

Our Design and Technology (DT) Curriculum



Our Aim

Design and Technology (DT) at Parkside will:

- Develop the children's understanding of how technology has helped in the past, present and how it will change for us in the future.
- Provide opportunities for children to explore past and present designers/influencers and how their inventions/products have revolutionised the everyday life we live in.
- Allow the children to pose questions and solve problems both on an individual and group basis.
- Provide the children with the opportunity to design a product from different materials (be it wood, textiles or food), make a product and then evaluate the effectiveness. In all cases the children will be shown how to use the specific tools correctly and safely.

When leaving Parkside all of the children will be able to use the collaborative and problem-solving skills developed in DT to help them in everyday life.

Children from Year 1 to 6 will follow the expectations of the National Curriculum. Our KS1 and KS2 Design and Technology (DT) curriculum covers all the areas.

In the Early Years Foundation Stage (EYFS), children in Nursery and Reception will follow the expectations of the EYFS Framework. The level of development children should be expected to have attained by the end of the EYFS is defined by early learning goals (ELGs).

Design and Technology (DT) learning is covered within the Specific area of Expressive Arts and Design. Expressive Arts and Design is split into 2 areas: Creating with Materials and Being Imaginative and Expressive. Our EYFS Design and Technology (DT) curriculum covers the area of Creating with Materials.

Our Design and Technology (DT) Curriculum Construction

Intent

We have constructed our Design and Technology (DT) curriculum to be inspiring, practical, meaningful and memorable as well as one that encourages the children to not only embrace challenge but to relish it. We also want it to lead the children into their zone of proximal development.

We have decided not to use a published scheme for Design and Technology as we do not want our teachers to feel constrained, where they have to follow a non-negotiable set of assignments. We feel that a task-prescribed curriculum would not allow us to take advantage of world events or local or school events to stimulate the creativity, imagination and passion of the children. We do have a whole school overview but teachers [year groups] are free to insert a topic of their choice providing:

- It covers the skill progression requirements for that slot
- They discuss their amendment with the Design and Technology Coordinator first.
- It does not conflict with, or duplicate, the assignments in other year groups.

This flexibility of provision will also play to the strengths of the teachers across the school.

We also feel that rigidly following a lot of the commercially published schemes of work can de-skill [and de-motivate] both teachers and coordinators and result in a formulaic approach that lacks sparkle and loses a sense of motivation and inspiration.

We follow the sequence of:

- Identify a problem
- Research the problem and look for inspirations for a solution
- Research around experts in this field and solutions that may already exist
- Design a solution
- Learn the requisite skills needed
- Make the product
- Evaluate the success of the product.

The driving force behind the construction of the Design and Technology Curriculum at Parkside Primary School is to give the children the opportunity to develop their skills through collaborative working and problem-solving. Using creativity and imagination, our pupils design and make products that solve real problems within a variety of contexts, for example, sustainability. We want our children to feel equipped and empowered to respond to a perceived need or problem. We have carefully considered the purpose of each project and, where feasible, used the context of our school and school community as the inspiration.

Pupils also enjoy expanding their knowledge by evaluating various products and understanding the impact that they have on the wider world.

Design and Technology at Parkside provides children with the technical and practical experiences to develop essential skills for life. We want them to acquire a love of designing.

Implementation

At Parkside, Design and Technology is taught through termly projects in each year group, with each project having a sequence of lessons, which carefully plans for progression and depth. We encourage children to pay meticulous attention to detail and to look deeply and with an open mind into each assignment. They demonstrate their learning in a variety of ways: designs, models, drawings, etc. During their time at our school, they will make products and learn how to use a wide variety of tools, equipment, materials and components.

In Nursery, our children develop their skills through the provision. By the end of Nursery children will have explored different materials freely and will have begun to choose the resources to carry out their own plan. They will also have developed their fine motor skills and explored joining different materials together.

This process continues in reception where they are given frequent opportunities to use precision tools and to choose from a variety of materials to complete various tasks. The formal aspect of DT provision ensures that all the children have the requisite training and opportunities to ensure a smooth transition to the KS1 curriculum.

