Design and Technology Curriculum

Nursery			
Educational programmes: Revised EYFS framework 2021 **Expressive arts and design**			
The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.			
	Autumn	**Spring**	**Summer**
	Offer a variety of natural and man-made materials e.g. 'junk' recycled materials, twigs, shells.		
Learning priorities	Explore properties of different objects /materials: moving, combining, lining up and stacking. **Significant people:** Andy Goldsworthy, sculptor	Begin to use selected parts to create simple constructions and models. Use simple tools to join, fix, cut etc.	Begin to make constructions and models with a purpose, deciding / planning what to make. Use tools with increasing control to support model-making.
Retrieval Vocabulary		Poke, pull, pinch, squeeze, pat, move, line up, stack	Poke, pull, pinch, squeeze, pat, move, line up, stack, mould, roll, squash, place, build, balance, join, stick, click, make, cut, tear, stick
New Vocabulary	Poke, pull, pinch, squeeze, pat, move, line up, stack	Mould, roll, squash, place, build, balance, join, stick, click, make, cut, tear, stick	Curl, twist, loop, shape, tap, fix

HEALD PLACE
Every Child a Confident Learner

Reception			
Educational programmes: Revised EYFS framework 2021 **Expressive arts and design**			
The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.			
	Autumn	**Spring**	**Summer**
	Offer and extend a variety of natural and man-made materials e.g. 'junk' recycled materials, twigs, pine cones and different types of glue (e.g. PVA, glue sticks, flour & water)		
Learning priorities	Independently make constructions, using own ideas and available loose parts. Show increasing skills with combining, lining up, stacking etc.	Build and de-construct loose part models / constructions to represent real life / imaginary objects and experiences. Handle tools and materials with increasing control.	Make imaginative structures, using tools with control. Explore a wide range of materials, making simple forms and applying simple decorative features where wanted. **Significant Individual:** Barbara Hepworth, sculptor
Retrieval Vocabulary	Pulling, poking, patting, lining up, stacking	Place, build, balance, join	Tab, fringe, tie, wrap, improve
New Vocabulary	Roll, cut, flatten, slot, fold, wedge	Cone, spiral	Pierce, separate

Every Child a Confident Learner

KS1 National Curriculum

General: 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].

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.

Year 1	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Knowledge, understanding and skills	• 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.	• Use the basic principles of a healthy and varied diet to prepare dishes. • Understand where food comes from.

	Autumn B	Spring B	Summer B
Key concept	**Global Goal 12 – Responsible consumption and production** **Theme: Recycling**	**Global goal 4 – Quality education** **Theme: Learn through play**	**Global Goal 2 – Zero hunger** **Theme: Fruit dishes**
Learning Outcome	**Activity:** Make an animal themed cookie bag. **Purpose:** To hold a cookie. **Significant Individual:** Eric Carle, author and designer.	**Activity:** Make a game to support maths knowledge (number bonds to 10) with a moving part that reveals an answer. **Purpose:** To be played with a partner at the end of a maths lesson. **Significant Individual:** Lizzie Magie (gender) Monopoly game inventor.	**Activity:** Create a healthy fruit salad. **Purpose:** Understand healthy eating and begin to understand where fruit comes from. **Significant Individual:** Ravneet Gill – Junior Bake Off presenter and pastry chef.
Sequence of learning	• **Explore:** Oracy lesson-gather different food bags for the children to see, e.g clear bags, colourful food bags, bags from local restaurants. Children discuss what they like/don't like about them and how they think they are made. • **Research:** Children to look at photographs and pre-prepared research about different animals (rainforest, ocean, woodland etc) link to Eric Carle and discuss what animals he uses in his books. • **Skills:** Discuss handling scissors safely and how to hold them. Practice cutting recycled fabric (donated) with fabric scissors. • **Design:** Children to draw and label their bag design, thinking about the colours and animals they want to choose. Look at Eric Carle images for inspiration. • **Make:** Children to make a themed cookie bag out of recycled paper creating an animal themed design on the front. • **Evaluate:** Children to use 3 star evaluation to evaluate their design.	• **Explore**: Oracy lesson-look at different board games and discuss how they work. Buttons, levers, dice etc • **Research:** Children to look at photographs and pre-prepared research about board games- who likes to play them and why. Link to significant person • **Skills:** Practice making the levers with lollypop sticks. Children to gain an understanding how their moving parts will work. • **Design**: Children to create a labelled drawing of their game design. Children to think about how their game will look e.g. a track or a grid. • **Make:** Children to make a game using own design with a moving part that reveals an answer. • **Evaluate**: Play the games with their peers and provide each other with feedback.	• **Explore:** Oracy lesson-sample a fruit salad. Use senses to explore it. Children to think about ingredients used and what they enjoyed about it. • **Research: U**se photographs and pre-prepared research to discuss where fruit comes from and how different fruits grow. • **Skills:** Discuss food preparation and hygiene. Children to practice bridge and claw grip whilst chopping bananas. • **Design:** Provide children with a list of fruits that will be available to them. Children choose the fruits they would like to include and create a labelled drawing of their fruit salad using a drawing app/website. • **Make:** Children to make a healthy fruit salad. Children following the food preparation and hygiene safety taught (washing hands, clean work space, wearing aprons) using the correct knife hold when chopping. • **Evaluate**: Children to think about whether they achieved making a healthy fruit salad. Discuss with peers what they liked/didn't like about their fruit salad.

