an understanding of how linkages, levers and pivots operate together *(Mechanisms: Moving Monsters – Kapow unit YEAR A)* • Applying prior understanding and increasing knowledge of paper or card nets and structures; consolidating methods and techniques to improve stability and strength (*Structures: Castles – Kapow unit YEAR A)*

<table>
<tr><td rowspan="2">Cooking and Nutrition</td><td><u>Food Preparation</u>
Teach how to ensure surfaces and equipment are clean, hands are clean/hair tied back/appropriate clothing
Prepare simple dishes – safely and hygienically – without using a heat source
Use the claw grip to cut soft fruit using a serrated vegetable knife (e.g. fruit)
Model how to use the bridge hold to cut firmer foods using a serrated vegetable knife (e.g. apple)</td><td><u>Knife and Equipment Skills</u>
Teach and closely supervise:
• Use the claw grip to cut soft and firmer foods using a serrated vegetable knife (e.g. cucumber, celery, peppers)
• Model how to use the bridge hold to cut firmer foods using a serrated vegetable knife (e.g. apple)
• Cut softer food into evenly sized largish pieces (e.g. tomatoes)
With moderate supervision:
• Weigh and measure dry ingredients and liquids
• Use cups or electronic scales to measure and weigh.
• Mix, stir and combine liquid and dry ingredients
Independently:
• Peel soft vegetables using a peeler (e.g. cucumber)
• Use a small table knife for spreading soft spreads on to bread
• Use hands to shape dough into small balls or shapes
• Assemble and arrange cold ingredients</td></tr>
<tr><td colspan="2">• Recognising the difference between fruit and vegetables, describing texture and taste, developing knowledge about where fruit and vegetables grow, identifying parts of a plant (Food: Fruit and vegetable smoothie – Kapow unit YEAR B)
• Identifying each of the food groups, understanding what makes a balanced diet, developing an awareness of hidden sugars in everyday foods (Food: A balanced diet – Kapow unit YEAR A)</td></tr>
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Year 3

Design

- Work confidently within a range of contexts, such as the home, school, leisure and industry.
- Describe the purpose of their products and indicate design features.
- Gather information about the needs and wants of individuals or groups.
- Develop their own design criteria thinking about the user.
- Model ideas using prototypes.
- Use annotated diagrams and some computer- aided design packages, to develop and communicate ideas.
- Begin to take account of the availability of resources.
  - Reviewing existing products to inform design ideas, working within a set design brief *(Food: Adapting a recipe – Kapow unit YEAR B)*
  - Exploring and designing within a given context or theme, aimed at a chosen target audience (*Structures: Pavilions – Kapow unit YEAR A)*
  - Devising a list of design criteria, planning production, annotating isometric diagrams and sketches to further develop initial design ideas (*Textiles: Fastenings – Kapow unit YEAR A)*
  - Designing for a chosen user-profile, identifying key properties (e.g. reflective, water resistant) of a material and utilizing this knowledge to inform design ideas *(Electrical systems: Torches – Kapow unit YEAR A)*
  - Using research and design criteria to develop ideas, determining the target audience, utilizing computer-aided-design (CAD) to draw a box panel for the game *(Electrical systems: static electricity – Kapow unit YEAR A)*
  - Developing designs following a list of design criteria, modelling and testing the launch chassis (*Mechanisms: Slingshot cars – Kapow unit YEAR B)*
  - Generating and communicating ideas using thumbnail sketches, exploded-diagrams and modelling, drawing plans to house the mechanism. (*Mechanisms: Pneumatic systems –Kapow unit YEAR A)*
  - Designing and planning the style, shape and seams of a cushion, using pattern piece paper templates and models (*Textiles: Cushions – Kapow unit YEAR B)*