In Key Stage 1 and 2, the key themes within our Design & Technology Curriculum are Mechanisms, Structures, Textiles, Electrical Systems and Cooking and Nutrition. These themes are taught more than once during Key Stage 1 and 2, to allow children to build on their previous knowledge and skills throughout their time at Parkside.

Learning is recorded through photographs, children's work, products and evaluations and can be found in each Year Group Design and Technology folder.

Impact

Through our planned curriculum, children will become confident learners who are able to approach problems creatively. Our children will develop a range of skills and build on these throughout their time at our school. Design and Technology at Parkside provides children with the technical and practical experiences to develop essential skills for life. Some of these skills include:

- Time management
- Showing initiative
- Excellent and efficient collaborative learning
- Developing independence and resilience in the face of challenge (growth mindset).

All of which will create well rounded individuals with an array of soft skills which are vital [and highly valued] for employment.

Mastery in DT

We want children to achieve mastery of the D.T curriculum by being able to plan, design and make an item to fulfil a given criteria, in different contexts. This would require a good level of technical skill with a broad range of tools and use of innovative ways to enhance the outcome of an item.

Optional homework ideas are offered to the parents/carers every term which allow children to build on their skills, as well as apply their current skills to their home project.

Our Design and Technology (DT) Curriculum Overview

YEAR GROUP	AUTUMN TERM	SPRING TERM	SUMMER TERM
Nursery	Enchanting Elmer Exploring one-handed tools A patterned elephant sunlight catcher	Famous Fairy Tales Using one-handed tools A greetings card for our parents/carers	Reliable Rainbow Fish Choosing the correct tools safely Sea creature silhouettes for a show
Reception	Exploring with Materials Cutting and scissor skills/ Developing Fine Motor Skills Diva lamps to celebrate the festival of Diwali	Experimenting with Materials Cutting and scissor skills/ Choosing resources / Extending Fine Motor Skills 'Small world' environments (a police station, fire station and a hospital) for other children to play with	Cooking and Nutrition Refining Fine Motor Skills/ Basic hygiene, health and safety A fruit cocktail for a picnic
1	Mechanisms Sliders and levers A moving poster (using different materials) to tell a story to my friends	Cooking and Nutrition Fruit and vegetables/ The basics of a healthy diet Fruit rice cakes for a school party	Structures Freestanding structures/ strengthening materials A bug hotel to help shelter insects from the weather
2	Textiles Templates and joining techniques Sock puppets to entertain my friends in a comedy performance	Mechanisms Design using Computer Aided Design (C.A.D)/ Levers A pop-up card to say thank you	Cooking and Nutrition Fruit and vegetables/ Understanding where food comes from A healthy wrap to teach our parents/carers how to make at home
3	Exploring Materials 2D shapes to 3D product/ wheels and axels A toy car (that moves) for a Nursery or Reception child to play with	Cooking and Nutrition The principals of a healthy and varied diet A vegetable tart to impress visitors for our head teacher's meetings	Textiles Design using Computer Aided Design (C.A.D)/Sewing A drawstring bag to keep my favourite possessions in
4	Textiles Joining techniques/ Knitting A knitted fish comfort toy for a new born baby	Cooking and Nutrition Design using Computer Aided Design (C.A.D)/ Applying a healthy and varied diet A healthier biscuit for someone to eat after exercising	Mechanical Systems Levers and linkages A catapult to use during a sports activity (linked to a target game)
5	Cooking and Nutrition Seasonality and food sourcing A healthy bolognese sauce for a family celebration	Electrical Systems Design using Computer Aided Design (C.A.D)/Switches and circuits A light-up box (with a message) to keep children at Parkside safe	Structures Frame structures/ Stiffen and reinforce more complex structures A Truss bridge that can efficiently and safely carry a specified load
6	Textiles Design using Computer Aided Design (C.A.D)/ Attaching to fabric/ Creating slogans A t-shirt design that promotes an important issue	Structures and Electrical Systems Freestanding structures including a light source A playground model to help generate new ideas for our playground or Ridgeway Park	Cooking and Nutrition Seasonality and arrange of cooking techniques A three course meal to commemorate the end of the school year

