LIFTON COMMUNITY ACADEMY

DT CURRICULUM PROGRESSION of KNOWLEDGE

Our curriculum is the beating heart of our school and is rooted in John 10:10.

"I came that they might have life and live it to the full"

Within our Christian vision '*together we grow, together we flourish*' our children will

develop a love of learning and be totally immersed in different worlds, cultures and times preparing them for the next stage of their education.

Developing learners' learning

WHAT WE LEARN

Our children will experience a knowledge-rich curriculum, underpinned by oracy, language and reading.

Developing learners' character

WHO WE ARE WHEN WE LEARN

Our children's uniqueness will be nurtured so that they develop self-discipline and integrity to make good choices.

Developing learning behaviours

HOW WE ACT WHEN WE LEARN

Our children will develop their learning behaviours and attributes so that they can embrace all opportunities and think critically.

Developing learners' moral compass

WHO WE ARE

Our children will develop a deep sense of self and others to contribute positively within the diverse community and world in which they live.

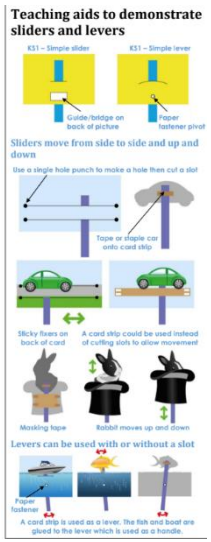
Design and Technology Intent: As designers and constructors, our children will be empowered to be inquisitive, curious learners. Within the design technology curriculum they will become critical thinkers, partaking in analysis of the impact of Design Technology on everyday life and the wider world, where they will evaluate past and present innovative enterprise. Our children will research, plan, design, make and critique products that solve real and relevant problems within a variety of contexts considering their own needs and others' views, wants and values.

Year A	Autumn	Spring	Summer
Yr 1/2	Mechanisms-Sliders and levers Create a moving Christmas card	Food-Preparing fruit and vegetables- Yr1 Create a smoothie	Textiles- Templates and joining techniques Create a storytelling hand puppet
Yr 3/4	Structures- Designing shell structures Create a Christmas gift box to sell at the Christmas Fair	Electrical systems- simple circuits and and switches Create a torch for a reading for pleasure party	Food- Health and varied diet- Yr 3 (links to science)To design and cook a pizza in the pizza oven to share with parents
Yr 5/6	Food-Celebrating culture and seasonality-Yr 5 To design and bake a gingerbread house for the Christmas Fair	Structures- Frame structures To design and make a kite to fly to link with Chinese new year	Electrical systems- more complex switches and circuits: To design and make electronic games for Year 3.

Year B	Autumn	Spring	Summer
Yr 1/2	Food-Preparing fruit and vegetables-Yr2-links to science Creating a fruit snack for EYFS	Structures-Freestanding structures Create a freestanding clocktower	Mechanisms-Wheels and axles To create a moving vehicle
Yr 3/4	Mechanical systems- Levers and linkages To create a moving Science book to show solids, liquids, gas and the water cycle.	Textiles- 2D shape to 3D shape To design and create a pencil case	Food- Health and varied diet-Yr 4- Links to science Creating a healthy lunch box sandwich for a picnic

Yr 5/6	Textiles- Combining different fabric shapes incl. Computer aided design To design and create fabric Christmas tree Decorations.	Mechanical systems-Pulleys or gears: To design and create moving vehicles for younger children.	Food-Celebrating culture and seasonality- Yr 6- Links to science Baking seasonal bread for sharing

Year A Autumn Year 1/2	
Purpose:	**To design and create Moving Christmas cards**
Linked Designer: Julia Donaldson Gruffallo – A push, a pull and a slide book. (need to buy)	
Linked curriculum: History, Science, Maths	
Key Vocabulary	slider, lever, pivot, slot,bridge/guide card, masking tape, paper fastener, join pull, push, up, down, straight, curve, forwards, backwards design, make, evaluate, user, purpose, ideas, design criteria, product, function , lever, pivot, slider, left, right, push, pull, up, down, forwards, backwards, in, out.
Explore	*What do I know that has moving parts?* *What books do I know that have moving parts?* *Why do they have them?* *What part of the product moves?* *What materials are they made from?*

Skills	 **Technical knowledge and understanding** *Label levers and sliders on a range of examples with their purpose:* *What is a lever?* *What is a slider?* *Who are they for? E.g the slider is used to show a snail appearing from behind the rock, the lever is used to show the butterfly moving to the flower.* *How does the slider move?* *How does the lever move?* *Which part of the mechanism is the pivot?* *What does a lever/slider remind you of?* *Which materials would be most suitable for a lever/slider? Why?* **Evaluation:** *Where did the levers/sliders work well?* *What could be the potential problems?* *What would be good to have for a Christmas card?* *What could hide behind the lever/slider?*
Plan	**Context: Making a moving Christmas card** *Who will you make it for?* *What criteria will make it successful?* *What part will move?* *What will the part be showing?* *How will it be joined and finished?* **Technical drawing:** *Draw and label your design with the part that moves, lever, slider and part the is hidden or moved to.* **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Why do you think it will it be something people would like to receive?* **Create a prototype.** *Does it work? Try using paper and card*
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *What order will you need to make your mechanisms?* *Will you add finishings/decoration first or last?* *Does what you have made meet your plan? Why/Why not?*