Make

- Select suitable tools, materials and components. Explain their choices.
- Order the main stages of making.
- Follow procedures for safety and hygiene.
- Use a wide range of materials and components e.g. textiles, mechanical, construction kits, electrical and food ingredients.
- Measures, marks out, cuts and shapes materials and components with some accuracy.
- Assembles, joins and combines many materials with some accuracy.
- Applies finishing techniques**.**
- Following but adapting an existing recipe, preparing food hygienically, creaming and combining ingredients to form a basic dough *(Food: Adapting a recipe – Kapow unit YEAR B)*
- Selecting from a range of materials and equipment to create frame structures, and to add aesthetic value (*Structures: Pavilions – Kapow unit YEAR A)*
- Selecting appropriate fastening types and equipment to sew, measuring and cutting fabric materials accurately (*Textiles: Fastenings – Kapow unit YEAR B)*
- Making a functional, operational electrical series-circuit and housing this appropriately, selecting materials based on their characteristics *(Electrical systems: torches – Kapow unit YEAR A)*
- Selecting the materials and tools to measure, mark, cut and assemble accurately, using nets and tabs to design and make the car chassis *(Mechanisms: Slingshot cars – Kapow unit YEAR B)*
- Selecting appropriate materials and equipment for functional and aesthetic purposes. (*Mechanisms: Pneumatic systems – Kapow unit YEAR A)*
- Sewing cross stitch and running stitch to join, complete seams, seal stuffing and add applique decorative elements, following specified design criteria. (*Textiles: Cushions – Kapow unit YEAR B)*
- Using electrostatic energy to move objects in isolation as well as part of a system, cutting, measuring and joining various crafting materials. *(Electrical systems: Static electricity – Kapow unit YEAR A)*

Evaluate

- Identify the strengths and areas for development in their ideas and products.
- Consider the views of others.
- Refer to their design criteria as they design and make.
- Use their design criteria to evaluate their completed products.
- Analyse how well products have been designed and made; which materials and methods were used and which were successful; how well the products worked; whether they achieved their purpose and the needs/wants of the users.
- Recognise successful inventors, designers, chefs and engineers, who have been influential in the design and technology industries.
- Reflecting on and identifying flavours from a prototype, reviewing what aspects to change to improve the current recipe *(Food:*Adapting a recipe*– Kapow unit YEAR B)*
- Discussing and reviewing existing pavilions and expo centres *(Structures: Pavilions – Kapow unit YEAR A)*
- Researching and analyzing methods of fastening fabric, determining the strength and use of each (*Textiles: fastenings – Kapow unit YEAR B)*
- Reviewing and discussing existing torches, including use and the reasons behind the materials in their build *(Electrical systems: Torches – Kapow unit YEAR A)*
- Testing products in time trials, comparing to other's designs, discussing and recording ways to improve the speed of the car, reviewing and learning about aerodynamic shapes in cars *(Mechanisms: Slingshot cars – Kapow unit YEAR B)*
- Assessing how well their product works and if it matches their original design ideas and criteria (*Mechanisms: Pneumatic systems – Kapow unit YEAR A)*
- Reviewing existing products, expressing constructive feedback on other's work (*Textiles: Cushions – Kapow unit YEAR B)*
- Evaluating and adapting designs, experimenting with scientific theories to inform a design, listening and acting on constructive feedback gather from others. (*Electrical systems: Static electricity- Kapow unit YEAR A)*

<table>
<tr><td>Technical Knowledge</td><td colspan="2">

Pupils know how to use learning from science and mathematics to help design and make products that work.
They understand that materials have functional and aesthetic qualities. Recognise that materials can be combined and mixed to create more useful characteristics.
Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products.
Program a computer to control their products.
Knowing what a pavilion is, building on prior knowledge of net structures and broadening knowledge of frames, know architects consider light, shadow and patterns when designing (Structures: Pavilions – Kapow unit YEAR A)
Understanding stitches and fastenings and their pros and cons, knowing how to use pattern pieces to tessellate and save fabric as well as produce more accurate results (Textiles: Fastenings – Kapow unit YEAR B)
Identifying electrical components by name (e.g. bulb, cell) able to build a working electrical series-circuit and correct errors (Electrical systems: Torches – Kapow unit YEAR A)
Utilising car-part terminology (e.g. chassis), consolidating net and template creation, recognizing key mechanisms as part of a product's key functionality (Mechanisms: Slingshot cars – Kapow unit YEAR B)
Understanding how pneumatic systems work, identifying the key inputs and outputs of the mechanism, expressing the need for visual communication in the design process (Mechanisms: Pneumatic systems – Kapow unit YEAR A)
Understanding that fabrics can be layered for effect, recognizing the appearance and technique for different stitch types, including strength to reinforce joins (Textiles: Cushions – Kapow unit YEAR B)
Understanding what static electricity is and how to generate it, knowing what a target audience is, constructing nets as part of a product to house a game (Electrical systems: Static electricity – Kapow unit YEAR A)

</td></tr>
<tr><td rowspan="2">Cooking and Nutrition</td><td><u>Food Preparation</u>
With moderate supervision:

