Design Technology Curriculum Map Ingol CPS

This curriculum maps provide a structure for **what** our pupils will learn at Ingol CPS. The curriculum map sets out our expectations for the knowledge, skills and attributes that we want our pupils to achieve.

EYFS

EYFS Statutory Educational Programme:

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.

Textiles:

- Explore and create using different fabrics
- Use glue to add fabrics together
- Decorate a piece of fabric

Demonstrate a simple stitch

3-D:

- Learn to create form by cutting, forming, and joining familiar 3D shapes such as packaging, cartons or boxes into desired effects
- Simple shapes and forms are made from pliable materials such as modelling dough/plasticine and clay

Artistic Development within Expressive Arts and Design

- Aesthetic awareness – show awareness of their feelings linked to exploration of real objects, experiences, materials, artefacts and textures within their world, respond to creative and aesthetic experiences, show pleasure and enjoyment, show awareness and appreciation of sensory experiences and a range of different stimuli.
- Observation – observe and notice features and details within real objects, artefacts, materials, pictures, paintings and photographs they experience within their world. Talk about what they see, use vocabulary associated with texture, colour, patterns, shapes, form, etc.
- Communication – talk about what they are creating, can explain the processes, techniques and materials/ media they have used including colours, patterns, shapes, textures, form. Share their ideas, feelings and thoughts about their creations with others.
- Physical skill – manipulate, control and explore a range of tools and equipment for different purposes. Use tools and equipment safely.
- Art processes and techniques – purposefully explore different techniques within painting, drawing, collage and sculpture using a variety of media and materials.
- Evaluation – Share and talk about their work/work of others, say what they like and dislike and why, make suggestions about changes they could make or different tools or techniques they could have used.

Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Structures- Junk modelling houses Making verbal plans and material choices. Developing a junk model. Improving fine motor/scissor skills with a variety of materials.			Textiles- bookmarks Discussing what a good design needs. Designing a simple pattern with paper. Designing a bookmark. Choosing from available materials.	Cooking- porridge Designing a porridge recipe as a class. Designing porridge packaging. Chopping plasticine safely. Chopping fruit with support.	Structures- boats Designing a junk model boat Using knowledge from exploration to inform design. Making a boat that floats and is waterproof,

Joining materials in a variety of ways (temporary and permanent). Joining different materials together. Describing their junk model, and how they intend to put it together. Giving a verbal evaluation of their own and others' junk models with adult support. Checking to see if their model matches their plan. Considering what they would do differently if they were to do it again. Describing their favourite and least favourite part of their model.			Developing fine motor/cutting skills with scissors. Exploring fine motor/threading and weaving (under, over technique) with a variety of materials. Using a prepared needle and wool to practise threading. Reflecting on a finished product and comparing to their design.	Tasting the fruits and giving opinions. Describing some of the following when tasting food: look, feel, smell and taste. Choosing their favourite packaging design and explaining why.	considering material choices. Making predictions about, and evaluating different materials to see if they are waterproof. Making predictions about, and evaluating existing boats to see which floats best. Testing their design and reflecting on what could have been done differently. Investigating the how the shapes and structure of a boat affect the way it moves.

National Curriculum KS1

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].