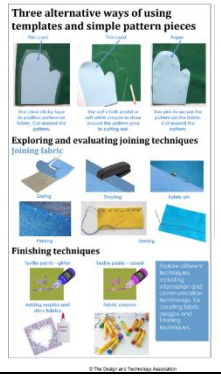
	Have you had to change your design in any way whilst making it?
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did you use a lever or a slider?* *What was its purpose?* *Did it move smoothly?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

Year A Spring Year 1/2	
Purpose:	**To design and create a fruit smoothie**
Linked Designer: Innocent Smoothies	
Linked curriculum: History, Science, Maths	
Key Vocabulary	. fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria
Explore	*What are smoothies?* *What do Innocent Smoothies aim to do?* *Why do we drink them?* *What is the eatwell plate?* *How many pieces of fruit/veg should we eat?* *What fruits are used to make smoothies?* *What do they taste like?* *What is the texture?* *What do they look like?* *What ingredients do smoothies have?*

	What makes them different to juice?
Skills	 **Technical knowledge and understanding** *What do we need to do to prepare before touching foods?* *Why is following instructions important?* *How do we wash/peel/grate/slice/squeeze different fruits and vegetables?* *How do we keep ourselves and others safe when using utensils such as knives and graters?* *Do we eat the whole fruit/veg? Why?* *How do we turn the prepared fruit into a smoothie?* **Evaluation:** *What fruits taste good to me?* *What do I want to mix my smoothie with?* *Do I want my texture thick or thin? Why?* *How many fruits/veg do I want in my smoothie to make it healthy?*
Plan	**Context: Making a fruit smoothie** *Which fruits/veg will you choose to make a healthy smoothie for you to drink?* What quantity will you need? *How many fruits/ veg should we eat in a day?* *Will your chosen fruits/veg need peeling, grating, chopping or squeezing?* *What tools will you need?* *What will you add to your smoothie before blending?* **Technical drawing:** *Draw your smoothie with the fruits/veg you have chosen and label them with the quantity.* *What order will you need to prepare the fruit?* *What are the stages of making your smoothie? Write these out as your recipe.* **Evaluation:** *Will it taste nice?* *Does it have enough fruit/veg for the eatwell plate?* *What will be tricky?* How will you overcome this? **Create a prototype.** *Does it work?*
Make	*What ingredients do you need?* *What utensils will you need?*

	How will you use the tools safely? *Do you have your recipe for steps in the process?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of the eatwell plate?* *What did I find difficult? Why?* *What would I change next time? Why?*

Year A Summer Year 1/2	
Purpose:	**To design and create a storytelling hand puppet**
Linked Designer: Jim Henson – puppeteer	
Linked curriculum: English, Art, Maths	
Key Vocabulary	names of existing products, joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality mock-up, design brief, design criteria, make, evaluate, user, purpose, function, prototype, gluing, stapling, safety pin, sewing, running stitch, glitter, crayon, shiny
Explore	Investigate and evaluate existing products linked to the chosen project. Explore and compare e.g. fabrics, joining techniques, finishing techniques and fastenings used. Use questions to develop children's knowledge *How are 3D textile products made?* *How many parts is it made from? Can you draw the existing model design?* *What can it be joined with?* *How is it finished?* *Why do you think these joining techniques have been chosen? Can you label these on your drawing?* *Who might use it and why?* *What would make it successful?*

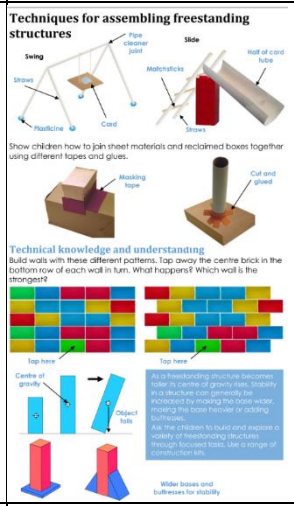
Skills	 **Technical knowledge and understanding** *How do I create two identical shapes for a template?* *How do I join fabrics using different techniques e.g. running stitch, glue, over stitch, stapling?* *What are the different finishing techniques I could use? e.g. using painting, fabric crayons, stitching, sequins, buttons and ribbons.* **Evaluation:** *How easy was it to use?* *What are the potential problems?*
Plan	**Context: Making a storytelling puppet** *Who will you make it for?* *What parts will your product need to have and what will it be made from?* *What size will it be?* *How will it be joined and finished?* **Technical drawing:** *What is the size of your puppet?* *Have you drawn it to scale?* *What shape will it be?* *Will it have symmetry?* *What pattern will you choose?* *What are your stages for making?* e.g *does the whole puppet need to be assembled before the design/fastening?* **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs?* **Create a prototype.** *Does it work?*
Make	*What tools do you need?* *What materials do you need to prepare?* *What have you chosen to join your product?* *Does it meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*

Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for it's purpose? Why/Why not?* *Did it meet the requirement of the user?* *What did I find difficult? Why?* *Did I have to deviate from my plan? What did I change?*
Year B Autumn Year 1/2	
Purpose:	**To design and create a Fruit snack for EYFS**
Linked Technician: Danielle Wright our school kitchen manager	
Linked curriculum: English, Art, Maths, forest school, science	
Key Vocabulary	fruit and vegetable names, names of equipment and utensils sensory vocabulary e.g. soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria
Explore	*What fruit snacks do the EYFS children have?* *What is a fruit?* *What fruits do you know?* *Where are they grown?* *When are they harvested?* *What do different fruits need to be prepared to eat? E.g peeled, cut, deseeded* *Why are fruits seasonal?* *What are the textures/tastes/smells/colours?* ***Can you draw accurately and label these?*** *What makes fruit snacks healthy?* *What makes them attractive?* *What fruits might be suitable for and EYFS snack? Why?* *How might we serve them? E.g. whole, cut up, as a kebab/fruit salad?*