Key Events and Individuals in Design and Technology that can be referenced in each term

YEAR GROUP	AUTUMN TERM	SPRING TERM	SUMMER TERM
Nursery	<i>Enchanting Elmer</i> <i>Exploring one-handed tools</i> <i>A patterned elephant</i> <i>sunlight catcher</i>	<i>Famous Fairy Tales</i> <i>Using one-handed tools</i> <i>A greetings card</i> <i>for our parents/carers</i>	<i>Reliable Rainbow Fish</i> <i>Choosing the correct tools safely</i> <i>Sea creature silhouettes</i> <i>for a show</i>
	Designer/Illustrator of books: David McKee	Designer: Rachel Ellen Designs (fairy-tale characters)	Event: Britain's Got Talent winners (2013) Attraction (shadow theatre group)
Reception	<i>Exploring with Materials</i> <i>Cutting and scissor skills/ Developing Fine Motor Skills</i> <i>Diva lamps</i> <i>to celebrate the festival of Diwali</i>	<i>Experimenting with Materials</i> <i>Cutting and scissor skills/ Choosing resources /</i> <i>Extending Fine Motor Skills</i> <i>'Small world' environments (a police station, fire station and a hospital)</i> <i>for other children to play with</i>	<i>Cooking and Nutrition</i> <i>Refining Fine Motor Skills/ Basic hygiene, health and safety</i> <i>A fruit cocktail</i> <i>for a picnic</i>
	Event: The Hindu Festival of Lights (Diwali) Event: Lantern festivals around the world	Wroxham Miniature Worlds Museum Babbacombe Model Village Mini-Europe- Brussels	Designer/ chef: Marcus Wearing (from MasterChef) using fruit and vegetables in recipes/ his fruit tart Designer/ chef: Lisa Faulkner (winner of MasterChef) and the importance of eating canned fruit

Key Events and Individuals in Design and Technology that can be referenced in each term

YEAR GROUP	AUTUMN TERM	SPRING TERM	SUMMER TERM
1	Mechanisms Sliders and levers A moving poster (using different materials) to tell a story to my friends	Cooking and Nutrition Fruit and vegetables/ The basics of a healthy diet Fruit rice cakes for a school party	Structures Freestanding structures/ strengthening materials A bug hotel to help shelter insects from the weather
	Children's film posters- bus stops/ billboards Piccadilly Circus- London Times Square- New York City	Designer/chef/ nutritionist: Joe Wicks- healthy choices Event: Joe Wicks keeping children (and adults) moving and healthy during the Covid-19 Pandemic	Urban Bees Ltd The Bumblebee City Nesters Designer/ gardener: Fisher Tomlin- Bug Hotel designer Designer/ gardener: Charlie Dimmock- Garden Rescue
2	Textiles Templates and joining techniques Sock Puppets to entertain my friends in a comedy performance	Mechanisms Design using Computer Aided Design (C.A.D)/ Levers A pop-up card to say thank you	Cooking and Nutrition Fruit and vegetables/ Understanding where food comes from A healthy wrap to teach our parents/carers how to make at home
	Designer: Chris Barlow- Puppets & Creatures Ltd Event: Britain's Got Talent runner-up (2022) Jamie Leahey (Young ventriloquist) and his puppet Chuck	Designer: Peter Dahmen- Pop-up designer	Designer/ chef: Jamie Oliver and his use of fresh vegetables Designer/chef: Nadiya Hussain- Making healthy choices

Key Events and Individuals in Design and Technology that can be referenced in each term