Every Child a Confident Learner

Year 1	Autumn B	Spring B	Summer B
Retrieval Vocabulary	Pulling, poking, patting, lining up, stacking, Roll, cut, flatten, slot, fold, wedge	Place, build, balance, join, cut, snip	Cut, chop, wash, fruit, knife, mix
New Vocabulary	Bag, recycle, reuse, snip, colourful, design	Design, levers, sliders, mechanism, create, plan	Recipe, healthy, chopping board, slice, stir, sweet, crunch, colourful, tasty

HEALD PLACE
Every Child a Confident Learner

KS1 National Curriculum

General: 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].

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.

Year 2	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Knowledge, understanding and skills	• 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.	• Use the basic principles of a healthy and varied diet to prepare dishes. • Understand where food comes from.

	Autumn B	Spring B	Summer B
Key concept	**Global Goal 2 – Zero hunger** **Theme: Protein snacks**	**Global Goal 10 – Sustainable cities and communities** **Theme: Wheels and axels**	**Global goal 15 – Life on land** **Theme: Sustainability**
Learning Outcome	**Activity:** Make a no bake protein snack. **Purpose:** Explore how different food groups effect the body. **Significant Individual:** Liam Charles (Great British Bake off contestant & junior bake off presenter).	**Activity:** Make a moving vehicle which has been designed to help someone. **Purpose:** Safe and sustainable transport. How transport can improve peoples' lives. **Significant Individual:** Ralph Braun (disability) used wheels and axels to improve people's lives. Invents accessible vehicles for people with disabilities.	**Activity:** Make a minibeast micro habitat. **Purpose:** Safe, warm environment for mini-beast. **Significant Individual:** Wangari Maathai (biologist, environmentalist, founder of the Greenbelt movement and first African woman to win a Nobel Peace prize).
Sequence of learning	• **Explore:** Oracy lesson-children taste a protein bar. Use senses to discuss taste, texture and appearance. • **Research:** Use photographs and pre-prepared research, children to find out and discuss what protein is and effects on the body. Discuss foods that contain protein. • **Skills:** Look at food preparation and hygiene (using chopping boards, clean hands, wearing aprons, clean work surfaces). Children to practice correctly weighing out ingredients on digital scales and practice chopping fruit using bridge and claw hold. • **Design:** Children to design the shape of their protein snack and what they want to include in it. Labelled drawing along with a basic ingredients list. • **Make:** Children to make a no bake protein snack. Ensure children are thinking about food preparation and hygiene skills previously taught (washing hands, clean work space, wearing aprons, hair tied back etc) **Evaluate:** Taste evaluation using 3 star system. Thinking about the taste and appearance. Link back to design brief.	• **Explore:** Oracy lesson-children to look at toy vehicles and explore how they move. How do the wheels rotate? Why do the wheels need to rotate? • **Research:** Use photos and pre-prepared research of how wheels and axels work and how wheels help us (wheel chairs, trolleys, prams, fire engines, heavy furniture) • **Skills:** Practice putting the axels and wheels together. • **Design:** Children to design their vehicle they want to make. • **Make:** Children to make a moving vehicle with wheels and axels. Children showing an understanding how the vehicle is moving. • **Evaluate:** Use the 3 star evaluation to assess whether their vehicle moves sufficiently and if it would be suitable for it's purpose.	• **Explore:** Oracy lesson-children to look at mini beast micro habitats (make use of the ones on the school field-bird houses, ponds, mini beast hotels) • **Research:** Photographs and pre-prepared research about the effects of deforestation and how humans are making man made micro habitats to help wild life. Look at example of man made micro habitats- bug hotels, bird houses etc. • **Skills:** Supervised use of cool melt glue guns. Children to practice sticking materials together with them. • **Design:** Children to design their mini beast micro habitat using recycled materials. • **Make:** Children to make their minibeast hotels and put them around the school outdoor environment. • **Evaluate:** Revisit the minibeast microhabitats. Have they been successful? Has wildlife chosen to live there?

