C - Courage	A - Achievement	Y – Your Actions	T - Tolerance	O – Our World	N - Nurturing

Cayton School

Design Technology Progression Map

Learn from yesterday, seek today and aim for tomorrow

Cayton School Design Technology – Curriculum Progression

Intent								
Cayton School Vision	***"To deliver the highest standards enabling all children and adults to grow, learn and work together where laughter, respect, trust and harmony are highly valued"***							
Cayton School principles	Broad and Balanced, each subject has sufficient time to contribute effectively to learning	Sequential and Progressive	Engaging and Interesting	Ambitious and Progressive	Every child awarded the same offer	Prior Learning and Knowledge on Knowledge opportunities	Making Life-long Learners	Reading a priority – whole school reading culture
Why Cayton School Curriculum is unique	We have written our curriculum with a strong emphasis towards Local: Community, History, Geography, Culture and Faith	Our Curriculum has a rich knowledge base and strong skills development	A strong emphasis on vocabulary allows children to learn and apply words in a variety of contexts	Cultural Capital opportunities support children to accomplish the very best they can be	PSHE is a thread that runs throughout our Curriculum	We have written the Curriculum to support children to develop lively, enquiring and creative minds	We understand the importance of a healthy body, healthy mind which is prioritised throughout our Curriculum	
Intent	Our overriding belief at Cayton School is that our role as Educators is to ensure children are prepared for the future and have the skills to be life long, curious learners. We passionately believe that life skills as well as academic success is vitally important. Our curriculum is designed to ensure life-long learners who are kind, confident and successful. Our designing of our bespoke curriculum was underpinned by evidence and research in order to challenge thinking and encourage enquiry.							
Cayton Awards Culture	C - Courage	A - Achievement	Y – Your Actions	T - Tolerance	O – Our World	N - Nurturing		
Implementation								
Delivering the Curriculum	Centrist pedagogical approach	A strong emphasis on positive behaviour through Cayton Awards	A whole school approach to PSHE	Opportunities for collaborative and shared work	The importance of Reading is implemented throughout our Curriculum offer	Every class has a Cayton, Cultural, Capital, Citizenship and community Passport throughout school		
Evidence Based Research	Metacognition 'learning to learn' using scaffolding strategies EEF evidence	Language skills at the centre of Quality First Teaching Rose Report/ EEF	English Curriculum delivery has a strong emphasis on vocabulary and reading Reading spine Doug Lemov	The power of 'empowerment' Dr Raj Persaud/ Hertzog Performance=Skills x Motivation				
Pedagogy	Enquiry based learning – Enquiry based driver questions	Teacher centred	Holistic approach	Togetherness	Well-being			
Processes and Procedures	A strong focus on assessment for learning throughout school	Training and empowerment of subject leaders to lead their subjects	Clear guidance and structure in teaching core subjects	Robust assessment of core and foundation subjects throughout school	Clear rules and routines set out to support all children			
Implementation	Professional Development and Empowerment of staff supports pedagogical theories and research and equips all teachers to confidently deliver and implement the Curriculum. We implement clear structures and teaching sequences, which underpin the teaching of Reading, Writing and Mathematics. The whole curriculum is taught through 'Metacognitive' pedagogy which encourages children to 'learn to learn' and self-regulate, thus enabling them to question their learning.							
Cayton Awards Culture	C - Courage	A - Achievement	Y – Your Actions	T - Tolerance	O – Our World	N - Nurturing		
Impact								
What 'success' looks like at Cayton School	Children develop self-confidence and self-esteem	High Quality Outcomes for all children based on their starting points	Strong feeling of Community	A rich and diverse school culture	Children prepared for life-long learning			
Ambition	Children and adults are proud of themselves and proud to be part of the Cayton Community	Progress and attainment at each Key Stage shows outcomes as being above the 'National Average'	Children and adults are kind, courteous and confident	Adults are a positive role model in all that they do and say	Children are self -regulated in their learning and take responsibility for their actions			
Evidence	Outcomes at each stage of learning	Pupil and staff voice	Impact of school development priorities	Stakeholder feedback	Formal and Informal assessments	A positive Cayton Awards Culture throughout school		
Cayton Awards Culture	C - Courage	A - Achievement	Y – Your Actions	T - Tolerance	O – Our World	N - Nurturing		

Developing Designers at Cayton School

A Designer at Cayton School will have…

- Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.
- The ability to work constructively and productively with others.
- The ability to carry out thorough research, show initiative and ask questions to develop a knowledge of users' needs.
- The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- A thorough knowledge of which tools, equipment and materials to use to make their products.
- The ability to apply mathematical knowledge.
- The ability to manage risks to manufacture products safely and hygienically.
- A passion for the subject and knowledge of technological innovations.