Mix, stir and combine wet and dry ingredients uniformly (e.g. to form a dough)
Use a rolling pin to flatten and roll out dough (e.g. scones)

Independently:

Prepare for cooking/show understanding of hygiene
Measure and weigh ingredients appropriately
Follow a recipe
Use hands to rub fat into flour (e.g. scones, apple crumble)
Assemble and arrange ingredients for simple dishes (e.g. apple crumble,)

</td><td><u>Knife and Equipment Skills</u>
With moderate supervision:
• Cut materials accurately and safely by selecting appropriate tools.
• begin to use the claw grip to cut harder foods using a serrated vegetable knife (e.g. carrot)
• begin to use both the bridge hold and claw grip to cut the same food using a serrated vegetable knife (e.g. onion)
• Crush garlic using a garlic press
• Grate harder food using a grater (e.g. apples, carrots)
Independently:
• Begin to peel harder food (e.g. apple, potato)</td></tr>
<tr><td colspan="2">Understanding the cost implications behind professional food preparation, altering a dough to be savoury or sweet, knowing to mix dry ingredients before combining with wet (Food: Adapting a recipe – Kapow unit YEAR B)</td></tr>
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William Gilbert Endowed C of E - Design Technology Progression of Skills	
Year 4	
Design	**In addition to Year 3** • Use, some cross-sectional drawings and computer aided design packages, to develop and communicate ideas. • Make design decisions that take account of the availability of resources and needs of user • Reviewing existing products to inform design ideas, working within a set design brief *(Food: Adapting a recipe – Kapow unit YEAR B)* • Exploring and designing within a given context or theme, aimed at a chosen target audience (*Structures: Pavilions – Kapow unit YEAR A)* • Devising a list of design criteria, planning production, annotating isometric diagrams and sketches to further develop initial design ideas (*Textiles: Fastenings – Kapow unit YEAR A)* • Designing for a chosen user-profile, identifying key properties (e.g. reflective, water resistant) of a material and utilizing this knowledge to inform design ideas *(Electrical systems: Torches – Kapow unit YEAR A)* • Using research and design criteria to develop ideas, determining the target audience, utilizing computer-aided-design (CAD) to draw a box panel for the game *(Electrical systems: static electricity – Kapow unit YEAR A)* • Developing designs following a list of design criteria, modelling and testing the launch chassis (*Mechanisms: Slingshot cars – Kapow unit YEAR B)* • Generating and communicating ideas using thumbnail sketches, exploded-diagrams and modelling, drawing plans to house the mechanism. (*Mechanisms: Pneumatic systems –Kapow unit YEAR A)* • Designing and planning the style, shape and seams of a cushion, using pattern piece paper templates and models (*Textiles: Cushions – Kapow unit YEAR B)*
Make	**In addition to Year 3** • Measures, marks out, cuts and shapes materials and components with accuracy. • Accurately assemble, join and combine most materials. • Accurately apply several finishing techniques. • Following but adapting an existing recipe, preparing food hygienically, creaming and combining ingredients to form a basic dough *(Food: Adapting a recipe – Kapow unit YEAR B)* • Selecting from a range of materials and equipment to create frame structures, and to add aesthetic value (*Structures: Pavilions – Kapow unit YEAR A)* • Selecting appropriate fastening types and equipment to sew, measuring and cutting fabric materials accurately (*Textiles: Fastenings – Kapow unit YEAR B)* • Making a functional, operational electrical series-circuit and housing this appropriately, selecting materials based on their characteristics *(Electrical systems: torches – Kapow unit YEAR A)* • Selecting the materials and tools to measure, mark, cut and assemble accurately, using nets and tabs to design and make the car chassis *(Mechanisms: Slingshot cars – Kapow unit YEAR B)* • Selecting appropriate materials and equipment for functional and aesthetic purposes. (*Mechanisms: Pneumatic systems – Kapow unit YEAR A)* • Sewing cross stitch and running stitch to join, complete seams, seal stuffing and add applique decorative elements, following specified design criteria. (*Textiles: Cushions – Kapow unit YEAR B)* • Using electrostatic energy to move objects in isolation as well as part of a system, cutting, measuring and joining various crafting materials. *(Electrical systems: Static electricity – Kapow unit YEAR A)*
Evaluate	**In addition to above Year 3** • Investigate and analyse: who designed the products; where and when products were designed and made; • Whether products can be recycled or re-used. • Reflecting on and identifying flavours from a prototype, reviewing what aspects to change to improve the current recipe *(Food:*Adapting a recipe*– Kapow unit YEAR B)* • Discussing and reviewing existing pavilions and expo centres (*Structures: Pavilions – Kapow unit YEAR A)* • Researching and analyzing methods of fastening fabric, determining the strength and use of each (*Textiles: fastenings – Kapow unit YEAR B)* • Reviewing and discussing existing torches, including use and the reasons behind the materials in their build *(Electrical systems: Torches – Kapow unit YEAR A)* • Testing products in time trials, comparing to other's designs, discussing and recording ways to improve the speed of the car, reviewing and learning about aerodynamic shapes in cars *(Mechanisms: Slingshot cars – Kapow unit YEAR B)* • Assessing how well their product works and if it matches their original design ideas and criteria (*Mechanisms: Pneumatic systems – Kapow unit YEAR A)* • Reviewing existing products, expressing constructive feedback on other's work (*Textiles: Cushions – Kapow unit YEAR B)* • Evaluating and adapting designs, experimenting with scientific theories to inform a design, listening and acting on constructive feedback gather from others. *(Electrical systems: Static electricity- Kapow unit YEAR A)*