Design *

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

Make *

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

Evaluate

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

Technical knowledge

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

Cooking and Nutrition

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

Year 1 Autumn	Year 1 Spring	Year 1 Summer
Mechanisms - A moving Christmas Cards ▪ I understand that sliders are mechanisms. ▪ I know that sliders can make things move. ▪ I can create a moving picture that use sliders. ▪ I can use the words: up, down, left, right, vertical and horizontal to describe movement. ▪ I can design my Christmas card by: drawing background picture, drawing the moving parts. deciding whether I will use a side-to-side slider or an up-and-down slider, labelling the movement of each type of slider. ▪ I can make my moving card by: drawing my background, drawing and cutting my moving parts., making sliders for my moving parts, putting all my parts together to create my moving card. ▪ I can review the success of my product by testing it. ▪ I can evaluate my product against the design criteria.	Bring on Breakfast Primary Food Project ▪ name different food and drinks consumed at breakfast time. ▪ explain why it is important to have breakfast every day. ▪ sort a selection of food and drink items into their plant or animal origin. ▪ state what makes a healthy breakfast (i.e. food, drink and inclusion of a 5 A DAY item). ▪ explain that we all need to eat at least five portions of fruit and vegetables each day and give examples of what would count. ▪ express their opinion about ingredients they taste using sensory vocabulary. ▪ carry out the getting ready to cook steps, with support. ▪ perform simple food preparation skills to make a fruit kebab safely and hygienically (e.g. fork secure, bridge hold, peel). ▪ evaluate the appearance and taste of their fruit kebab. ▪ explain where some breakfast foods originate. ▪ explain that dairy foods are made from milk which is usually from a dairy cow. ▪ recognise that dairy foods help keep bones and teeth healthy. ▪ evaluate a range of yogurts for their dish. ▪ plan a simple breakfast dish based on simple criteria. ▪ recall and carryout the getting ready to cook steps, with support. ▪ perform simple food preparation skills safely and hygienically (e.g. peel, mash, juice, cut, spoon, arrange). ▪ make a breakfast pot. ▪ evaluate their breakfast pot and suggest ways it could be modified or improved in the future.	Mechanisms and moving structures - Windmills (KAPOW UNIT) ▪ design purposeful, functional, appealing products for themselves and other users based on design criteria ▪ generate, develop, model and communicate their ides through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology ▪ select from and use a wider range of tools and equipment to perform practical tasks ▪ 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
	Key Vocabulary	

assemble, design, evaluation, mechanism, model, sliders, stencil, target audience, template, test	Plant, animal, breakfast, dairy, ingredients, portions, canned, frozen, fresh, dried, cut, chop, grate, slice, quarter, peel, fromage.	Base, centre, design, equal, evaluate, middle, rotate, rotor, rotor blades, sails, stable, strong, structure, test, weak
Suggested tasks and clips		
• Split children into groups and give each group a moving picture book. Children look through the book and choose a page which they like the best and explain why. • Children create their backgrounds for their moving pictures. • Chn make their moving animal character and stick it onto a glue stick. Children can then use their moving pictures. • Children in pairs ask them to evaluate each-others moving pictures. • Children choose their animal and decide which part of it they want to move. Children cut out their animal and then use the split pin/slider to make part of their animal move. • Give each child the equipment they will need to complete their designed Christmas cards. Ask them to refer to their original plans to create their moving Christmas card. • Using the evaluation sheets, children look closely at their product and evaluate it.	• Name different breakfast foods, explain why breakfast is an important meal to have and sort different foods based on their origin- plant or animal. • State what makes a healthy breakfast, identify foods that would constitute one of their 5 a day and taste a variety of fruits. • Prepare a fruit kebab in order to practise food preparation skills including- cutting, grating, chopping and peeling. • Identify and explain how the fruits used to make the kebabs get from farm to fork. • Look at a dairy farm and examine the process of milk from grass to glass. • Taste different types of yogurt and design a breakfast pot. • Create breakfast pots combining all the skills learnt during the unit.	• Explore windmills and what they are used for, where have children seen them • Hand out a paper cup (one each) and ask the children to explore standing the cup so that it does not fall over. • • Ask the children: How could you make the base heavier? • Model how to split the dough into three pieces and stick it to the inside of the cup. Hand out some modelling dough (a small piece each) and invite the children to attach it to their cups. • Model making a small dot with a pencil in the middle of the upside-down cup. Ask the children to try doing the same. • Demonstrate how to fold the flaps to create the shape of the windmill's blades. Model how to fold at the point where their cuts stop. • Encourage to think about how to widen the hole and place the straw inside. Encourage them to stand the base up and show that the straw stays upright. • Invite the children to explore attaching the sails to the standing structure and straw • Test it is stable and does not fall over. • Spin the blades with a finger. • Spin the blades using air. • Test windmill outside • Evaluate
Year Two – Autumn	**Year Two - Spring**	**Year Two – Summer**
Structures – Chair for baby bear (KAPOW UNIT) ▪ I can identify natural and man-made structures. ▪ I can understand what is meant by stability and identify when a structure is more or less stable than another. ▪ I can explain that shapes and structures with wide, flat bases or legs are the most stable.	**Primary Food Project- Party Time** • give examples of occasions when 'party food' would be eaten and name different types of party food. • describe the food skills used to make a dish (e.g. cutting out, mixing, snipping). • recall and explain the 'getting ready to cook' steps.	Textiles – Pouches (KAPOW UNIT) ▪ I can thread a needle. I can sew a running stitch. ▪ I can use neat and evenly spaced stitches to join fabric. ▪ I can remember how to use a template. ▪ I can cut fabric neatly. ▪ I can pin fabric accurately. ▪ I can design a pouch. ▪ I can sew neat, even stitches. ▪ I tie a knot at either end of the thread.