Intent – Implementation – Impact

Special Educational Needs and Disabilities (SEND) Inclusive Provision

At Cayton Primary School we offer a wide range of inclusive activities and lessons suitable for all learners. Staff are confident at delivering lessons for all abilities. Planning will clearly identify what is expected of all learners.

Children have access to an art room which offers a wide variety of visual aids. There are models of good work examples and a large timeline set up around the whole room for all children to see. The room provides sufficient space for all learners to develop their own work. All resources are accessible for the children and are labelled for ease of access.

Vocabulary mats and books are available in the art room. All children have their own art book to use as a working document.

Teachers to consider scaffolding children's artwork with things like masking tape to aid achievement without taking away ownership. Be careful with media and width of pencils offered if children struggle with fine motor skills. Children with language needs to be supported by adults in advance to the lesson to aid understanding.

KS1 – children should be offered time to practice their fine motor skills and opportunities to experiment with mixing primary colours. These activities should be accompanied by videos, photos, and examples of existing artwork. Sketch books are not mandatory until KS2; however learners will benefit from having their work organised in one place.

KS2 – children will be encouraged to use their mandatory sketch book as a working document. They should contain raw ideas, notes and all artworks.

Intent

At Cayton School, we aim to provide a Design and Technology curriculum to inspire and ignite the imagination of children from EYFS to Year 6. We intend to provide a range of experiences connected to topics which include variety of techniques. Children should be confident and be able to plan, experiment and evaluate their own work.

Implementation

Children are taught regularly by teaching staff from EYFS to Year 6. Children have access to an Art Center with all available supplies at hand. Such as: clay, wire, electric circuits. On MTPs teachers are usually either given and Art or a DT project to complete for their topic so that projects are completed to a good standard.

At Cayton School, we aim to apply for the ArtsMark award in 2022 which will promote a love of Design Technology across school.

Key stage 1
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 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.
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
Explore and evaluate a range of existing products.
Evaluate their ideas and products against design criteria
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.

Key stage 2
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:

Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at 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.

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.
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
As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:
Key stage 1
Use the basic principles of a healthy and varied diet to prepare dishes.
Understand where food comes from.

Key stage 2
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

Early Years

The EYFS framework is structured very differently to the national curriculum as it is organised across seven areas of learning rather than subject areas. The aim of this document is to help subject leaders to understand how the skills taught across EYFS feed into national curriculum subjects. This document demonstrates which statements from the 2020 Development Matters are prerequisite skills for expressive art and design within the national curriculum. The table below outlines the most relevant statements taken from the Early Learning Goals in the EYFS statutory framework and the Development Matters age ranges for Three and Four-Year-Olds and Reception to match the programme of study for art and design. The most relevant statements for design technology are taken from the following areas of learning:

- **Expressive arts and design**
- **Personal, Social and Emotional Development**
- **Physical Development**

EYFS Understanding The World Programme (Statutory)
Physical Development • Use a range of small tools including scissors correctly. **Expressive Arts and Design** • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function; - • Share their creations, explaining the process they have used. • Make use of props and materials when role playing characters in narratives and stories. **Personal, Social and Emotional Development** • Manage basic handwashing techniques and understand the value of healthy food choices.