Every Child a Confident Learner

Year 2	Autumn B	Spring B	Summer B
Retrieval Vocabulary	Recipe, healthy, chopping board, slice, stir, sweet, crunch, colourful, tasty	Turn, roll, spin, assemble, attach, design, mechanism	Fabric, recycle, reuse, stuff, colourful, attach, safe
New Vocabulary	Ingredients, protein, measure, weigh, combine, tasty, energy	Vehicle, wheels, axels, chassis, body	Micro habitat, habitat, minibeast, shelter, survive, evaluate, join, damp, shade, natural, waterproof

HEALD PLACE
Every Child a Confident Learner

KS2 National Curriculum

General: 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].

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.

Year 3	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Knowledge, understanding and skills	• 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.	• 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.	• 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.

	Autumn B	Spring B	Summer B
Key concept	**Global Goal 4 – Quality education** **Theme: Learn through play**	**Global Goal 2 – Zero hunger** **Theme: Energy foods**	**Global Goal 12 – Responsible consumption and production** **Theme: Recycling**
Learning Outcome	**Activity:** Make a moving picture to describe an event/character in their favourite book. **Purpose:** Perform to the class using the moving picture as a prop. **Significant Individual:** Floyd Norman-animator who worked for Disney and Pixar.	**Activity:** Create a healthy, hand held savoury snack, using pastry and fillings. **Purpose:** Learn how to create a balanced filling for a pastry using savoury ingredients. **Significant Individual:** French chef Nina Métayer voted World's Best Pastry Chef 2023first woman to be awarded) (gender).	**Activity:** Create a bird feeder using recycled materials. **Purpose:** Observe and feed wildlife from a bird feeder using recycled materials. **Significant Individual:** David Attenborough (age) famous naturalist broadcaster who taught people about nature and wildlife.
Sequence of learning	**Explore:** Oracy lesson-watch some animations and think about how and why they are made. Look at animations before they were on the screen. Look at different examples of moving pictures. **Research:** Photos and prepared research about animation and why people enjoy them. Provide children with information about how animations are made and the different ways to make it. Link to significant person. **Skill:** Practice cutting and making the moving mechanisms for the moving pictures using split pins. **Design:** Children to design a labelled diagram of what they want their moving picture to look like, what story they want it to tell. **Make:** Children to make the moving picture using card and split pins to making the levers and moving parts. **Evaluate:** Peer assessment, use the pictures to tell a story. Think about the design, how well the moving parts work. Use 5 star evaluation to evaluate against design criteria.	**Explore:** Oracy lesson- sample a pastry pin wheel. Use 5 senses to discuss what they liked/ didn't like about it. **Research:** Photographs and pre- prepared research about what pastries are. Link to significant person. **Skill:** Chopping, grating, peeling. Practice safe food preparation- washing hands, wearing aprons, using a clean work area. Practice the claw and bridge hold whilst chopping. **Design:** Decide what size/shape they want their pastry and what ingredients they want to use. Create a labelled drawing of their pastry. **Make:** Children to make the savoury pastry and complete taste evaluation. **Evaluate:** Use 5 star evaluation to think about the taste/ appearance of the pastry.	**Explore:** Oracy lesson- look around the school environment for man-made objects that can be seen to help wildlife (bird houses, bug hotel, pond). **Research:** Photographs and pre-prepared research about bird feeders and how they help wildlife. Link to significant person. **Skill:** Practicing cutting materials and sticking objects together with the cool melt guns. **Design:** Children to design their own bird feeder. Thinking about the recycled materials they want to use. Labelled drawings. Create a mock up using scrap paper of their design. **Make:** Children to make their own bird feeders using recycled materials from home and craft materials. **Evaluate:** Children to think about whether their models are fit for purpose. Use 5 star evaluation to think about the design, materials used and its effectiveness of the bird feeder.