▪ I can understand the meaning of the words strength, stiffness and stability. ▪ I can understand there are different ways to fold paper to improve its strength and stiffness. ▪ I can build a strong and stiff structure by folding paper. ▪ I can test the strength of my structure. ▪ I can remember that chairs are structures that need to be strong, stiff and stable. ▪ I can create joints and structures from paper, card and tape. ▪ I can identify that the chair I design needs to be strong, stiff, stable and support Teddy. • I can create joints and structures. I can evaluate my structure according to the design criteria.	• get ready to cook, with some support (e.g. tying of apron). • perform basic cooking skills as instructed (e.g. cutting out, snipping, mixing, spooning, spreading). • recall where the ingredients in a dish come from. • recognise the Eatwell Guide and explain that it shows us how to eat healthily. • sort a selection of foods into the Eatwell Guide food groups. • sort ingredients from a dish into the Eatwell Guide food groups and comment on how the dish contributes to healthy eating. • explain some of the reasons people may not consume certain foods or drinks. • taste ingredients and discuss their suitability for a dish, using sensory vocabulary. • suggest ways to adapt a dish to make it suitable for the needs of others (e.g. allergies, religion, culture, choice). • plan a dish with consideration for the needs of others (e.g. a vegetarian). • make suggestions for a checklist (design criteria) that their party dish should meet. • identify the plant or animal origin of all the ingredients used to make the final dish. • demonstrate the safe use of some basic cooking equipment (e.g. cutters, kitchen scissors). • make a simple dish, safely and hygienically. • eat sociably with others demonstrating good manners. • reflect on the success of their dish, how well it met the checklist (design criteria) and how it might be improved in the future.	▪ I can design decorations for my product. ▪ can join items using fabric glue or stitching. ▪ I can decorate fabric using different items. • I can evaluate my own designs.
Structure Stability Strength	**Key vocabulary** Peeling Snipping Cutting	Sewing Stitching Needles

Man made Natural Stiffness	Chopping Protein Carbohydrates Dairy Fruit and vegetables Starchy foods Preparation Hygiene	Running stitch Attaching Materials Threading Decorate
Suggested tasks and clips		
• Children to identify structures in the classroom and outside • Sort some structures into man made and natural • Using some pictures the children need to explain why they are important structures • All children to make a bridge structure out od card – using cellotape etc to make it secure • Children to write down which materials are the strongest and why • Children to decide which shape structure is the strongest and will hold the most books and then make their own shape and investigate the strength of it • Using the goldilocks story at a stimulus get the children to design and make a chair for goldilocks • Evaluate and improve their chair structure using more materials to strengthen it Testing the strength of different materials | BBC Teach (youtube.com) | STEM – Goldilocks and Billy goats gruff Sculpture: Projects: How to Build a Teddy Bear Chair (youtube.com)	• Identify different foods and the skills used to prepare them e.g. peeling, snipping. • Make mini party sandwiches to practise food preparation skills. • Identify and sort foods into the 5 food groups (Eat Well Guide Activity) • Consider different groups of people and their preferences based on likes/dislikes, culture and religion etc. • Try a variety of foods and note preferences and tastes. • Plan a party tart based on a set criteria • Children to create a party tart	• Children to all watch the clip on how to thread a needle – all to try threading a needle • Children to have a small piece of material to try the running stitch on – practice a few times to get it right • Cut out a paper template (watch the clip of how to use it) and then put it on the fabric to create the two pieces they need for their pouch • Using the two pieces of fabric the children need to join the pieces together using running stitch • Add decorations to the front of their pouches • Add handles on by stitching • Evaluate their own pouches
National Curriculum KS2		

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].