<table>
<tr><td>Technical Knowledge</td><td colspan="2"><u>In addition to Year 3</u>
• Pupils know how to use learning from science and mathematics to help design and make products that work.
• They understand that materials have functional and aesthetic qualities. Recognise that materials can be combined and mixed to create more useful characteristics.
• Know how mechanical systems such as levers and linkages create movement. Know that simple electrical circuits and components can be used to create functional products.
• Program a computer to control their products.
• Knowing what a pavilion is, building on prior knowledge of net structures and broadening knowledge of frames, know architects consider light, shadow and patterns when designing (Structures: Pavilions – Kapow unit YEAR A)
• Understanding stitches and fastenings and their pros and cons, knowing how to use pattern pieces to tessellate and save fabric as well as produce more accurate results (Textiles: Fastenings – Kapow unit YEAR B)
• Identifying electrical components by name (e.g. bulb, cell) able to build a working electrical series-circuit and correct errors (Electrical systems: Torches – Kapow unit YEAR A)
• Utilising car-part terminology (e.g. chassis), consolidating net and template creation, recognizing key mechanisms as part of a product's key functionality (Mechanisms: Slingshot cars – Kapow unit YEAR B)
• Understanding how pneumatic systems work, identifying the key inputs and outputs of the mechanism, expressing the need for visual communication in the design process (Mechanisms: Pneumatic systems – Kapow unit YEAR A)
• Understanding that fabrics can be layered for effect, recognizing the appearance and technique for different stitch types, including strength to reinforce joins (Textiles: Cushions – Kapow unit YEAR B)
• Understanding what static electricity is and how to generate it, knowing what a target audience is, constructing nets as part of a product to house a game (Electrical systems: Static electricity – Kapow unit YEAR A)</td></tr>
<tr><td rowspan="2">Cooking and Nutrition</td><td><u>Food Preparation</u>
With moderate supervision:
• Mix, stir and combine wet and dry ingredients uniformly (e.g. to form a dough)
• Use a rolling pin to flatten and roll out dough (e.g. scones)