Every Child a Confident Learner

Year 3	Autumn B	Spring B	Summer B
Retrieval Vocabulary	Turn, roll, spin, assemble, attach, design, mechanism	Recipe, healthy, chopping board, slice, stir, sweet, crunch, colourful, tasty, Ingredients, protein, measure, weigh, combine, tasty, energy	Fabric, recycle, reuse, stuff, colourful, attach,
New Vocabulary	Linkages, innovative, moving picture, animation, moving parts	Shape, grate, peel, hand held, savoury	Purpose, assemble, construct, decorate, safe, wildlife, shelter

HEALD PLACE
Every Child a Confident Learner

KS2 National Curriculum

General: 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].

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.

Year 4	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Knowledge, understanding and skills	• 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.	• 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.	• 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.

	Autumn B	Spring B	Summer B
Key concept	**Global Goal 12 – Responsible Consumption and Production** **Theme: Recycling**	**Global Goal 6 – Clean water and sanitation** **Theme: Health**	**Global Goal 2 – Zero Hunger** **Theme: Reduce sugar intake**
Learning Outcome	**Activity:** Make waterproof items from recycled materials. **Purpose:** Test in a class experiment. **Significant Individual:** Charles Macintosh, inventor of the first waterproof coat.	**Activity:** Make a pulley system to extract water from a 'Roman well.' **Purpose:** Participate in a class race to collect the most water in a set amount of time. **Significant Individual:** Archimedes, Greek Mathematician and engineer is one of the most famous of all time and used compound pulley systems.	**Activity:** Create a low sugar baked dessert. **Purpose:** Explore the need for low sugar foods and think of alternatives. **Significant Individual:** Nadiya Hussain (religion & ethnicity/ gender) Winner of BBC Bake-off.
Sequence of learning	• **Explore:** Oracy lesson-explore the waterproof objects in the classroom. Children discuss and think about why they were designed and what materials they were made from. • **Research:** Children to research which materials are waterproof using a tray of water. Children to think about how they will know if a material is waterproof or not. Discuss in groups which materials would be suitable to make their waterproof item. Link to significant person. • **Skills:** Practice cutting fabric with fabric scissors carefully. Think about the hazards of using sharp equipment. Children can also practice assembling materials together using the cool melt glue guns. • **Design:** Children to design their waterproof item on a drawing website or app. Children to explain what materials they have chosen and why.	• **Explore:** Oracy lesson-put a bowl/small bucket of water into a tall box (well). Ask the children about the different ways water can be extracted from the bucket without climbing into the 'well'. Children to discuss ideas with peers and retrieve knowledge of any previous experiences. Provide the children with a few basic materials and ask how they could be used to get water from the well. Show the children a simple pulley and ask how this might help retrieve the water. • **Research:** Photographs and pre-prepared research about the use of pulleys and gears and recap the use of levers and linkages and the ways in which these mechanisms can be used. Link to significant person. • **Skills:** Practice putting the pulley systems together using string.	• **Explore:** Oracy lesson-sample banana bread. Children to think about what has been used to help the banana bread taste sweet. Compare to other deserts they know. • **Research:** Photographs and pre-prepared research about the effects of sugar on the body, particularly teeth. Look at natural and refined sugars and sugar alternatives being used in some desert products. Link to significant person. • **Skills:** Children to practise chopping using bride and claw hold. Children to use a clean work space, wash hands and think about safe food preparation. • **Design:** Children to design their own banana bread choosing the ingredients they want to add in replacement of sugar. • **Make:** Children to make banana bread using alternatives to sugar. Using equipment safely and clean work surfaces. • **Evaluate:** Use 5 star evaluation against design brief.