Design

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

Make *

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

Evaluate

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

Technical knowledge

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

Cooking and nutrition

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

Year Three – Autumn Key Individual- Zaha Hadid (shell structures)	Year Three- Spring Key Individual-James Dyson	Year Three – Summer Key Individual- Mary Berry
Structures – Castles (KAPOW UNIT) ▪ I can identify different features of castles. ▪ I can design my own castle. ▪ I can label the features of my castle. ▪ I can explain why a castle needs to be strong and stable. ▪ I can recall the features of a castle. ▪ I can add two design points to the design specification to appeal to the person/purpose of my castle. I can draw the design of my	Mechanical Systems – Pneumatic Toys (KAPOW UNIT) ▪ I can recall that mechanisms are a system of parts that work together to create motion. ▪ I can recall that a pneumatic system can be used as part of a mechanism. I can recall that pneumatic systems are used in a range of everyday objects. I can recall that a pneumatic system can force air over a distance to create movement.	Food – Primary Food Project- Get Baking • name a selection of different types of bread and their countries of origin. • describe a selection of breads tasted using sensory vocabulary. • recall and apply the 'get ready to cook' steps. • make a bread roll by applying skills which have been demonstrated (e.g. knead, shape). • name other products that can be made from dough.

castle using 2D shapes and labelling: the 3D shapes that will create the features; the materials I need; the colours ▪ I will use. I know that a net is what a 3D shape would look like if it were opened out flat. ▪ I can construct a range of 3D geometric shapes using a net by: Cutting along the bold lines. Folding along the dotted lines. Keeping the tabs the correct size. Making crisply folded edges. Constructing the net using glue to make a geometric shape ▪ I can construct my castle to meet the requirements of my brief by: Making neat 3D shapes using nets. Stacking shapes and recyclable materials to make the structures of my castle. Creating a castle base to secure my structures to. Adorning my castle with facades and other decorative features. I can evaluate my work and the work of others	▪ I can develop design criteria from a design brief. I can generate suitable ideas using thumbnail sketches and exploded diagrams. I can recall there are three different types of pneumatic systems that I can use to design my toy and use recycled household objects to make it. I can recall that different types of drawings are used in design to explain ideas clearly. ▪ I can create a pneumatic system to create a desired motion. I can build secure housing for a pneumatic system. I can recall that syringes and balloons can be used to create different types of pneumatic systems. I can recall how to use these components to make a functional and appealing pneumatic toy. I can remember that materials are selected due to their functional and aesthetic characteristics. I can recall how to manipulate materials to create different effects by cutting, creasing, folding, weaving, etc	• identify ingredients (including bread) in meals from around the world and sort those ingredients into the Eatwell Guide food groups. • research how bread is made and where bread ingredients come from. • recall and explain where ingredients or foods come from. • select and use basic equipment to prepare ingredients safely. • select and arrange ingredients to create an attractive pizza. • suggest ideas for basic design criteria for the bread. • plan and make bread, based on their research and experiences, which meets their design criteria. • follow their bread plan and apply the food preparation skills they have learned to make their bread. • evaluate their bread against the design criteria and suggest improvements.
Key vocabulary		
- castle - design - key features - net - Scoring - Towers. - Turrets. - Battlements. - Moat. - Gatehouse. - Curtain walls. - Drawbridge. - Flag. - Shape - Structure - Tab	- Mechanism - Lever - Pivot - linkage system - pneumatic system - input output component thumbnail sketch research adapt properties reinforce motion	- varieties - healthy - varied - balanced - ingredients - kneed - design criteria - preparation
Suggested tasks and clips		