Independently:
• Prepare for cooking/show understanding of hygiene
• Measure and weigh ingredients appropriately
• Follow a recipe
• Use hands to rub fat into flour (e.g. scones, apple crumble)
• Assemble and arrange ingredients for simple dishes (e.g. apple crumble,)</td><td><u>Knife and Equipment Skills</u>
With moderate supervision:
• Cut materials accurately and safely by selecting appropriate tools.
• begin to use the claw grip to cut harder foods using a serrated vegetable knife (e.g. carrot)
• begin to use both the bridge hold and claw grip to cut the same food using a serrated vegetable knife (e.g. onion)
• Crush garlic using a garlic press
• Grate harder food using a grater (e.g. apples, carrots)
Independently:
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William Gilbert Endowed C of E - Design Technology Progression of Skills	
Year 5	
Design	• Work confidently in a wide range of contexts, e.g. Culture, industry, enterprise and wider environment. Describe in detail, the purpose of their products. • Find out what the user wants(surveys) and incorporate that into the design. Develop their own design criteria and use this to inform their ideas. • Develop a simple design specification to guide their thinking. • Model ideas using prototypes and pattern pieces. • Draw cross-sectional drawings, diagrams and computer-aided design packages, to develop and communicate ideas. • Research ideas make them realistic and environmentally friendly. • Adapting an existing recipe *(Food: What could be healthier? – Kapow unit YEAR A)* • Planning using storyboards and designs, communicating through annotated illustrations, identifying where and how the mechanisms will operate as part of the design *(Mechanisms: Pop-up books – Kapow unit YEAR B)* • Applying scientific knowledge to generate design ideas, identifying the target audience, considering methods of incorporating the circuitry *(Electrical systems: Electric greetings cards – Kapow unit YEAR A)* • Designing arch and truss bridges, modelling various methods of bridge-making *(Structures: Bridges – Kapow unit YEAR B)* • Devising a list of design criteria, sketching and annotating design ideas on to a pattern piece and amending the measurements to suit their desired client *(Textiles: Waistcoats – Kapow unit YEAR B)* • Establishing and using list of design criteria, drawing a floor-plan diagram to demonstrate what apparatus they plan to create and where it will be positioned *(Structures: Playgrounds – Kapow unit YEAR A)*
Make	• Selects materials and components suitable to the task. • Produce appropriate lists of tools, equipment and materials that they will need. • Order stages and formulate step-by-step plans as guide to making. • Follow procedures for safety and hygiene. • Use an extensive range of materials resourcefully and components e.g. textiles, mechanical, construction kits and electrical. • Measures, marks out, cuts and shapes materials and components with 100% accuracy. • Accurately assemble, joins and combines most materials. • Accurately apply a range of finishing techniques, including those from art and design sessions. • Use techniques that involve several steps. • Cutting, preparing and cooking vegetables and meat hygienically, using kitchen equipment such as knives, hot pans and hobs in a safe manner, recognizing when meat is cooked *(Food: What could be healthier? – Kapow unit YEAR A)* • Making functional components, using layers and spacers to construct pages, cutting and assembling with accuracy *(Mechanisms: Pop up books – Kapow unit YEAR B)* • Selecting materials based on their properties (e.g. conductive, insulating), creating and incorporating a functional series-circuit concealing it inside the card *(Electrical systems: Electric greetings cards – Kapow unit YEAR A)* • Using triangulation for bracing, selecting appropriate tools and equipment such as a saw and bench hooks to cut wood down to size and sandpaper to achieve a high quality finish *(Structures: Bridges – Kapow unit YEAR A)* • Marking out, cutting and joining fabrics accurately, creating a consistent seam and attaching fastenings appropriately, applying decorative features such as applique. *(Textiles: Waistcoats – Kapow unit YEAR B)* • Increasingly more demanding practical skills, selecting materials for their aesthetic and functional properties, make, strengthen and stiffen a range of structures *(Structures: Playgrounds – Kapow unit YEAR A)*
Evaluate	• Identify strengths/ weaknesses in their products. • Refer to their design criteria as they design and make to evaluate and improve. • Critically evaluate the design, impact and quality against their original specification. • Investigate and analyse: how well products have been designed and made; why materials have been chosen; what methods of construction were used; how well the products worked; whether they achieved their purpose and the needs/wants of the users. • Investigate and analyse: who designed the products; where and when products were designed and made; consider cost and sustainability. Recognise several inventors, designers, chefs, manufacturers and engineers, who have been influential in the design and technology industries. • Tasting and feeding back on existing pre-made Bolognese sauces, suggesting substitute ingredients *(Food: What could be healthier – Kapow unit YEAR A)* • Revisiting and reflecting on progress at numerous point throughout the project *(Mechanisms: Pop-up books – Kapow unit YEAR B)* • Experimenting with, and testing, series and parallel circuits to determine which would be fit for purpose as part of their design ideas *(Electrical systems: Electric greetings cards – Kapow unit YEAR A)* • Testing through trial and error to evaluate the successful and unsuccessful functional properties of a design and its materials *(Structures: Bridges – Kapow unit YEAR B)* • Exploring existing products and considering the user, materials and shape, evaluating the final outcome against the design criteria and client's requirements and preferences *(Textiles: Waistcoats – Kapow unit YEAR B)* • Evaluating and analyzing existing and modelled playground structures, exploring different materials to achieve various textures, patterns and structures, reviewing other's work *(Structures: Playgrounds – Kapow unit YEAR A)*