Year 4	Autumn B	Spring B	Summer B
	• **Make:** Children to make their waterproof item using recycled materials using fabric scissors, fabric glue, cool melt glue guns etc. • **Evaluate:** Children to think about how effective their waterproof item was. Use 5 star evaluation against the design brief.	• **Design:** Children to design a container and pulley system which allows water to be collected and drawn up by at least 60cm using annotated sketches and computer aided design. • **Make:** Children to make a pulley system using wire, string or wool for the rope and wood, plastic or metal for the wheel, container and weight. • **Evaluate:** Own and others' products through a class challenge by monitoring whose project is the most effective through collecting the most water in the time given. Encourage the children to suggest ways each other's designs could be improved.	
Retrieval Vocabulary	Research, develop, design criteria, innovative, functional, appealing, products, generate, develop, model, discussion, annotated sketches exploded diagrams, prototypes, recycling, reuse	Research, design criteria, innovative, functional, appealing, products, generate, develop, model, discussion, annotated sketches exploded diagrams, prototypes, recycling, reuse	Flavour, taste, acidity, sweetness, fruity, nutty, creamy, bitter, sour, recipe, compliment, ingredient, dry, moist, bland, spicy, savoury, rich, salty, sugary, greasy, sour, slicing, grating, natural sugars, free sugars, food hygiene, alternative
New Vocabulary	Patterned piece, impact, repel	Pulleys, gears, develop	Nutrition, artificial, natural sugars

Every Child a Confident Learner

KS2 National Curriculum

General: 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].

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.

Year 5	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Knowledge, understanding and skills	• 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.	• 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.	• 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.