Looking at pictures of castles (including the Tower of London) to build on prior knowledge and gauging children's recognition of castles Looking at features of a castle - https://www.twinkl.co.uk/resource/t-h-80-parts-of-a-castle-powerpoint Children to look label different parts of castles - https://www.twinkl.ie/resource/parts-of-a-castle-worksheet-t-t-3851 Children to look at information on the following castles: - Tower of London - Windsor Castle - Warwick Castle - Devon Castle - Conwy Castle In groups, chn make a mind map of information to do with castles Children to look at how to draw a design in 3D - https://www.youtube.com/watch?v=aTMQ7KmMcBw Children to draw own designs of castles on mathematical grid paper – assisting with drawing in 3D Children to manipulate cardboard and other household found recycling to glue/tape pieces of cardboard together Children to use scissors to cut cardboard.	Look back at work completed in KS1/Y2 to remember what a mechanism is Look at examples of mechanisms and where we would find them in everyday life Look at an example of pneumatics and, where they pop up in everyday life - https://www.bbc.co.uk/bitesize/articles/zt9b8p3#z89qjfr To design and label their own pneumatic monster Follow instructions to build pneumatic toy Accessing different materials to use to encase pneumatic (prior knowledge of materials in Y2 science) Measuring amount of plastic tubing for air to flow into balloon Designing and labelling the toy using different perspectives to get a clear view of front, back and underlay of the you Cutting tubing with scissors Test the pneumatic toy Evaluate pneumatic toy	• Taste and describe a variety of different types of bread. • Demonstrate making and kneading dough. Discuss where the ingredients for break come from. • Identify other foods that are made from dough. • Investigate and discuss other meals which involve bread- pizzas, soups and bread rolls, etc. Use the Eatwell Guide to sort meals into food groups and identify whether they come from plants or animals. • Make pitta bread pizzas to practise cutting food preparation skills. • Plan a bread product based on a given design criteria. • Make a bread product.
Year 4- Autumn Key Individual- Ann Makosinski (young inventor of the hollow flashlight)	**Year Four – Spring** Key Individual- Hannah Rae- Textile artist	**Year Four – Summer** Key Individual- Jamie Oliver
Electrical systems – Torches (KAPOW UNIT) ▪ I can identify electrical products. ▪ I know what electrical conductors and insulators are. ▪ I know that a battery contains stored electricity and can be used to power products. ▪ I can identify the features of a lightbox.	Textiles - Book Sleeve – Fastenings (KAPOW UNIT) • I know what the main types of fastenings are. • I can say what the benefits of each fastening type are.	**Food- Primary Food Project- Lovely Lunch** • recall the main messages from each of the Eatwell Guide food groups. • identify and classify ingredients in composite dishes (e.g. sandwiches) according to the Eatwell Guide food groups. • explain that the size of the food groups shows us the proportions in which different types of foods are needed for a

▪ I understand how a lightbox works. ▪ I can say what is good and bad about different lightboxes. ▪ I understand what is important in lightbox design. ▪ I can factor in who my product is for in my design criteria. ▪ I can design a torch which satisfies both the design and success criteria. ▪ I can make a working circuit with a switch. I can use appropriate equipment to cut and attach materials. ▪ I can assemble a torch according to my design criteria. I can assemble a torch which satisfies the success criteria. I can test my torch to evaluate its success.	• I can say what the disadvantages of each fastening type are. • I can design a product based on a design criteria. • I can write a design criteria. • My design includes a fastening • I can make a paper template. • I know how to test my paper template. • I can join fabric by sewing. • I can stick to my design criteria. My product is fit for purpose.	healthy diet (e.g. fruit and vegetables should make up around a third of what we eat). • name and explain some of the reasons that can affect food choice. • explain what a healthy lunch should include by referring to inclusion of foods from the four main (largest) food groups and a drink. • give examples of ways to make a sandwich healthier. • prepare a topped savoury cracker safely and hygienically using spreading, slicing and arranging skills. • describe how their topped savoury cracker tastes using sensory vocabulary. • recall examples of foods available in different seasons and explain a benefit of choosing seasonal food. • carry out research about a selection of different sandwiches. • explain where a selection of ingredients come from and how they are processed. • develop their own design criteria with guidance. • design a sandwich based on their research and design criteria. • recall and carryout the getting ready to cook steps. • perform food preparation skills safely and hygienically to make their sandwich. • evaluate their sandwich and suggest ways it could be improved.

Key vocabulary

Battery	Fabric	Composite dish
Bulb	Fastening	Protein
Buzzer	Fix	Carbohydrate
Conductor	Needle	Dairy
Circuit	Needle eye	Preparation
Circuit diagram	Thread	Hygiene
Electricity	Seam	Beans
Insulator	Template	Oils
Series circuit	Zip	Spreads
Switch	Buckle	Preference
Component	Button	
Design	Toggle	
Design criteria	Press stud	
Diagram	Velcro	
Evaluation	Jacket	