YEAR GROUP	AUTUMN TERM	SPRING TERM	SUMMER TERM
3	Exploring Materials 2D shapes to 3D product/ wheels and axels A toy car (that moves) for a Nursery or Reception child to play with	Cooking and Nutrition The principals of a healthy and varied diet A vegetable tart to impress visitors for our head teacher's meetings	Textiles Design using Computer Aided Design (C.A.D)/Sewing A drawstring bag to keep my favourite possessions in
	Event: The Stephenson's Rocket (Robert Stephenson) 1829-A locomotive involved in the Rainhill Trials (a competition involving the first trains invented) Event: The creation of the London Underground (The Metropolitan Railway) 1863 Event: The first car Karl Benz' Patent-Motorwagen built in 1885 Designer: Henry Ford's Quadricycle 1896 Designer: British Motor Corporation (BMC) invents the Mini (1959) Designers: Tesla (including Elon Musk) the electric car	Event/ Designer/ chef: Jamie Oliver and his national campaign to improve school dinners (2005)	Designer: Vivienne Westwood (1941-2022) handbag designs Designer: William Morris (1834-1898) (local)- Floral textile designs Designer: Jack Wills: Drawstring bags for using during exercise Designer/ crafter: Kirstie Allsopp- Simple craft bags

Key Events and Individuals in Design and Technology that can be referenced in each term

YEAR GROUP	AUTUMN TERM	SPRING TERM	SUMMER TERM
4	Textiles Joining techniques/ Knitting A knitted fish comfort toy for a new born baby	Cooking and Nutrition Design using Computer Aided Design (C.A.D)/ Applying a healthy and varied diet A healthier biscuit for someone to eat after exercising	Mechanical Systems Levers and linkages A catapult to use during a sports activity (linked to a target game)
	Designer: Grayson Perry – Knitted artwork Event: Postbox Knitting/ Urban knitting craze Event/ Designer: Tom Daley (athlete) starting a knitting craze at the Tokyo Olympics (2021)	Designer/ Chef: Mary Berry- Healthy choices for desserts- Marry Berry's Fork Biscuits Designer/ Chef: John Waite- Maple cinnamon buns recipe Graze biscuits- Protein boosts and super foods	Events: Links to Roman/ Ancient Chinese catapults

Key Events and Individuals in Design and Technology that can be referenced in each term

YEAR GROUP	AUTUMN TERM	SPRING TERM	SUMMER TERM
5	Cooking and Nutrition Seasonality and food sourcing A healthy bolognese sauce for a family celebration	Electrical Systems Design using Computer Aided Design (C.A.D)/Switches and circuits A light-up box (with a message) to keep children at Parkside safe	Structures Frame structures/ Stiffen and reinforce more complex structures A Truss bridge that can efficiently and safely carry a specified load
	Event/ Designer: Levi Roots- Reggae Reggae sauce/ his appearance on Dragons' Den (2007)	Event/ Designer: Invention of the light bulb Thomas Edison (1878) Event/ designer: The world's first demonstration of true television- John Baird (1927) Designer: John Peake Knight (1828-1886) invented the traffic light in 1868 Event/ designer: Steve Jobs/ Sir Jony Ive (local designer)- The creation of the first generation Iphone (2007)	Event: Key events of the Industrial Revolution- The Iron Bridge Designer/ Engineer: Isambard Kingdom Brunel (1806-1859)- Clifton Suspension Bridge Examples of a Truss bridge in Britain- The Forth Bridges/ The Royal Albert Bridge Examples of a Truss bridge across the world- Tokyo Gate Bridge (Japan) / Veterans Memorial Bridge (USA)
6	Textiles Design using Computer Aided Design (C.A.D)/ Attaching to fabric/ Creating slogans A t-shirt design that promotes an important issue	Structures and Electrical Systems Freestanding structures including a light source A playground model to help generate new ideas for our playground or Ridgeway Park	Cooking and Nutrition Seasonality and arrange of cooking techniques A three course meal to commemorate the end of the school year
	Designer: Ada Lovelace (1815-1852) who wrote the first computer programme Designer: Vivienne Westwood (1941-2022) textiles/ slogans	Event: The 2012 London Olympic Park (in Stratford) designed by the EDAW Consortium Designer: Thomas Heatherwick- Designer of the London 2012 Olympic cauldron Designer: Anish Kapoor designer of ArcelorMittal Orbit (in the Olympic Park- Stratford) Event: Creation of the new Tottenham Hotspur Stadium	Designer/ Chef: Heston Blumenthal- Being innovative with food and how it is presented Designer/ Chef: Nisha Katona (Indian family cuisine) and owner of the Mowgli Street Food restaurants

Overview of Design and Technology (DT) Skills

At Parkside, we follow the design, make and evaluate process.