	Autumn B	Spring B	Summer B
Key concept	**Global Goal 13 – Climate Action** **Theme: Important signs**	**Global Goal 2 – Zero Hunger** **Theme: Traditional dishes**	**Global Goal 4 – Quality Education** **Theme: Forces and materials**
Learning Outcome	**Activity:** Make a climate change protest sign. **Purpose:** Use as part of a demonstration to raise awareness. **Significant Individual:** Greta Thunberg (age), climate activist who campaigns for action against climate change.	**Activity:** Make Anglo Saxon stew. **Purpose:** Explore the type of food eaten in Anglo Saxon times and how this can be recreated today. **Significant Individual:** Leah Chase- African American chef- the queen of cuisine (ethnicity).	**Activity:** Make a floating vehicle. **Purpose:** Transport a small object in water. **Significant Individual:** Ellen MacArthur (gender) British sailor, uses innovative boat design and engineering.
Sequence of learning	• **Explore**: Oracy lesson-display powerful imagery of climate change impacts around the room. Whole class discussions about what the images have in common and what activists are doing to protest against climate change. Watch videos of different types of protests. • **Research:** Photographs and pre-prepared research about the types of protests and the different things activists make to get their message across. Link to significant person. • **Skills:** Learn how to use cool melt gun safely and the dangers around it. Children practice attaching materials together with the cool melt glue guns. • **Design:** Children to design their protest signs using a drawing app or website. Children to think about their slogans and how they will wear/ hold their protest sign.	• **Explore:** Oracy lesson-mystery pot challenge- put potatoes, carrots, celery in a stew pot. How can these ingredients be used to create a filling meal for an Anglo-Saxon family? Children can sample the ingredients and discuss what they liked about them. • **Research:** Use photographs and pre-prepared research to look at where vegetables come from and how this changes according to the seasons. Research how animals were caught and reared in Anglo Saxon times in comparison to now. • **Skills:** Look at safe food preparation and what cross contamination is. Practice using knives and vegetables peelers properly and the potential dangers of them. • **Design:** Children to create a labelled drawing of their stew along with a basic ingredient list using Sketchpad on iPads. • **Make:** Children to make their stews. Choosing whether to make it on the hob or using a slow cooker.	• **Explore:** Oracy lesson-watch videos of hover crafts, water taxis, rescue boats etc. What do these vehicles have in common? How are these vehicles able to float? Explore different floating materials and discuss their properties. • **Research:** Pre-prepared research and photographs about different floating vehicles and how they impact/ improve people's lives. Link to significant person. • **Skills:** Children to test the buoyancy of different materials they might use to make their vehicles and practice attaching these materials in different ways (stapling, cool melt glue gun, fabric glue) • **Design:** Create annotated drawing of their floating vehicle design along with an exploded diagram. • **Make:** Children to make their floating vehicles.

HEAD START
Every Child a Confident Learner

Year 5	Autumn B	Spring B	Summer B
	• **Make:** Children to make protest signs using a range of craft and recycled materials. • **Evaluate:** Take part in a small protest around the school site chanting slogans against climate change. In class discuss the impact of the signs on the public and how you could have improved the protest signs.	• **Evaluate:** Taste evaluation. Children to think about how their stew can be improved and evaluate it against the design brief using 5 stars.	• **Evaluate-**children to evaluate against the design brief using 5 stars. Children to peer assess and suggest to each other ways of improvement.
Retrieval Vocabulary	Design, important, material, make, product, computer, shape, cut, equipment, resources, mock-up, finish	Flavour, taste, acidity, sweetness, fruity, nutty, creamy, bitter, sour, recipe, compliment, ingredient, dry, moist, bland, spicy, savoury, rich, salty, sugary, greasy, sour, slicing, grating, natural sugars, free sugars, food hygiene, alternative, nutrition	Research, develop, design criteria, innovative, functional, appealing, products, generate, develop, model, discussion, annotated sketches exploded diagrams, prototypes, recycling, reuse
New Vocabulary	Awareness, protest, construction	Stew, stock, broth, aroma, tradition, culture, live stock	Buoyant, water tight, stable

HEALD PLACE
Every Child a Confident Learner

KS2 National Curriculum

General: 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].

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.

Year 6	Design	Make	Evaluate	Technical Knowledge	Cooking and Nutrition
Knowledge, understanding and skills	• 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.	• 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.	• 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.