Skills	 **Technical knowledge and understanding** *What is food hygiene?* *What must you do before preparing food and why?* *Why is following instructions important?* *How do you peel/grate/slice/squeeze safely?* *Why do we peel/grate/cut/slice/squeeze in this way?* *What does the eatwell plate tell us?* *Why do we need to eat plenty of fruit and vegetables?* *How many do you eat per day?* *How can we add to the number of these our EYFS children eat?* **Evaluation:** *How easy was it to cut/slice/peel/grate/squeeze the fruits?* *What are the potential problems?*
Plan	**Context: Making a fruit snack for our EYFS friends** *What kind of snack would be useful for our EYFS friends? E.g whole fruit, slices, fruit salad, fruit kebabs?* *What will make this snack healthy for them?* *How will it meet the eatwell plate recommendations?* *How will we know it is successful?* *What ingredients will you need to create this snack and how many?* *What skills will you need to use? E.g peel/slice/grate/cut* *What utensils will you need to use?* *How will you make sure it is safe?* *What hygiene practices will you need to prepare before touching food?* **Technical drawing:** *How will you present your product to the EYFS children?* *Have you drawn it to scale?* *What shapes/colours/presentation have you chosen?* *Will it have symmetry?* *What pattern/shapes will you choose to make it look attractive?* *What are your stages for making?* e.g *hygiene prep, ingredients, utensils, peel then chop, will some fruits go brown quickly?* **Evaluation:** *Will the EYFS children want to eat it?* *How do you know?* *Will the preparation be tricky?* How will you overcome this? What skills will you need?

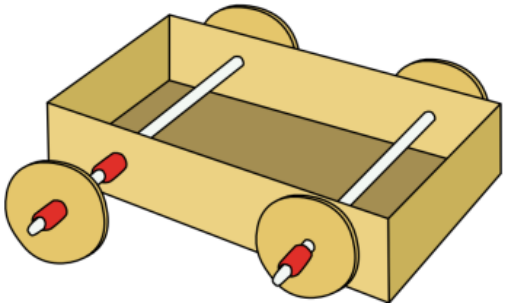
	Does it meet the purpose and will it be healthy enough? **Create a prototype.** *Does it work? Why/Why not?*
Make	*What utensils do you need?* *Have you prepared your workstation for safety/hygiene?* *What ingredients do you need to prepare?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirement of the EYFS children?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

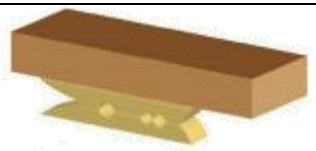
Year B Spring Year 1/2	
Purpose:	**To design and create a freestanding clocktower like Big Ben**
Linked Designer: Augustus Pugin (architect of the Queen Elizabeth Tower)	
Linked curriculum: History, Science, Maths,	
Key Vocabulary	. cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder, design, make, evaluate, user, purpose, ideas, design criteria, product, function
Explore	*What structures can you see around you?* *What are the structures called and what is their purpose?* *Who might use them?* *What materials have they been built from?*

	How have the parts been joined together? *How have they been made strong enough to stand ?* *Look at pictures of the Elizabeth tower, leaning tower of Pisa, Eiffel tower etc. What shapes can you see?* *Is there any structure that is less stable? Why?*
Skills	 **Technical knowledge and understanding** *How can we make a strong structure?* *Which materials could we use?* *What is the suitability of the materials?* *How do you mark out/cut/shape/join and finish with a range of tools?* *How do we use tape to make strong joins?* *What is a reclaimed material?* *How can we add strength to our shapes?* **Evaluation:** *Which materials did you try to build with?* *Which ones were the strongest/weakest?* *How did you stop them falling over?* *Which was strong enough to hold a clock?* *Can they support an object on top without falling over?*
Plan	**Context: Making a Structure to hold a clock** *What criteria will make it successful?* *What parts will your product need to have and what will it be made from?* *What tools/materials will you need?* *What size does it need to be?* *How will it be joined and finished?* **Technical drawing: Draw and label the following** *What shapes and style will your structure be?* *How will it hold a clock?* *What will make it strong enough to stand freely?* *What design will you choose?* **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this?

	Does it meet the purpose and user needs? **Create a prototype.** *Does it work?*
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your free standing structure criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?* *What would you change next time? Why?*

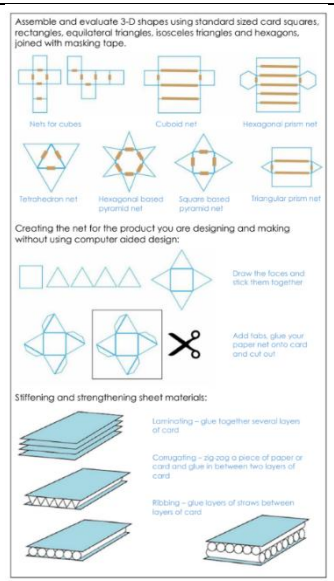
Year B Summer Year 1/2	
Purpose:	**To design and create a moving vehicle**
Linked Designer: Austin 7 link with History/ LEGO	
Linked curriculum: History, Science, Maths	
Key Vocabulary	vehicle, wheel, axle, axle holder, chassis, body, cab, assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism , names of tools, equipment and materials used ,design, make, evaluate, purpose, user, criteria, functional.
Explore	*How are toy cars made?* *Who might use them?* *What other things around the school use wheels and axles?* *What parts can you see?* ***Can you draw/label the existing model design? Body, chassis, wheels, axles, axle holder*** *What can the wheels be joined with?* *What size do they need to be?* *Why does it have this number of wheels?* *Why are they round?* *How do they move?*