<table>
<tr><td>Technical Knowledge</td><td colspan="2">

Know how mechanical systems such as levers and linkages create movement.
Program a computer to control their products.
Know that mechanical systems e.g. cams, pulleys or gears create movement.
Explore more complex electrical circuits and components.
Program a computer to monitor changes in the environment and control their products.
Reinforce and strengthen a 3D framework.
Know that 3D textile products can be made from a combination of fabric shapes.
Adapt recipes by adding or substituting one or more ingredients.
Consolidating knowledge on sliders, levers and linkages, identifying inputs and outputs, utilizing methods of paper modelling and folding to improve resilience during use (Mechanisms: Pop-up books – Kapow unit YEAR B)
Drawing circuit diagrams and symbols, knowing the function of different circuit components, understanding the terminology: insulator, conductor, LED, battery (Electrical systems: Electric greetings cards – Kapow unit YEAR A)
Understanding the importance of compression and tension in bridge structures, establishing methods of reinforcing more complex structures to improve strength, stability and stiffness (Structures: Bridges – Kapow unit YEAR B)
Knowing how to create hidden seams, accurate and consistent stitches (Textiles: Waistcoats – Kapow unit YEAR B)
Applying knowledge of construction techniques to realise design ideas, stabilizing more complex structures using bracing, creating 3D shapes using custom nets (Structures: Playgrounds – Kapow unit YEAR A)

</td></tr>
<tr><td rowspan="2">Cooking and Nutrition</td><td><u>Food Preparation</u>
With close supervision:
• use a food processor or electric hand blender to mash, blend or puree hard ingredients or hot food (e.g. chickpeas for hummus or vegetables for soup)
With moderate supervision:
• With help begin to separate eggs
• Whisk using an electric hand mixer (e.g. eggs)
• cream fat and sugar together using an electric hand mixer
• Use a rolling pin to roll out dough to a specific thickness (e.g. pizza)
Independently:
• Use fingertips to rub fat into flour to make fine ‘bread crumbs’ (e.g. apple crumble)
• Confidently crack an egg
• Spread food evenly with a coating, paste or glaze</td><td><u>Knife and Equipment Skills</u>
With moderate supervision:
• Finely grate hard foods (e.g. zesting, parmesan cheese);
• With support, use a can opener and open ring-pull tins
• Dice foods and cut them into evenly sized, fine pieces (e.g. garlic, vegetable batons, herbs)
• Confidently use a toaster or microwave (e.g. beans on toast)
• Handle hot food safely once adults have removed food from the hob or oven (e.g. use oven gloves and a fish slice to remove scones from the baking tray)
Independently:
• Confidently use the claw grip to cut harder foods using a serrated vegetable knife (e.g. carrot);
• Confidently use both the bridge hold and claw grip to cut the same food using a serrated vegetable knife (e.g. onion)
• Confidently peel harder food using a peeler (e.g. apple, potato)</td></tr>
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Knowing where meat comes from and understand ethical issues around beef, identifying the nutritional values and contents on packaged food, making healthier ingredient swaps (Food: What could be healthier? – Kapow unit YEAR A)