	Development Matters	ELG	How this achieved in EYFS	Sticky Knowledge: By the end of EYFS the children will know…
Expressive Arts & Design **Art & Design**	**Reception:** • Explore, use and refine a variety of artistic effects to express their ideas and feelings. • Return to and build on their previous learning, refining ideas and developing their ability to represent them. • Create collaboratively, sharing ideas, resources	**Creating with materials** • Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. • Share their creations, explaining the process they have used. UTW: The Natural World • Explore the natural world around them, making observations and drawing pictures of animals and plants. •	• Exploring colour mixing – white rabbits color book (youtube) – create large group colour wheels. • Harvest – create fruit baskets using colour mixing skills. • Teach the children how to use the brushes correctly and how to wash them. • Self portraits / loose art faces. • Draw and paint family members. • Draw a friend. • Use mirrors to look at features. – explore expressions. • Making Gingerbread men • Exploring the artwork of Kadinsky • Creating our own props and performing puppet plays based on traditional tales. • Still life observational drawings of Autumnal objects • Fireworks – watch videos, represent using dff media/ large and small body movements. • Explore Art work Jackson pollock • Winter Christmas themed art – snowmen • Castles – explore shape and pattern. Make a castle model. • Look at and explore art from around the world. • Draw Buckingham palace and the queen. • London landmarks • Minibeasts – clay snails / symmetry / observational drawings of spiders / transient art. • Create group weaving to represent the sea. • Under the sea collage • Make pirate ships. **General learning throughout the year** • Child-led activities • Exploring a range of media throughout the year – pens, pencils, crayons, pastels, poster paint, watercolours, marbling, clay, wool, material and food materials etc • Outdoor art using a range of mark making materials such as paint rollers and different sized brushes on a large scale. Craft Area enables children to self -select resources that they need / want to test out including masking tape and glue to join	**Knowledge:** • I know that when I mix two colours it makes a different colour. • I know how to match the colours I see to what I want to represent. • I know how to use paint tools with care and precision. • I know red and blue makes purple. • I know yellow and blue makes green. • I know red and yellow makes orange. • I know that artists create works of art. • I can talk about what I see in a picture or piece of art. • I know how to use a paint brush and pallet. • I know how to draw a simple face. • I can talk about my artwork. • I know that materials can be joined / mixed to create interesting effects. • I can draw the things I see around me, making simple representations. **Vocabulary:** • Colour, paint, mix, water, blend, change, light, dark, pallet, brush. shade • Portrait, features, line, shade, texture, detail, shape. • Design, create, make, join observe, • Artist, • Pens, pencils, crayons, pastels, poster paint, watercolours, chalk, clay, wool, material

Purpose of Study
Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation.
Aims of Study
The 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. Understand and apply the principles of nutrition and learn how to cook.
Attainment Targets Pupils should be taught: **Key Stage 1** 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. 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 Explore and evaluate a range of existing products. Evaluate their ideas and products against design criteria 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. **Key Stage 2** Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at 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.

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.
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
Pupils should be taught:
Key stage 1
Use the basic principles of a healthy and varied diet to prepare dishes.
Understand where food comes from.

Key stage 2
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

Cayton School Design Technology – Curriculum Progression

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
EYFS	Portrait skills Observational work – paper Mache Jackson Pollock	Yayoi Kusama, Piet Mondrian, Kandinsky	Yves Klein	Create collaboratively using resources and skills	Van Gough	Expressing feelings through dance
Year 1	DT – Within Memory Design and make a wooden doll Punch and Judy	Art – Materials Andy Goldsworthy Space – Seasonal digital art	DT – hot/cold Junk modelling	Art – Tigers Jungle Patterns Henri Rousseau	DT – Buses Road signs	Art – Plants DT – Giuseppe Arcimboldi – cut, roll, coil
Year 2	Victorians – Art Tile. Print, paint, clay William Morris	DT – Traction Make a car	Art – Scarb/Kenya Landscapes Esther Mahlangu	Art – Plants/growth Draw seeds Viewfinder	DT – Planet Biscuit Kath Johnson	DT – Dino Shelter for dinosaur
Year 3	Natural Disasters DT – Volcano Act out	Art – Food Design make a clay vase. Athenian	Art – Neanderthal Cave paintings Tea stain - charcoal	DT – Rocks Stone rubbings Cayton Bay Design a stone	Plants – Art Sketch flowers Still Life	DT – Shadows Diorama
Year 4	DT Romans Shields Aqueducts	Art – Van Gough Sketching Face/ Observational	Rivers – Art Collages	Music – DT Food Technology	Egyptians – Art Clay Cartouches	Electricity DT Circuits Lighthouses
Year 5	Anglo Saxons DT – Food seasonal	Forces Art Amy Shackleton Drip painting	Rainforests – Art Create digital rainforests	CSI – Art Printing Finger prints	Vikings – DT Long boats Create Battle Scene	Space – DT Rockets Design, make set off Peter Thorpe
Year 6	Islamic – Art Islamic artefact Clay	Food – DT Healthy food and storage	DT – Electricity Create a town Circuits	Art – War Blitz	Geography – DT Architects comparison	Evolution – Art Observational Printing/ Fabric