	Why do you think these joining techniques have been chosen? Can you label these on your drawing? *Who might use it and why?* *What would make it successful?* *• Read a story or non-fiction book that includes a wheeled product. Use this to introduce relevant vocabulary and to emphasize user and purpose.*
Skills	 **Technical knowledge and understanding** *How can you use lego to make a product that moves?* *What does it need?* *What is a fixed axle?* *What is a free axle?* *Why do axles need to run free/y within the holder? What happens if they don't?* *How do you mark out where your wheels need to go accurately?* *How can you cut/join the material?* *Which materials would work well to make a wheel and axle?* *Which materials would not work well?*  **Evaluation:** *What is going to be the most difficult thing you will need to do when making a moving toy?* *Do you think you will choose to use clothes pegs, card triangles or straws etc? What are the pros and cons of them all?* *What are the potential problems?*

	 Use **pairs of clothes pegs** glued with PVA to the underside of a box. Check the peg holes are large enough to allow axles to move freely. Make sure they are aligned carefully so the vehicle moves in a straight line when the wheel and axle mechanism is added.  Use **card triangles** with holes for the axle. Check the holes are large enough to allow the axle to move freely. Make sure opposite triangles are aligned carefully so the vehicle moves in a straight line when the wheel and axle mechanism is added.  Use **large paper/plastic straws** fixed with masking tape to the underside of a box. Check straws are positioned carefully so the vehicle will move in a straight line when the wheel and axle mechanisms are added. Make sure the straw hole is large enough to allow the axle to move freely. The wheels must be fixed tightly to the axle.
Plan	**Context: Making a moving toy** *Who will you make it for?* *What criteria will make it successful?* *What parts will your product need to have and what will it be made from?* *What size will it be?* *How will it be joined and finished?* **Technical drawing:** *What is the size of your moving toy?* *Have you drawn it to scale? Are they able to use ICT for this?* *What shape will it be?* *Will it have symmetry?* *What pattern will you choose?* *How will the axles move freely?* *What are your stages for making?* e.g *do the wheels/axles need to be assembled before or after the design/fastening?* **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will it be something people would like to play with or use?*

	Create a prototype. *Does it work?*
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your moving toy criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

Year A Autumn Year 3/4	
Purpose:	**To design and create a Christmas Gift box to sell at the Christmas Fair**
Linked Designer: Brands packaging (e.g. Lindt, Cadbury)	
Linked curriculum: History, Science, Maths	
Key Vocabulary	shell structure, three-dimensional (3-D) shape, net, cube, cuboid, prism, vertex,edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision, evaluating, design brief, design criteria, innovative, prototype.
Explore	*What packaging can you see in the shops and adverts around you?* *What is the purpose of the shell structure – protecting, containing, presenting?* *What material is it made from?* *How has it been constructed?* *Are the materials recyclable or reusable?* *How has it been stiffened i.e. folded, corrugated, ribbed, laminated?* *What size/shape/colour is it?*

	What information does it show and why? *How attractive is the design?* *What is a net and what does it look like?* *How are different faces of the package arranged?* *How are the tabs used to join the 'free' edges of the net?* *What graphics/lettering do you prefer and why?* *What style of graphics and lettering might we want to include in our product to meet users' preferences and its intended purpose?* *Which packaging might be the best for selling more Christmas products at the fair?*
Skills	 **Technical knowledge and understanding** *How do you use CAD software (*Techsoft 2D Primary or Microsoft Word) *to draw shapes?* rectangles, squares, ellipses, trapezoids and triangles. *How can you manipulate the shapes?* *How do the shapes form a net?* *What do nets need to be successful?* *How can you add the design to the shapes?* *How can you add font?* *Can you fill the colour?* *What effects are there?* *How do you cut/score paper or card?* *How do you assemble a net?* *Can you cut out a window and add acetate for effect? What happens?* **Evaluation:** *Is it easier to draw a net with gridlines or preshaped tools? Why?* *What graphics will make the customers want to buy the product?* *What font was best/ worst and why is this important?* *What do I need to consider when designing my product?*
Plan	**Context: Making Christmas packaging to see products at the fair** *Who will you make it for?* *What criteria will make it successful?*

	What does the product need to do? *How will this affect your design choices?* *What shape net will you choose?* *What size will it be?* *How will it be joined and finished?* **Technical drawing:** *Use CAD to draw and design a net labelling your design choices, the tools and the stages of making.* **Create a prototype.** *Can you print your net?* *Does it work?* *Can you join it with tape?*? **Evaluation:** *Is there anything you need to change at this stage?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will it be something people would like to buy?*
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your moving toy criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

Year A Spring Year 3/4	
Purpose:	**To design and create a torch for a reading for pleasure party**
Linked Designer: David Missell	
Linked curriculum: History, Science, Maths	
Key Vocabulary	. series circuit, fault, connection, toggle switch, push-to-make switch, push-to-break switch, battery, battery holder, bulb, bulb holder, wire, insulator, conductor, crocodile clip control, program, system, input device, output device,user, purpose, function, prototype, design criteria, innovative, appealing, design brief
Explore	*What battery powered products can you name?* *Where and why they are used?* *How does the product work?* *What are its key features and components?* *How does the switch work?* *Is the product manually controlled or controlled by a computer?* *What materials have been used and why?* *How is it suited to its intended user and purpose?* *How do the switches work?* *Are they a* push-to-make, push-to-break, toggle switch./ *How might different types of switches be useful in different types of products?* What are the dangers of mains electricity?