LED Model Shape Target audience Theme Recyclable Aesthetics Assemble Properties	Envelope	
Suggested tasks and clips		
• Using existing knowledge from science lesson, children to work in small groups to create an electric circuit featuring a light bulb. Demonstrate the use of paperclips and split pins to create a switch. Children to add a switch to their own circuit. • Show presentation "Torches". Children to explore the history of torches and analyse existing products in terms of what works well and any improvements they would make, evaluate each part- housing, switch and reflector for suitability. • Plan and design a torch for a particular person keeping the user in mind. Consider their favourite colours, any hobbies or interests they might have, why that person needs a torch, are there any features that person needs their torch to have? • Make a working torch using their knowledge of electricity from science and add any additional features required to meet the needs of the user. Materials to be used include a plastic bottle for the housing and foil for the reflector. • Evaluate their finished product keeping the needs of the user in mind.	• Look at existing physical examples and images of different fastenings. Discuss what they are and how they think they can be used. Complete the "analyse fastenings" worksheet and consider the advantages and disadvantages of each fastening type. • Explain that they will be designing a book cover to fit their own or a friend's school reading records. Advise that it will need to feature a fastening of their choice to prevent the reading record from falling out. Children to complete a design sheet with details of their chosen fastening on it. • Revisit how to thread a not (and tie a knot to prevent slipping for those who require scaffolding). Watch a sewing tutorial video and practice sewing the running stitch on binca. • Using a template, the children will cut out their book covers from a larger piece of fabric in preparation for creating their design. • Make a book cover with an envelope or jacket design. Include a fastening and decoration, using their own reading record for guidance with regards to fit. • Evaluate their finished product paying particular attention to the suitability of the design.	• Sort foods according to the Eatwell Guide • Look at composite meals and identify the different food groups • Create a 'Healthy Lunch Checklist' considering different dietary requirements. • Practise food preparation skills by preparing a topping for a savoury cracker. • Conduct research on sandwich ingredients, discuss where ingredients come from and how they are processed so that they are ready to use in a sandwich. • Design a sandwich based on specific design criteria. • Make a sandwich
Year Five- Autumn Key Individual- Isambaard Kingdom Brunel	**Year Five – Spring** Key Individual- Michael Caines- chef	**Year Five – Summer** Key Individual- Stacey Zoern (inventor of the wheelchair)
Playgrounds (KAPOW unit) • I can create five apparatus designs, applying the design criteria to my work. • I can make suitable changes to my work after peer evaluation. • I can make roughly three different structures from my plans using the materials available.	Primary Food Project- Serve a Salad • recall and discuss different types of salad. • identify salad ingredients and sort them into the correct Eatwell Guide food groups. • explain the key messages from each Eatwell Guide food group.	Gears and Pulleys (KAPOW Unit) • Give examples of machines that use gears and/or pulleys. • Describe how gears and pulleys work and their purpose. • Design and make a gear and pulley system. • Write a problem statement.

• I can complete structures, improving the quality of my rough versions and applying some cladding to a few areas. • I can secure the apparatus to a base. • I can make a range of landscape features using a variety of materials which will enhance my apparatus.	• explain that a third of the food we eat should come from the Fruit and vegetable group and a third should come from the Potatoes, bread, rice, pasta and other starchy carbohydrates group and explain the key messages from these two food groups. • recall that foods in the two largest food groups provide fibre and explain the role of fibre in the diet. • use the internet to research a selection of different salads. • recall the get ready to cook steps, explain how they should be carried out and why they are necessary. • prepare ingredients for a salad bar by safely using the bridge hold, claw grip and grating techniques. • use a range of sensory vocabulary to describe a selection of foods. • recall foods associated with a selection of countries around the world. • create a questionnaire to research the requirements and preferences of their salad recipient. • identify design criteria for a salad based around the requirements of an individual and purpose. • apply their knowledge, experience and research findings to design a salad which meets their design criteria. • communicate their salad design through notes and sketches. • To be able to: • make the salad they have planned safely and hygienically. • select the correct equipment for different food preparation tasks. • evaluate their salad against the design criteria and feedback from others.	• Write questions for market research, provide feedback and research market competitors. • Write and use a design brief to guide design. • Evaluate a product against a set of design criteria, provide useful feedback and incorporate changes. • Draw and annotate an eco-gadget bike design.
Key vocabulary	**Key vocabulary**	**Key vocabulary**