EYFS Art and Design Skills					
Skill development and progression by year	**Expressive Arts**		**Being Imaginative**		**Key vocabulary**
EYFS	**Autumn – Spring** To know how to grip a pencil comfortably and make marks, create lines and circles. To know that marks can have meaning. To create a self-portrait. To know the names of light and dark colours. To know how colours can be changed using light and dark colours.	**Summer** To produce more detailed work and say what they have included To be able to choose colour with intent. To be able to choose skills and tools needed for a specific reason. To be able to use scissors for a purpose.	**Autumn – Spring** To explore, use and refine a variety of artistic effects to express their ideas and feelings. To give children continuous access to a wide range of open-ended, ambiguous resources to develop their own creativity.	**Summer** To combine art forms. E.G., drawing, constructing and mapping To paint through inspiration, feeling or imagination. To evaluate own work and decide how it can be improved. To be able to print using own ideas and explain the choices.	**Key Vocabulary:** Colour, paint, mix, water, blend, change, light, dark, pallet, brush. shade Portrait, features, line, shade, texture, detail, shape. Design, create, make, join observe, Artist, Pens, pencils, crayons, pastels, poster paint, watercolours, chalk, clay, wool, material
	Possible Learning Activities: • Observational work • Jackson Pollock • Splatter painting • Kusama • Mondrian – activities for kids • Kandinsky • Yves Klein • Natural Artists study – Andy Goldsworthy (local) • Eric Carle • Sunflowers – Van Gough • Henri Matisse • Weaving • Using scissors • Making own props and puppets • Sew using a pre-running stitch		**Possible Learning activities:** • Artists who use hearts in their art – oil pastels. David Hockey • Collaborate on ideas as a class • Combine different media • Use natural resources – tree rubbings • Explore working on different types of paper • Explore symmetry		

Key Stage 1 Design Technology Skills						
Skill development and progression by year	**Design** To use a range of materials creatively to design and make products.	**Make** To use drawing, painting and sculpture to develop and share their ideas, experiences and imagination	**Evaluate** To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space.	**Technical Knowledge** about the work of a range of artists, craft makers and designers.	**Cooking and Nutrition**	**Vocabulary**
Year 1	*Design - purposeful, functional, appealing products for themselves and other users based on design criteria* *Design - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology* • use own ideas to design something and describe how their own idea works • design a product which moves, explain to someone else how they want to make their product and make a	*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* • use own ideas to make something • make a product which moves, choose appropriate resources and tools	*Explore and evaluate a range of existing products* *Evaluate their ideas and products against design criteria* • describe how something works, explain what works well and not so well in the model they have made	*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.* • make their own model stronger	*Use the basic principles of a healthy and varied diet to prepare dishes* *understand where food comes from* • cut food safely	Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design

	simple plan before making					brief, design criteria, make, evaluate, user, purpose, function, identical, front, back
	Possible Learning Activities: • use simple design criteria to help develop their ideas generate ideas by drawing on their own experiences	**Possible Learning activities:** Build walls and towers to test how strong something is. Experiment with different methods and materials be able to make simple flaps and hinges for creating walls and bridges to design simple fabrics using fabric pens create a wooden spoon	**Possible Learning Activities:** be able to explain whether they like their design	**Possible Learning Activities:** be able to use correct terminology for improvements	**Possible Learning Activities:** Create a fruit salad Make a fruit smoothie Giuseppe Arcimboldi	
Year 2	*Design - purposeful, functional, appealing products for themselves and other users based on design criteria* *Design - generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology* • think of an idea and plan what to do next • explain why they have	*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* • use own ideas to make something • make a product which moves, choose appropriate resources and tools	*Explore and evaluate a range of existing products* *Evaluate their ideas and products against design criteria* • describe how something works, explain what works well and not so well in the model they have made •	*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.* • make their own model stronger •	*Use the basic principles of a healthy and varied diet to prepare dishes* *understand where food comes from* • cut food safely	Cut, fold, join, fix, structure, wall, tower, weak, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cube, cylinder, design, make, evaluate, purpose, ideas, stable, strong Slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas,