Skills	 **Technical knowledge and understanding** *How do circuits work?* *Can you use a buzzer, bulb, switch and batteries?* *What are the output devices? How do you know?* *How do you find a fault in a circuit?* *Can you correct a fault?* *How do you use a simple control program with interface box to physically control output?* *How can you make a switch from simple classroom materials?* e.g. card, corrugated plastic, aluminium foil, paper fasteners and paper clips. *What ways do switches operate?* *How do you avoid short circuits?*
Plan	**Context: Making a torch for a reading for pleasure party** *Who will you make it for?* *What criteria will make it successful?* *What parts will your product need to have and what will it be made from?* *What size will it be?* *How will it be joined and finished?* **Technical drawing:** *What will your torch look like? Draw an annotated sketch.* *What do you need in your circuit to make a torch? Draw a cross section or exploded diagram* *How will it be operated?* *What switch will you choose to use in your circuit?* **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will it be something you can use?* **Create a prototype.** *Does it work?* Does anything need changing before you create it? Why?
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *What are the main stages in making a torch?*

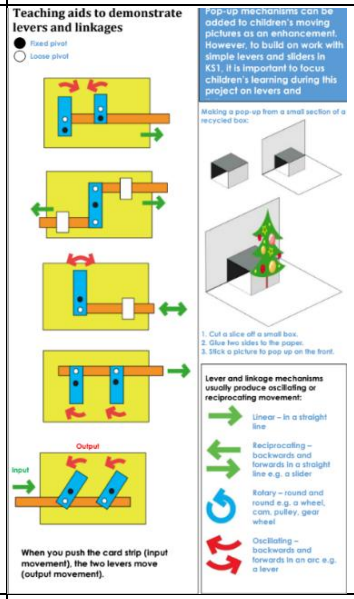
	Does what you have made meet your plan? Why/Why not? *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your torch criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?* *What would you change next time? Why?*

Year A Summer Year 3/4	
Purpose:	**To design and create a pizza to share with parents**
Linked Designer: PIzzalogica local Dartington Pizza restaurant	
Linked curriculum: History, Science, Maths	
Key Vocabulary	names of products, names of equipment, utensils, techniques and ingredients texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury,hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet, planning, design criteria, purpose, user, annotated sketch, sensory evaluations
Explore	*What ingredients are in pizzas?*

	What food groups do they belong to? *What are the popular pizza toppings?* *Can you research the favourite toppings in your school?* *Can you research and record your results?* *What were your findings?* *What substances are used in the foods e.g? nutrients, fibre, water, E numbers, Carbohydrates, sugars?* *How do they match to the eat well plate?* *What would be the most balanced pizza topping on the eatwell plate?* ***Trip to Pizzalogica restaurant to taste test some pizzas:*** *Do their best sellers match your research for most popular topping? Why/why not?* *What did your taste test of pizza find? Texture,taste.appearance,nutrition…* *Can you create a technical drawing of these and label them with their eatwell value?* *How do the sensory characteristics affect your liking for food?* *Where do their ingredients come from? Grown, harvested, reared, caught etc* *What ingredients are in season now?* *Why is this important to customers?* *What does processed food mean?*
Skills	 **Technical knowledge and understanding** *How do you prepare for cooking or handling food? Why is this important?* *How do you know how well a restaurant or café prepares food?* Look at star ratings *Why is following instructions important?* *What utensils are needed to make pizza?*   *What is the bridge/claw technique and why would you use it?* *What techniques might you need to use? Grating, peeling, chopping, slicing, mixing, spreading, kneading, baking* **Evaluation:** *What recipe did you follow?* *Did it work?* *What skills did you need to use?* *What was difficult and how did you overcome?* *What do you need to remember for your own design?*  

Plan	**Context: Designing and making a pizza** *Who will you make it for?* *What is its purpose?* *What design criteria will make it successful? Eg. Healthy, balanced, easy to eat, balanced, veggie/vegan, seasonal* *How will you source and select ingredients?* *How will you make it appealing?* *What stages will you need to prepare and make your design? Hygeine, cutting, washing, spreading etc* **Technical drawing:** *What does your sketch show?* *Do your labels show how it meets the criteria?* *What would the nutritional content be?* **Evaluation:** *Will it be suitable?* ***Think appearance, texture, balance etc*** *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs?* *Will it be something people would like to eat?* *What do others think of your design?* *Where could you improve?* **Create a prototype.** *Does it work? What needs to change?*
Make	*What utensils/ingredients do you need?* *What preparation will you need to hygiene?* *How will you use the utensils safely?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?* **Pizzas to be cooked on pizza oven.**
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your food criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?* *What would I change next time? Why?* *Does Pizzalogica think they could sell them?*