Design

EYFS	Year 1	Year 2
- Select appropriate resources - Use gestures, talking and arrangements of materials and components to show design - Use contexts set by the teacher and myself - Use language of designing and making (join, build, shape, longer, shorter, heavier etc.)	- have own ideas - explain what I want to do - explain what my product is for, and how it will work - use pictures and words to plan, begin to use models - design a product for myself following design criteria - research similar existing products	- have own ideas and plan what to do next - explain what I want to do and describe how I may do it - explain purpose of product, how it will work and how it will be suitable for the user - describe design using pictures, words, models, diagrams, begin to use ICT - design products for myself and others following design criteria - choose best tools and materials, and explain choices - use knowledge of existing products to produce ideas

Year 3	Year 4	Year 5	Year 6
- begin to research others' needs - show design meets a range of requirements - describe purpose of product - follow a given design criteria - have at least one idea about how to create product - create a plan which shows order, equipment and tools - describe design using an accurately labelled sketch and words - make design decisions - explain how product will work - make a prototype - begin to use computers to show design	- use research for design ideas - show design meets a range of requirements and is fit for purpose - begin to create own design criteria - have at least one idea about how to create product and suggest improvements for design. - produce a plan and explain it to others - say how realistic plan is. - include an annotated sketch - make and explain design decisions considering availability of resources - explain how product will work - make a prototype - begin to use computers to show design.	- use internet and questionnaires for research and design ideas - take a user's view into account when designing - begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose - create own design criteria - have a range of ideas - produce a logical, realistic plan and explain it to others. - use cross-sectional planning and annotated sketches - make design decisions considering time and resources. - clearly explain how parts of product will work. *model and refine design ideas by making prototypes and using pattern pieces. *use computer-aided designs	- draw on market research to inform design - use research of user's individual needs, wants, requirements for design - identify features of design that will appeal to the intended user - create own design criteria and specification - come up with innovative design ideas *follow and refine a logical plan. *use annotated sketches, cross-sectional planning and exploded diagrams - make design decisions, considering, resources and cost - clearly explain how parts of design will work, and how they are fit for purpose - independently model and refine design ideas by making prototypes and using pattern pieces - use computer-aided designs

Make

EYFS	Year 1	Year 2
- Construct with a purpose, using a variety of resources - Use simple tools and techniques - Build / construct with a wide range of objects - Select tools & techniques to shape, assemble and join - Replicate structures with materials / components - Discuss how to make an activity safe and hygienic - Record experiences by drawing, writing, voice recording - Understand different media can be combined for a purpose	- explain what I'm making and why - consider what I need to do next - select tools/equipment to cut, shape, join, finish and explain choices - measure, mark out, cut and shape, with support - choose suitable materials and explain choices - try to use finishing techniques to make product look good - work in a safe and hygienic manner	- explain what I am making and why it fits the purpose - make suggestions as to what I need to do next. - join materials/components together in different ways - measure, mark out, cut and shape materials and components, with support. - describe which tools I'm using and why - choose suitable materials and explain choices depending on characteristics. - use finishing techniques to make product look good - work safely and hygienically