	chosen specific textiles					design criteria, product, function Scissors, shears, felt, cotton, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function, identical, front, back
	Possible Learning Activities: • use simple design criteria to help develop their ideas generate ideas by drawing on their own experiences • design a moving car • design a shelter	**Possible Learning activities:** Design a moving car use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components measure, mark out, cut and shape materials and components assemble, join, and combine materials and components be able to make simple flaps and hinges for creating walls and bridges to cut and create designs on fabric and join them in simple ways (glue) create a puppet	**Possible Learning Activities** be able to talk about what they like and dislike in a project they have made be able to say what they could do to improve their work next time be able to use correct terminology for improvements	**Possible Learning Activities:**	**Possible Learning Activities:** create and plan a savoury salad talk about seasonal vegetables make a vegetable smoothie	

Key Stage 2 Design Technology Skills						
Skill development and progression by year	**Design** To use a range of materials creatively to design and make products.	**Make**	**Evaluate** To develop a wide range of art and design techniques in using colour, pattern, texture, line, shape, form and space.	**Technical Knowledge** about the work of a range of artists, craft makers and designers.	**Cooking and Nutrition**	**Vocabulary**
Year 3	*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* • prove that a design meets a set criteria. • design a product and make sure that	*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 wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities* • follow a step-by-step plan, choosing the right equipment and materials • select the most appropriate tools and techniques for a given task • make a product which uses both electrical and mechanical components • work accurately to measure, make cuts and make holes	*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* • explain how to improve a finished model • know why a model has, or has not, been successful	*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.*	*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* • describe how food ingredients come together • weigh out ingredients and follow a given recipe to create a dish • talk about which food is healthy and which food is not • know when food is ready for harvesting	texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested, healthy/varied diet, planning, design criteria, purpose, user, annotated sketch, sensory evaluations

	• it looks attractive • choose a material for both its suitability and its appearance	• make a diorama which includes elements of light and dark		• know how to strengthen a product by stiffening a given part or reinforce a part of the structure • use a simple IT program within the design		
	Possible Learning Activities: create their own annotated designs of projects	**Possible Learning activities:** generate realistic ideas for designs make a volcano – test out volcano and create an explosion with bicarb and vinegar create bridges and cut materials appropriately to make strong and secure shell structures stone rubbings Cayton Bay – bunkers Design a pattern on a stone using chalk	**Possible Learning Activities:** use appropriate language to evaluate their work and against design briefs to evaluate existing structures and test their strength	**Possible Learning Activities:** be able to use correct terminology for improvements	**Possible Learning Activities:** plan a packed lunch for someone based on their likes and dislikes select appropriate tools for the task consider their target audience varied diet to learn how and where basic food like potatoes are grown	
Year 4	*use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at*	*select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately*	*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*	*apply their understanding of how to strengthen, stiffen and reinforce more complex structures*	*understand and apply the principles of a healthy and varied diet* *prepare and cook a variety of predominantly savoury dishes using a*	Shell structure, frame structure, solid structure, combination structure, three dimensional (3-D) shape, net, cube, cuboid, edge, face, length, width,

	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* • prove that a design meets a set criteria. • design a product and make sure that it looks attractive • choose a material for both its suitability and its appearance	*select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities* • follow a step-by-step plan, choosing the right equipment and materials • select the most appropriate tools and techniques for a given task • make a product which uses both electrical and mechanical components • work accurately to measure, make cuts and make holes	*understand how key events and individuals in design and technology have helped shape the world* • explain how to improve a finished model • know why a model has, or has not, been successful •	*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.* • know how to strengthen a product by stiffening a given part or reinforce a part of the structure • use a simple IT program within the design •	*range of cooking techniques* *understand seasonality and know where and how a variety of ingredients are grown, reared, caught and processed* • describe how food ingredients come together • weigh out ingredients and follow a given recipe to create a dish • talk about which food is healthy and which food is not • know when food is ready for harvesting	breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision, evaluating, design brief design criteria, innovative, prototype Series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip, input device, output device, copper track, user, purpose, function, prototype, design criteria, innovative, appealing, design brief
	Possible Learning Activities: create their own annotated designs of projects	**Possible Learning activities:** to assemble designs with some accuracy	**Possible Learning Activities:** use appropriate language to evaluate	**Possible Learning Activities:** to understand how simple circuits can	**Possible Learning Activities:** To understand that seasons will change available food	**Possible Learning Activities:** create their own annotated designs of projects