Year B Autumn Year 3/4	
Purpose:	**To design and create a moving Science book to show solids, liquid and gas and water cycle movement**
Linked Designer: Usbourne Books	
Linked curriculum: History, Science, Maths	
Key Vocabulary	. mechanism, lever, linkage, pivot, slot, bridge, guide system, input, process, output, linear, rotary, oscillating, reciprocating, user, purpose, function,prototype, design criteria, innovative, appealing, design brief
Explore	What books do you know that have lever and linkage mechanisms? Are there any other products that have these? E.g. bike brakes *What is the purpose of lever and linkage mechanisms?* *Who might it be for?* *What do you think will move?* *How will you make it move?* *What part moved and how did it move?* *How do you think the mechanism works?* *What materials have been used?* *How effective do you think it is and why?* *What else could move?*

Skills	 **Technical knowledge and understanding** *How does a fixed pivot work?* *How does a loose pivot work?* *Why would you use a linear mechanism?* *Why would you use a reciprocating mechanism?* *Why would you use a rotary mechanism?* *Why would you use an oscillating mechanism?* *Which card strip is the lever?* *Which card strip is acting as the linkage?* *Which part of the system is the input and which part the output?* *What does the type of movement remind you of?* *Can you accurately measure, mark out, cut and join?* **Evaluation:** *Which mechanism is the most difficult? Why?* *Which is the simplest?* *When might you use them in your designs?*
Plan	**Context: Making a moving Science book to show xxxx** *Who will you make it for?* What does it need to show? *What criteria will make it successful?* *What parts will your product need to have and what will it be made from?* *What size will it be?* *How will it be joined and finished?* **Technical drawing:** *What will your final piece look like?* *Can you annotate the levers and mechanisms that you will use?* *Can you draw your design to scale?* *What will the main stages be for making your design?* *What materials will you need?* **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will this show the reader xxxxxxx?*

	Create a prototype. *Does it work?*
Make	*What tools/ materials do you need?* *How will you measure accurately?* *What is the best way to mark out your product before cutting?* *How will you use the tools safely?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your moving science book criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

Year B Spring Year 3/4	
Purpose:	**To design and create a pencil Case**
Linked Designer: Helix Pencil Cases	
Linked curriculum: History, Science, Maths	
Key Vocabulary	. fabric, names of fabrics, fastening, compartment, zip, button, structure, finishing technique, strength, weakness, stiffening, templates, stitch, seam, seam allowance, user, purpose, design, model, evaluate, prototype, annotated sketch, functional, innovative, investigate, label, drawing, aesthetics, function, pattern pieces
Explore	*What are pencil cases made of? How are they joined?* *What fabrics are they made from? What properties/characteristics does the fabric have? Why has this fabric been chosen?* *What fastenings could they have? How effective are its fastenings?* *How have textile products changed over time? E.g. Velcro, denim, zips etc What still remains?*

	What can you see when a pencil case is dissembled? What do you notice about the fabric/join? *How has it been decorated? Does its decoration have a purpose?* *What would the 2-D pattern piece look like?* *What are its measurements? How might you change the product?*
Skills	 **Technical knowledge and understanding** *What does the net look like for the pencil case when dissembled?* *Can you create a paper pattern for the pencil cases you have looked at?* *What's the same/what's different?* *What are the optimum fabrics for a pencil case? Pros/cons?* *What is a back stitch and why would you use it?* *What is a backwards stick and why would you use it?* *What is an over sew stitch and why would you use it?* *What is a blanket stitch and why would you use it?* *What is a running stitch and why would you use it?* **Evaluation:** *Which joining technique makes the strongest seam? Why?* *Which stitch is appropriate for the purpose?* *Which joining techniques are suitable for the fabric and purpose?* *How can you stiffen your fabric?* *What is the purpose of the fastenings? Which one is most suited to the purpose and user?* *What decorative techniques have been used? What effect do they have?*
Plan	**Context: Making a pencil case** *Who will you make it for?* *What criteria will make it successful?*

	What parts will your product need to have and what will it be made from? *What size will it be?* *How will it be joined and finished?* **Technical drawing:** *What designs have you sketched?* *Are they to scale?* *What material, net and fastening choices have you annotated on your sketched designs?* *Why have you chosen these?* *What does your storyboard of the main stages of making show for you chosen design?* *How have you chosen to finish your design?* **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will it be something people would like to play with or use?* **Create a prototype.** *Do your paper pattern prototypes work?Is there anything that needs changing before you make it?*
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *How will you measure and mark out your pattern accurately?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your pencil criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

Year B Summer
Year 3/4

Purpose:	**To design and create a balanced lunch box for a picnic**
Linked Designer: The Green Table chef at Dartington	
Linked curriculum: History, Science, Maths	
Key Vocabulary	names of products, names of equipment, utensils, techniques and ingredients, ,texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, grown, reared, caught, frozen, tinned, processed, seasonal, harvested healthy/varied diet, nutrition, carbohydrates, fats, sugars, E numbers,
Explore	*What are the contents in lunch boxes in your school?* *Over a week do they change much?* *Can you research and record your results?* *What selection of food do you find?* *What ingredients are used to make these?* *What food groups do they belong to?* *What substances are used in the foods e.g? nutrients, fibre, water, E numbers, Carbohydrates, sugars?* *How do they match to the eat well plate?* *What do your results tell you about the balance of diet across lunch boxes?* ***Trip to Coop in village or Green table Dartington to taste test some sandwiches:*** *What did your taste test of sandwiches and wraps find? Texture,taste.appearance,nutrition…* *Can you create a technical drawing of these and label them with their content?* *How do the sensory characteristics affect your linking for food?* *What do customers look for?* *What are the best selling sandwiches in these shops?* *Where do their ingredients come from? Grown, harvested, reared, caught etc* *Why is this important to customers?* *What does processed food mean?*
Skills	 **Technical knowledge and understanding** *How do you prepare for cooking or handling food? Why is this important?* *How do you know how well a restaurant or café prepares food?* Look at star ratings *Why is following instructions important?*