Year 3	Year 4	Year 5	Year 6
- select suitable tools/equipment, explain choices; begin to use them accurately - select appropriate materials, fit for purpose. - work through plan in order - consider how good product will be - begin to measure, mark out, cut and shape materials/components with some accuracy - begin to assemble, join and combine materials and components with some accuracy - begin to apply a range of finishing techniques with some accuracy	- select suitable tools and equipment, explain choices in relation to required techniques and use accurately - select appropriate materials, fit for purpose; explain choices - work through plan in order. - realise if product is going to be good quality - measure, mark out, cut and shape materials/components with some accuracy *assemble, join and combine materials and components with some accuracy *apply a range of finishing techniques with some accuracy	- use selected tools/equipment with good level of precision - produce suitable lists of tools, equipment/materials needed - select appropriate materials, fit for purpose; explain choices, considering functionality - create and follow detailed step- by-step plan - explain how product will appeal to an audience - mainly accurately measure, mark out, cut and shape materials/components - mainly accurately assemble, join and combine materials/components - mainly accurately apply a range of finishing techniques - use techniques that involve a small number of steps - begin to be resourceful with practical problems	- use selected tools and equipment precisely - produce suitable lists of tools, equipment, materials needed, considering constraints - select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics - create, follow, and adapt detailed step-by-step plans - explain how product will appeal to audience; make changes to improve quality - accurately measure, mark out, cut and shape materials/components - accurately assemble, join and combine materials/components - accurately apply a range of finishing techniques - use techniques that involve a number of steps - be resourceful with practical problems

Evaluate

EYFS	Year 1	Year 2
- Adapt work if necessary - Dismantle, examine, talk about existing objects/structures - Consider and manage some risks - Practise some appropriate safety measures independently - Talk about how things work - Look at similarities and differences between existing objects / materials / tools - Show an interest in technological toys - Describe textures	- talk about my work, linking it to what I was asked to do - talk about existing products considering: use, materials, how they work, audience, where they might be used - talk about existing products, and say what is and isn't good - talk about things that other people have made - begin to talk about what could make product better	- describe what went well, thinking about design criteria - talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion - evaluate how good existing products are - talk about what I would do differently if I were to do it again and why

Year 3	Year 4	Year 5	Year 6
- look at design criteria while designing and making - use design criteria to evaluate finished product - say what I would change to make design better - begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose - begin to understand by whom, when and where products were designed - learn about some inventors/designers/ engineers/chefs/ manufacturers of ground-breaking products	- refer to design criteria while designing and making - use criteria to evaluate product - begin to explain how I could improve original design - evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose - discuss by whom, when and where products were designed - research whether products can be recycled or reused - know about some inventors/designers/ engineers/chefs/manufacturers of ground-breaking products	- evaluate quality of design while designing and making - evaluate ideas and finished product against specification, considering purpose and appearance. - test and evaluate final product - evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose - begin to evaluate how much products cost to make and how innovative they are - research how sustainable materials are - talk about some key inventors/designers/ engineers/chefs/manufacturers of ground-breaking products	- evaluate quality of design while designing and making; is it fit for purpose? - keep checking design is best it can be. - evaluate ideas and finished product against specification, stating if it's fit for purpose - test and evaluate final product; explain what would improve it and the effect different resources may have had - do thorough evaluations of existing products considering: how well - they've been made, materials, - whether they work, how they've been made, fit for purpose - evaluate how much products cost to make and how innovative they are - research and discuss how sustainable materials are - consider the impact of products beyond their intended purpose - discuss some key inventors/designers/ engineers/chefs/manufacturers of ground-breaking products

Overview of Design and Technology (DT) Skills- Technical Knowledge

Selecting and using tools

EYFS

- learn how to use a range of tools, e.g. scissors, hole punch, stapler, woodworking tools, rolling pins, pastry cutters.
- learn how everyday objects work by dismantling things.

Materials and Structures

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
• begin to measure and join materials, with some support • describe differences in materials • suggest ways to make material/product stronger	• measure materials • describe some different characteristics of materials • join materials in different ways • use joining, rolling or folding to make it stronger • use own ideas to try to make product stronger	• use appropriate materials • work accurately to make cuts and holes • join materials • begin to make strong structures	• measure carefully to avoid mistakes • attempt to make product strong • continue working on product even if original didn't work • make a strong, stiff structure	• select materials carefully, considering intended use of product and appearance • explain how product meets design criteria • measure accurately enough to ensure precision • ensure product is strong and fit for purpose • begin to reinforce and strengthen a 3D frame	• select materials carefully, considering intended use of the product, the aesthetics and functionality. • explain how product meets design criteria • reinforce and strengthen a 3D frame