			their work and against design briefs to evaluate existing structures and test their strength Aqueducts – how they work and purpose	be used to create functional products functional lighthouse	consider their target audience varied diet to learn how and where basic food like potatoes are grown	
Year 5	*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* • come up with a range of ideas after collecting information from different sources	*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 wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities* • use a range of tools and equipment competently • make a prototype before making a final version • make a product that relies on pulleys or gears	*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* • suggest alternative plans; outlining the positive features and draw backs • evaluate appearance and function against original criteria	*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.*	*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* • be both hygienic and safe in the kitchen • know how to prepare a meal by collecting the ingredients in the first place • know which season various foods are available for harvesting	Reed switch, toggle switch, push-to-make switch, push-tobreak switch, light dependent resistor (LDR), tilt switch, light emitting diode (LED) USB cable, wire, insulator, conductor, crocodile clip, control, microprocessor, program, system, input device, output device, function, innovative, design specification, design brief, user, purpose, exploded, isometric, prototype Ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition,

	• produce a detailed, step-by-step plan • explain how a product will appeal to a specific audience • design a product that requires pulleys or gears			• know how to strengthen a product by stiffening a given part or reinforce a part of the structure • use a simple IT program within the design		healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble, design specification, innovative, research, evaluate, design brief
	Possible Learning Activities:	**Possible Learning Activities:** to be able to make a simple electrical circuit do research before carrying out a project to use basic stitches to join materials together	**Possible Learning Activities:** look at the successes and failures of some architects look at the aesthetic qualities of designs	**Possible Learning Activities:**	**Possible Learning Activities:** that food ingredients can be fresh, pre-cooked and processed design a dish based on a culture or celebration (speak about aromas) make healthy pancakes carry out research, using surveys, interviews, questionnaires, and web-based resources identify the needs, wants, preferences and values of particular individuals and group how food is processed into ingredients that can be eaten or cooked	
Year 6	*use research and develop design criteria to inform the design of*	*select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping,*	*investigate and analyse a range of existing products*	*apply their understanding of how to strengthen, stiffen and reinforce*	*understand and apply the principles of a healthy and varied diet*	Computer-aided design, (CAD), Computer-aided manufacture (CAM)

	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* • use market research to inform plans and ideas. • follow and refine original plans • justify planning in a convincing way • show that culture and society is considered in plans and designs	*joining and finishing], accurately* *select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities* • know which tool to use for a specific practical task • know how to use any tool correctly and safely • know what each tool is used for • explain why a specific tool is best for a specific action	*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* • suggest alternative plans; outlining the positive features and draw backs • evaluate appearance and function against original criteria	*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.* • know how to strengthen a product by stiffening a given part or reinforce a part of the structure • use a simple IT program within the design	*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* • explain how food ingredients should be stored and give reasons • work within a budget to create a meal • understand the difference between a savoury and sweet dish	augmented reality, face, plane, extrude, view cube, dimension, radius, align, empathy, scale, modify, repeat, copy, flip design brief, design criteria, design decisions, innovative, prototype Seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces, design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype, aesthetics, function, constraints **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 **how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking** **that different food and drink contain different substances - nutrients, water and fibre - that are needed for health critically evaluate the quality of the design, manufacture and fitness for purpose of their products as they design and make identify the strengths and areas for development in their ideas and products consider the views of others, including intended users, to improve their work**
	Possible Learning Activities:	**Possible Learning Activities:** to be able to make a complex electrical circuit for a purpose (book spine)	**Possible Learning Activities:** look at the successes and failures of some architects	**Possible Learning Activities:**	**Possible Learning Activities:** understand that a recipe can be adapted by	

		use the internet to carry out research for a project use basic stitches to join material together create a 3D textiles project	look at the aesthetic qualities of designs		adding or removing an ingredient how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source	

Impact

At Cayton School, children will become confident and enthusiastic in designing their own projects. They will develop resilience and be able to take on practical challenges and apply these to adult life.

Behaviours and attitudes will help children understand how designing can improve well-being and taking pride in their learning.