</td></tr>
</table>

William Gilbert Endowed C of E - Design Technology Progression of Skills	
Year 6	
Design	**In addition to Year 5** • Carry out research to find out what user wants, design (with detailed specifications) an appropriate (realistic and sustainable) product to meet their needs. • Make design decisions that take account of the availability of resources • Adapting an existing recipe *(Food: What could be healthier? – Kapow unit YEAR A)* • Planning using storyboards and designs, communicating through annotated illustrations, identifying where and how the mechanisms will operate as part of the design *(Mechanisms: Pop-up books – Kapow unit YEAR B)* • Applying scientific knowledge to generate design ideas, identifying the target audience, considering methods of incorporating the circuitry *(Electrical systems: Electric greetings cards – Kapow unit YEAR A)* • Designing arch and truss bridges, modelling various methods of bridge-making *(Structures: Bridges – Kapow unit YEAR B)* • Devising a list of design criteria, sketching and annotating design ideas on to a pattern piece and amending the measurements to suit their desired client *(Textiles: Waistcoats – Kapow unit YEAR B)* • Establishing and using list of design criteria, drawing a floor-plan diagram to demonstrate what apparatus they plan to create and where it will be positioned *(Structures: Playgrounds – Kapow unit YEAR A)*
Make	**In addition to Year 5** • Use resourcefulness, resilience and innovation, when tackling practical problems. • Explains next steps in learning, drawing from prior experience. • Cutting, preparing and cooking vegetables and meat hygienically, using kitchen equipment such as knives, hot pans and hobs in a safe manner, recognizing when meat is cooked *(Food: What could be healthier? – Kapow unit YEAR A)* • Making functional components, using layers and spacers to construct pages, cutting and assembling with accuracy *(Mechanisms: Pop up books – Kapow unit YEAR B)* • Selecting materials based on their properties (e.g. conductive, insulating), creating and incorporating a functional series-circuit concealing it inside the card *(Electrical systems: Electric greetings cards – Kapow unit YEAR A)* • Using triangulation for bracing, selecting appropriate tools and equipment such as a saw and bench hooks to cut wood down to size and sandpaper to achieve a high quality finish *(Structures: Bridges – Kapow unit YEAR A)* • Marking out, cutting and joining fabrics accurately, creating a consistent seam and attaching fastenings appropriately, applying decorative features such as applique. *(Textiles: Waistcoats – Kapow unit YEAR B)* • Increasingly more demanding practical skills, selecting materials for their aesthetic and functional properties, make, strengthen and stiffen a range of structures *(Structures: Playgrounds – Kapow unit YEAR A)*
Evaluate	**In addition to above Year 5** • Consider their design against original plan, intended user, quality and fitness for purpose • Evaluate their ideas and products against their original design specification. • Investigate and analyse: how much products cost to make; how innovative and sustainable the materials in products are; what impact products have. • Tasting and feeding back on existing pre-made Bolognese sauces, suggesting substitute ingredients *(Food: What could be healthier – Kapow unit YEAR A)* • Revisiting and reflecting on progress at numerous point throughout the project *(Mechanisms: Pop-up books – Kapow unit YEAR B)* • Experimenting with, and testing, series and parallel circuits to determine which would be fit for purpose as part of their design ideas *(Electrical systems: Electric greetings cards – Kapow unit YEAR A)* • Testing through trial and error to evaluate the successful and unsuccessful functional properties of a design and its materials *(Structures: Bridges – Kapow unit YEAR B)* • Exploring existing products and considering the user, materials and shape, evaluating the final outcome against the design criteria and client's requirements and preferences *(Textiles: Waistcoats – Kapow unit YEAR B)* • Evaluating and analyzing existing and modelled playground structures, exploring different materials to achieve various textures, patterns and structures, reviewing other's work *(Structures: Playgrounds – Kapow unit YEAR A)*
Technical Knowledge	**In addition to Year 5** • Make strong structures for a purpose. Reinforce and strengthen a 3D framework. • Make a 3D textile fabric shape. • Recreate and adapt existing and new recipes by adding or substituting a range of ingredients. • Consolidating knowledge on sliders, levers and linkages, identifying inputs and outputs, utilizing methods of paper modelling and folding to improve resilience during use *(Mechanisms: Pop-up books – Kapow unit YEAR B)* • Drawing circuit diagrams and symbols, knowing the function of different circuit components, understanding the terminology: insulator, conductor, LED, battery *(Electrical systems: Electric greetings cards – Kapow unit YEAR A)* • Understanding the importance of compression and tension in bridge structures, establishing methods of reinforcing more complex structures to improve strength, stability and stiffness *(Structures: Bridges – Kapow unit YEAR B)* • Knowing how to create hidden seams, accurate and consistent stitches *(Textiles: Waistcoats – Kapow unit YEAR B)* • Applying knowledge of construction techniques to realise design ideas, stabilizing more complex structures using bracing, creating 3D shapes using custom nets *(Structures: Playgrounds – Kapow unit YEAR A)*

Cooking and Nutrition

Food Preparation

With close supervision:
• use a food processor or electric hand blender to mash, blend or puree hard ingredients or hot food (e.g. chickpeas for hummus or vegetables for soup)
With moderate supervision:
• With help begin to separate eggs
• Whisk using an electric hand mixer (e.g. eggs)
• cream fat and sugar together using an electric hand mixer
• Use a rolling pin to roll out dough to a specific thickness (e.g. pizza)
Independently:
• Use fingertips to rub fat into flour to make fine 'bread crumbs' (e.g. apple crumble)
• Confidently crack an egg
• Spread food evenly with a coating, paste or glaze

Knife and Equipment Skills

With moderate supervision:
- Finely grate hard foods (e.g. zesting, parmesan cheese);
- With support, use a can opener and open ring-pull tins
- Dice foods and cut them into evenly sized, fine pieces (e.g. garlic, vegetable batons, herbs)
- Confidently use a toaster or microwave (e.g. beans on toast)
- Handle hot food safely once adults have removed food from the hob or oven (e.g. use oven gloves and a fish slice to remove scones from the baking tray)