Mechanisms

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
begin to use levers or slides	use levers or slides effectively	- select appropriate tools / techniques - alter product after checking, to make it better - begin to try new/different ideas - use simple lever and linkages to create movement	- select most appropriate tools / techniques - explain alterations to product after checking it - grow in confidence about trying new / different ideas. - use levers and linkages to create movement - use pneumatics to create movement	- refine product after testing - grow in confidence about trying new / different ideas - begin to use cams, pulleys or gears to create movement	- refine product after testing, considering aesthetics, functionality and purpose - incorporate hydraulics and pneumatics - be confident to try new / different ideas - use cams, pulleys and gears to create movement

Textiles

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
- measure, cut and join textiles to make a product, with some support - choose suitable textiles	- measure textiles - join textiles together to make a product, and explain how I did it - carefully cut textiles to produce accurate pieces - explain choices of textile - understand that a 3D textile structure can be made from two identical fabric shapes.	- join different textiles in different ways - choose textiles considering appearance and functionality - begin to understand that a simple fabric shape can be used to make a 3D textiles project	- think about user when choosing textiles - think about how to make product strong - begin to devise a template - explain how to join things in a different way - understand that a simple fabric shape can be used to make a 3D textiles project	- think about user and aesthetics when choosing textiles - use own template - think about how to make product strong and look better - think of a range of ways to join things - begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.	- think about user's wants/needs and aesthetics when choosing textiles - make product attractive and strong - make a prototype - use a range of joining techniques - think about how product might be sold *hink carefully about what would improve product - understand that a single 3D textiles project can be made from a combination of fabric shapes.

Electrical Systems

Year 3	Year 4	Year 5	Year 6
learn about how to program a computer to control product.	program a computer to control product	- use number of components in circuit - incorporate switch into product - confidently use number of components in circuit - begin to be able to program a computer to monitor changes in environment and control product	- use different types of circuit in product - think of ways in which adding a circuit would improve product - program a computer to monitor changes in environment and control product

Food and Nutrition

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
- Begin to understand some food preparation tools, techniques and processes - Practise stirring, mixing, pouring, blending - Discuss how to make an activity safe and hygienic - Discuss use of senses - Understand need for variety in food - Begin to understand that eating well contributes to good health	- describe textures - wash hands & clean surfaces - think of interesting ways to decorate food - say where some foods come from, (i.e. plant or animal) - describe differences between some food groups (i.e. sweet, vegetable etc.) - discuss how fruit and vegetables are healthy - cut, peel and grate safely, with support	- explain hygiene and keep a hygienic kitchen - describe properties of ingredients and importance of varied diet - say where food comes from (animal, underground etc.) *describe how food is farmed, home-grown, caught - draw eat well plate; explain there are groups of food - describe "five a day" - cut, peel and grate with increasing confidence	- carefully select ingredients - use equipment safely *make product look attractive - think about how to grow plants to use in cooking - begin to understand food comes from UK and wider world - describe how healthy diet variety/balance of food/drinks - explain how food and drink are needed for active/healthy bodies. - prepare and cook some dishes safely and hygienically *grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking	- explain how to be safe/hygienic - think about presenting product in interesting/attractive ways - understand ingredients can be fresh, pre-cooked or processed - begin to understand about food being grown, reared or caught in the UK or wider world - describe eat well plate and how a healthy diet variety / balance of food and drinks - explain importance of food and drink for active, healthy	- explain how to be safe / hygienic and follow own guidelines - present product well - interesting, attractive, fit for purpose - begin to understand seasonality of foods - understand food can be grown, reared or caught in the UK and the wider world - describe how recipes can be adapted to change appearance, taste, texture, aroma - explain how there are different substances in food / drink needed for health - prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source - use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	- understand a recipe can be adapted by adding / substituting ingredients - explain seasonality of foods - learn about food processing methods - name some types of food that are grown, reared or caught in the UK or wider world - adapt recipes to change appearance, taste, texture or aroma. - describe some of the different substances in food and drink, and how they can affect health - prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. - use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.