	    *What utensils are needed to make sandwiches/wraps?* *What is the bridge/claw technique and why would you use it?* *What techniques might you need to use? Grating, peeling, chopping, slicing, mixing, spreading, kneading, baking* **Evaluation:** *What recipe did you follow?* *Did it work?* *What skills did you need to use?* *What was difficult and how did you overcome?* *What do you need to remember for your own design?*
Plan	**Context: Designing and making a sandwich for a packed lunch box picnic** *Who will you make it for?* *What is its purpose?* *What design criteria will make it successful? Eg. Healthy, easy to eat, balanced, veggie/vegan* *How will you source and select ingredients?* *How will you make it appealing?* *What stages will you need to prepare and make your design? Hygeine, cutting, washing, spreading etc* **Technical drawing:** *What does your sketch show?* *Do your labels show how it meets the criteria?* *What would the nutritional content be?* **Evaluation:** *Will it be suitable?* ***Think appearance, texture, balance etc*** *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs?* *Will it be something people would like to eat?* *What do others think of your design?* *Where could you improve?* **Create a prototype on computer?.** *Does it work?*
Make	*What utensils/ingredients do you need?* *What preparation will you need to hygiene?*

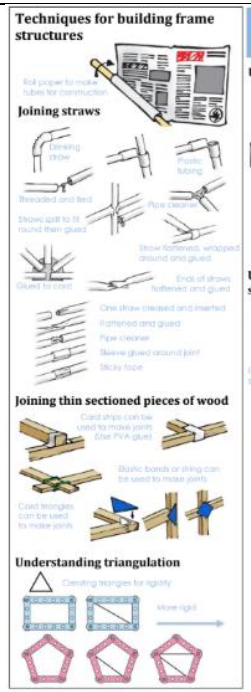
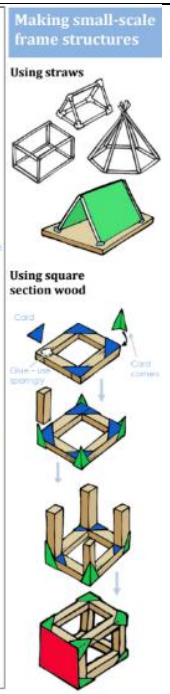
	How will you use the utensils safely? *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your food criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?* *What would I change next time? Why?*

Year A Autumn Year 5/6	
Purpose:	**To design and create a gingerbread village for the Christmas Fair**
Linked Designer: London gingerbread village	
Linked curriculum: History, Science, Maths	
Key Vocabulary	. ingredients, yeast, dough,bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate,protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble, design specification, innovative, research, evaluate, design brief
Explore	*Why do people have gingerbread at Christmas time?* *What does gingerbread taste like? What is the texture? Is the smell appealing?* *What re the main ingredients? Are they processed?* *Where do they come from? Are they locally sourced?* *What is the nutritional value of gingerbread?*

	What were the results of your sensory testing of gingerbread products? *What made the gingerbread more successful? Taste? Texture? Toppings? Organic?* *What does your graph from your results tell us?* *What ingredients made the gingerbread more crunchy/softer?* *Which ingredient made it spicier? Did you like this?* *How does it rate on the eat well plate? Does that matter?*
Skills	 **Technical knowledge and understanding** *How do you ensure that your food workstation is hygienic and why is this important?* *How do you measure out ingredients accurately? Why is this important?* *What does it mean to knead the dough and when would you use this?* *What does it mean to beat/rub and mix the ingredients and why would you do this?* *Which ingredients can be changed/added to the basic recipe and why would you do this?* *Do you think the appearance matters when making gingerbread?* **Evaluation:** *How will your gingerbread meet the findings in your research for the consumer?* *Which baking skills do you need to use when making gingerbread for the texture?* *What might you add to the basic gingerbread recipe to make it to the liking of your consumer?* *How will you make the appearance of your gingerbread appealing?*
Plan	**Context: Making a gingerbread house for the Christmas Fair** *Who will you make it for?* *What criteria will make it successful?* *What are the basic ingredients to your product and what will you chose to add?* *How will you finish it for appearances?*

	What utensils will you need? • Evaluate the work as it progresses and the final product against the intended purpose and user reflecting on the design specification previously agreed. **Technical drawing:** *What are your chosen ingredients and their quantities?* *Can you write your recipe to show the order of the steps to make your design?* *Have you noted the approximate length of time?* *What will your end outcome look like?* *Is it drawn to scale?* **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will it be something people would like to consume? How do you know? (relate back to research)* **Create a prototype.** *Does it work?*
Make	*Have you prepared a hygienic workstation?* *What utensils/ingredients do you need?* *How will you use them safely?* *Have you measured them accurately?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your gingerbread house criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