Independently:
• Confidently use the claw grip to cut harder foods using a serrated vegetable knife (e.g. carrot);
• Confidently use both the bridge hold and claw grip to cut the same food using a serrated vegetable knife (e.g. onion)
• Confidently peel harder food using a peeler (e.g. apple, potato)

- Knowing where meat comes from and understand ethical issues around beef, identifying the nutritional values and contents on packaged food, making healthier ingredient swaps *(Food: What could be healthier? – Kapow unit YEAR A)*

KS3 Curriculum Expectations – cooking and nutrition

The KS3 national curriculum for food technology aims to ensure that all pupils:

- Understand and apply the principles of nutrition and health.
- Cook a repertoire of predominantly savoury dishes so that they are able to feed themselves and others a healthy and varied diet.
- Become competent in a range of cooking techniques for example, selecting and preparing ingredients; using utensils and electrical equipment; applying heat in different ways; using awareness of taste, texture and smell to decide how to season dishes and combine ingredients; adapting and using their own recipes.
- Understand the source, seasonality and characteristics of a broad range of ingredients.

Year 7 Content

Preparing for practical work
Personal safety
Washing up
Using an oven safely
Knife skills
Fruit and vegetable preparation skills
Introduction to why we need food
Introduction to the Eatwell Guide
Food provenance – where does our food come from and how is it grown?
Food provenance – food miles and transportation
How to write a time plan
Plan for practical assessment
Students will prepare and cook a variety of dishes incorporating theoretical understanding and knowledge: Coleslaw, Courgette provencale, Cous Cous Salad, Crumble, Breakfast Muffins, Scones, Bread, Pizza, Making butter.

KS3 Curriculum Expectations – resistant materials	**The KS3 national curriculum for design and technology aims to ensure that all pupils:** • Develop the creative, technical, and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. • Build and apply a repertoire of knowledge, understanding and skills to design and make high-quality prototypes and products for a wide range of users. • Critique, evaluate and test their ideas and products and the work of others. **Year 7 Content** **Project: Packaging** **Assessment focus areas (Design and Making)** **Design:** Students will start their journey in year 7 by exploring the use of pencils and crayons to express their ideas in 2D. Ensuring a solid foundation can be built on before exploring 3D drawing. **Making:** Using paper, card, scissors, craft knifes, as well as CAD to cut, crease and construct 3D card structures for the new Ecclesbourne inspired chocolate confectionery. Students will explore the medium through hands on experimentation to ensure confidence with cutting and shaping paper and card, before extending this learning to the use of pre-cut final prototypes. SMSC: Impact of packaging on the environment
KS3 Curriculum Expectations – Textiles	**The KS3 national curriculum for design and technology aims to ensure that all pupils:** • Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world. • 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. • Critique, evaluate and test their ideas and products and the work of others. • Identify and solve design problems and understand how to reformulate problems given to them. • Develop specifications to inform the design of innovative, functional, appealing products that respond to needs in a variety of situations. • Use a variety of approaches [for example, biomimicry and user-centred design], to generate creative ideas and avoid stereotypical responses. • Develop and communicate design ideas using annotated sketches, detailed plans, 3-D and mathematical modelling, oral and digital presentations and computer-based tools. • Select from and use specialist tools, techniques, processes, equipment and machinery, including computer-aided manufacture in order to make good quality products. • Select from and use a wider, more complex range of materials and components, taking into account their properties. • Analyse the work of past and present professionals and others to develop and broaden their understanding. • Investigate new and emerging technologies. • Test, evaluate and refine their ideas and products against a specification, taking into account the views of intended users and other interested groups. • Understand developments in design and technology, its impact on individuals, society and the environment, and the responsibilities of designers, engineers and technologists. • Use research and exploration, such as the study of different cultures, to identify and understand user needs. • Understand and use the properties of materials and the performance of structural elements to achieve functioning solutions **Year 7 Content** Face covering project. Students will be introduced to Health & Safety in the Textiles room. Students will study the work of designers and create a face covering that is both effective and decorative. They will learn how to make a pattern for their design that fits and performs well in use. Students will learn to use the sewing machine so they are able to complete their face covering. They will learn methods of decoration for the face coverings.They will evaluate their product in order to learn from the activity.