	Autumn B	Spring B	Summer B
Key concept	**Global Goal 3 – Good Health and Well-being** **Theme: Mindfulness**	**Global Goal 16 – Peace, Justice and Strong Institutions** **Theme: Protecting Life**	**Global Goal 7 – Affordable and Clean Energy** **Theme: Electricity**
Learning Outcome	**Activity:** Make empanadas inspired by South America, link to Geography learning. **Purpose:** Explore how food reflects different cultures and traditions. **Significant Individual:** Gaston Acurio, famous Peruvian chef.	**Activity:** Make a WWll shelter. **Purpose:** Create a safe protected space. **Significant Individuals:** Engineers and designers of the Anderson shelter, William Paterson and Oscar Carl Kerrison.	**Activity:** Make a fairground buzzer game. **Purpose:** Test each other's skills and steady hands. **Significant Individual:** WWll RAF electrician and inventor of the original electric buzz wire game, Robert Scrimshaw.
Sequence of learning	• **Explore:** Oracy lesson-Set up tasting sessions for children to use 5 senses to try small samples of sweetcorn, kidney beans, black beans, paprika. Children to discuss where these foods come from and how they grow. Link to significant person-how Gaston Acurio uses different parts of South America as inspiration for his recipes. • **Research:** Use pre-prepared research and photographs to discuss how crops are harvested in South America and how animals are reared, caught and processed. • **Skills:** Children to learn how to chop ingredients properly, how to prepare a clean and safe area, wash ingredients and hands, discuss hazards in the kitchen and how to keep themselves and others safe. Practice chopping ingredients using the claw and bridge hold.	• **Explore:** Oracy lesson-darken the classroom and play WWII air raid sirens. Leave a message on the board from 1940 about how the need for air raid shelters is increasing and safe spaces are needed for families. Allow children to discuss how they might achieve this and what materials would be suitable, thinking about what was available at the time. • **Research:** Use pre-prepared research and photographs to show a range of existing shelters which exist/existed to protect citizens during WWII times (e.g. Anderson shelters, underground bunkers, materials used, designed for maximum shock absorption etc.) • **Skills:** Use hacksaws and cool melt glue guns safely and the dangers of using this equipment. Children to understand why safety equipment is needed (safety glasses, protective mats for tables etc). Children to have a go at setting up the bench hooks with the G clamps.	• **Explore:** Oracy lesson-play POV videos of rollercoasters and various fairground rides. Children to discuss which ones they would ride and what made that ride exciting. Children think about what makes a good fairground and how they are made. • **Research:** Use pre-prepared research and photographs to discuss circuits and how they function and existing electronic games which use them in order to work. Link to significant person. • **Skill:** Show the children a motor and buzzer- discuss how they can be used to make a fairground ride. Children to practise putting a circuit together. • **Design:** Children to design an electronic buzzer fairground style game which requires a circuit using computer programming. (sketch pad)

Year 6	Autumn B	Spring B	Summer B
	• **Design:** Create a labelled diagram of their empanada along with a simple recipe list using Sketchpad on the iPads. • **Make:** Children to make empanadas. Children to ensure their work stations are clean, hands are washed and they are using aprons and hair is tied back. Taste evaluation at the end. • **Evaluate:** Evaluate product against the design brief using 5 star evaluation system. Very brief written sentences to explain how they would improve next time.	• **Design:** Take inspiration from existing shelters when designing their own shelter, thinking about how they should absorb impact. Use a cross-sectional diagram to showcase the different layers involved in the construction. • **Make:** Children to make a shelter with a WWII citizen in mind (represented by an egg) using more sophisticated joining techniques (e.g. hot glue gunning) and a range of materials (wood, cardboard and plastic). • **Evaluate:** Evaluate own and others projects during a class experiment in which the shelters are tested by dropping an increasing amount of weight onto them (representing an air strike) and monitoring at which point the citizen (the egg) can no longer survive.	• **Make:** Children to make a buzzer fairground style game which uses a circuit that includes a switch that can be turned off and on and a buzzer which sounds on contact. • **Evaluate:** Peer assess one another's projects by playing each other's games and assessing strengths against agreed success criteria.
Retrieval Vocabulary	Aroma, tradition, culture, Flavour, taste, acidity, sweetness, fruity, nutty, creamy, bitter, sour, recipe, compliment, ingredient, dry, moist, bland, spicy, savoury, rich, salty, sugary, greasy, sour, slicing, grating, natural sugars, free sugars, food hygiene, alternative, nutrition	Design, awareness, important, material, make, product, draw, computer	Innovative, functional, appealing, products, generate, develop, model, discussion, annotated sketches, prototypes, recycling, reuse
New Vocabulary	Region, agriculture, cuisine	Structurally sound, withstand, shock-absorption	Exploded diagram, computer programmed

Every Child a Confident Learner