				- bodies - prepare and cook some dishes safely and hygienically - use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading, kneading and baking		
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Progression of Relevant Design and Technology (DT) Vocabulary (Linked to Creating with Materials- EYFS)

Nursery	Reception
picture, drawing, use, food, meal, tool/s, cut, pattern, colour, fold	change, instructions, planning, investigating, make, materials, ideas, healthy, ingredients, model

Progression of Relevant Design and Technology (DT) Vocabulary

KS1 and KS2

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
design, evaluate, user, purpose, product, improve, diet, meal, poster, protect, test	user, purpose, ideas, design criteria, product, function	design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, function, planning, design criteria, annotated sketch, appealing	evaluating, design brief design criteria, innovative, prototype, user, purpose, function, prototype, design criteria, innovative, appealing, design brief, planning, annotated sketch, sensory evaluations	design decisions, functionality, authentic, user, purpose, design specification, design brief, innovative, research, evaluate, design criteria, annotate, evaluate, mock-up, prototype	function, innovative, design specification, design brief, user, purpose design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional, mock-up, prototype

Spiritual, Moral, Social and Cultural Development in Design and Technology (DT) and Creating with Materials- EYFS

Spiritual development

Spiritual development is very important in D.T as the process of creative thinking and problem solving lies at the centre of the subject. Children can enjoy and celebrate their personal creativity through design opportunities. A pupil's ability to think creatively and show innovation can be inspirational to others but also increase their own self confidence and belief in their own abilities. They develop confidence to explore and experiment with different materials and skills to solve problems. They learn to embrace failure and difficulties as a necessary path to learning and achieving success. They also develop mutual respect through peer evaluation.

Moral development

We seek to develop a sense of 'moral conscience' in our students, through focusing upon the moral dilemmas raised in designing and making new products. We teach students to understand the wider impacts on the environment when designing and making new products and expect them to consider carefully the materials & components they will use when designing and making. We encourage sustainable thinking.

Social development

Social development is a key feature of all design & technology lessons. We teach the concept of self-regulation to ensure that students accept responsibility for their behaviour and the safety of others. All the children have a collective responsibility to ensure they contribute to a safe working environment where the use of tools and equipment are involved. This establishes and maintains a safe, secure, learning environment.

In line with our collaborative learning ethos we place an emphasis on developing the ability to work with other and to accept each other's unique personality. We encourage effective conversations about the work we do through self & peer evaluation, and to give and accept constructive criticism as a vehicle to improve student's learning outcomes.

Cultural development

We develop wider cultural awareness through looking at influential designers from around the world and through referencing designs from other cultures. We also encourage this development through the cooking component of our curriculum. Artefacts from other cultures and times past will also be used to enrich children's cultural awareness.

Essential Characteristics Endpoint of a Learner in Creating with Materials- EYFS

By the end of Reception every child will be able to:

- explore and choose a range of materials to create and make things
- use tools correctly and safely
- investigate how things work and talk about them
- draw, build and make things which fulfil a simple function (purpose)
- share their products and verbally explain how they made them

Essential Characteristics Endpoint of a Learner in Design and Technology (DT)

The intent of the Design & Technology curriculum at Parkside Primary School is to provide every pupil with:

- Significant levels of originality and the willingness to take creative risks to produce innovative ideas and prototypes.
- An excellent attitude to learning and independent working.
- The ability to use time efficiently and work constructively and productively with others.
- The ability to carry out thorough research, show initiative and ask questions to develop an exceptionally detailed knowledge of users' needs.
- The ability to act as responsible designers and makers, working ethically, using finite materials carefully and working safely.
- The ability to see the opportunities for using recyclable and sustainable materials.
- 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 exceptionally well to manufacture products safely and hygienically.
- A passion for the subject and knowledge of, up-to-date technological innovations in materials, products and systems.