apparatus cladding design criteria equipment landscape features playground	Ingredients Starchy carbohydrates Fibre Bridge hold Claw grip Hygiene Preparation Design criteria	annotate axle force gear gear system input machine market research mechanism output problem statement pulley pulley system renewable energy research sustainability teeth
Suggested tasks and clips		
• Discuss what makes a good playground, explore pictures and own experiences • Agree on a Design Criteria then redesign the playground based on this. • Look back at design and create 3 structures using various resources such as lollypop sticks, cardboard, art straws and glue guns. • Finish and improve structures using techniques such as cladding and weaving to reinforce and strengthen. • Colour or paint the structures before sticking to the base.	• Analyse pre-prepared salads, identify the ingredients and match to a food group. Look at the nutritional value of the salads and their contents- are any of them high in certain things e.g. salt/fats? • Research different salads from around the world- note ones that contain carbohydrates, proteins, different dressings. • Practise food preparation skills including bridge hold, claw grip and grating to prepare a salad. • Taste salad ingredients from different countries- Mexican, Italian, Greek, Turkish and complete questionnaires on taste and preference. • Plan a salad based on a design criteria. • Make a salad.	• Discuss what a gear is and make gears with different types of teeth- modelling dough, paper clip teeth, corrugated teeth, mounting board. • Complete and improve gears then evaluate • Make a pulley system that lifts at least one item. • Conduct market research on 'eco-bikes' including preferences, materials and sustainability, costs, barriers and constraints, potential uses. • Use knowledge of gears and pulleys to design an eco-bike.
Year Six – Autumn 1	**Year Six – Autumn 2** Key Individual- Nadiya Hussain (chef)	**Year Six – Summer** Key Individual- Althea McNish- textile designer

	Food – Primary Food Project- Grab and Go • give examples of on-the-go products and discuss their characteristics. • name a selection of nutrients, their functions in the body and foods that provide the nutrients. • recall that we can get the nutrients we need by having a healthy, varied diet, as shown by the Eatwell Guide. • read and interpret nutrition information labels. • use guidelines to identify foods that are high or low in fat, salt and sugars. • analyse a selection of products and express their opinions about ingredients using sensory vocabulary. • demonstrate that they know the getting ready to cook steps. • explain the role of the getting ready to cook steps in ensuring food is hygienically prepared and safe to eat. • perform food skills safely and as instructed to make a spring roll (e.g. peel, grate, cut using the bridge hold and fork secure/claw grip). • research an on-the-go product and how it is made. • discuss the purpose and features of advertisements. • write a list of design criteria for an on-the-go product. • design an on-the-go product based on the design criteria. • write a recipe to make an on-the-go product. • make their on-the-go product according to the plan. • perform food skills safely and as instructed (e.g. peel, grate, cut using the bridge hold and fork secure/claw grip). • evaluate their on-the-go product against the design criteria. • design a suitable package for their product which includes key information (e.g. ingredients, weight, cost).	**Textiles – Stuffed Toys (KAPOW UNIT)** • Designing a stuffed toy considering the main component shapes required and creating an appropriate template. • Considering the proportions of individual components. • Creating a 3D stuffed toy from a 2D design. • Measuring, marking and cutting fabric accurately and independently. • Creating strong and secure blanket stitches when joining fabric. • Threading needles independently. Using appliqué to attach pieces of fabric decoration. • Sewing blanket stitch to join fabric. • Applying blanket stitch so the spaces between the stitches are even and regular. • Testing and evaluating an end product and giving points for further improvements.
	Key vocabulary	**Key vocabulary**

	On the go product Nutrient Ingredient Odour Taste Texture Fat Saturated fat Baking Frying Packaging Hygiene Preparation	accurate annotate appendage blanket-stitch design criteria detail evaluation fabric sew shape stuffed toy stuffing template
Suggested tasks and clips		
	• Identify different nutrients and the foods that they can be found in. • Taste test a variety of 'on-the-go' products and look at the fat content. Discuss ideas to lower this by swapping out ingredients. • Look at the nutrition guides on a variety of food products. Children to research recommended daily intakes for things such as saturated fats, salt and sugar and cross reference against foods to see if they are a healthy choice. • Make spring rolls to practise their food preparation and hygiene skills. • Research a range of 'On-the-Go' products to find out where they originate from and how they are made. • Design an 'On-The-Go' product based on a design criteria. Make an 'On-The-Go' product.	• Design a stuffed toy an cut out their templates from fabric • Practise a blanket stitch and/or running stitch on scraps of material • Sew on decorations using running stitch, blanket stitch or cross stitch • Stuff the toy and complete the stitching using a blanket stitch