Year A Spring Year 5/6	
Purpose:	**To design and create a kite linked to Chinese new year**
Linked Designer: Chinese phiolosopher Mo-tse Kite inventor (link to Chinese new year)	
Linked curriculum: History, Science, Maths	
Key Vocabulary	frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent , design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional.
Explore	*What frame structures are there around us?* e.g. tents, bus shelters, umbrellas *What is the purpose of these structures?* *How are kites made? What frame structures do they have?* *Can you draw the frame structures and annotate the materials/joins used?* *How are they strengthened? How does the framework affect its strength?* *How are they constructed?* *What materials are they made from?* *How are they joined?* *How innovative is the design?* *How have the designs changed throughout history?* *Why is it important that they are sturdy?*

Skills	  **Technical knowledge and understanding** *How can you join straws and make them stronger?* *How can you join sections of wood?* *How does adding diagonals to a square framework reinforce strength?* *How does triangulation add strength to a structure?* *How could this be used for a kite frame?* *How can you make paper tubes/paper straws and pipe cleaners and strengthen them for a frame? Which is stronger?* *Can you use these to make cubes, cuboids or pyramids?* *How can you effectively join framework materials together? Mount them onto card and annotate them.* **Evaluation:** *Which frame structure would work best for a kite?* *What materials will you choose?* *Which shape will you use?* *How will you reinforce it for strength?* *How will you finish it?*
Plan	**Context: Making a kite to fly** *Who will you make it for?* *What criteria will make it successful?* *What parts will your product need to have and what will it be made from?* *What size will it be?* *How will it be joined and finished?* How will you strengthen the frame? **Technical drawing:** *Can you draw your kite to scale?* *Can you annotate your chosen materials?* *How will you join this? Use a cross section sketch to show what it will look like?* *How will your finish your design?* **Evaluation:** *Will it be strong enough?*

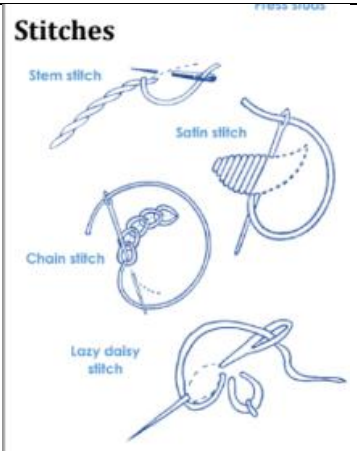
	Will the design be too heavy? *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will it be something people would like to play with or use?* **Create a prototype using paper/straws.** *Does it work?*
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your kite criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

Year A Summer Year 5/6	
Purpose:	Electrical systems- more complex switches and circuits: To design and make electronic games for Year 3.
Linked Designer: https://www.amazon.co.uk/Buzzer-Steady-Childrens-Electronic-Family/dp/B00P2VYYK4/ref=sr_1_3?crid=1AVDIAXW8R23R&keywords=buzzer+steady+hand+games&qid=1681906768&sprefix=buzzer+steady+hand+games%2Caps%2C65&sr=8-3	
Linked curriculum: History, Science, Maths	
Key Vocabulary	series circuit, parallel circuit, names of switches and components, input device, output device, system, monitor, control, program, flowchart function, innovative, design specification, design brief, user, purpose.
Explore	*What electronic products react to changes in the environment?* *Where and why they are used?* *How does the product work?*

	What are its key features and components? *How does a computer control programme work?* *Is the product manually controlled or controlled by a computer?* *What is the input?* *What is the output?* What are the dangers of mains electricity? Can you name a famous inventor related to electronics? project e.g. Thomas Edison – light bulb.
Skills	 **Technical knowledge and understanding** *How do circuits work?* *Can you use a buzzer, bulb, switch and batteries?* *What are the output devices? How do you know?* *How can you change the input devices? What happens? E.g light dependent resistors, push/pull switches/micro/reed switches* *How do you find a fault in a circuit?* *Can you correct a fault?* *How do you use a control program with interface box to physically control output?* *How can you create/block connections from simple classroom materials?* e.g. card, corrugated plastic, aluminium foil, paper fasteners and paper clips. *How do you avoid short circuits?*
Plan	**Context: Making an electronic circuit toy for Year 3** *Who will you make it for?* *What criteria will make it successful?* *What parts will your product need to have and what will it be made from?* *What size will it be?* *How will it be joined and finished?* **Technical drawing:** *What will your product look like? Draw an annotated sketch.* *What do you need in your circuit to make your product? Draw a cross section or exploded diagram labelling the circuit and input/output* *How will it be operated?*

	What switch will you choose to use in your circuit? **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will it be something you can use?* **Create a prototype.** *Does it work?* Does anything need changing before you create it? Why?
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *What are the main stages in making a torch?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your product criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?* *What would you change next time? Why?*

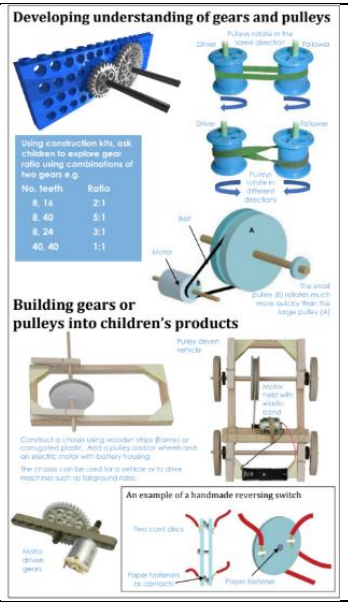
Year B Autumn Year 5/6	
Purpose:	**To design and create a fabric Christmas decoration**
Linked Designer: Gisella Graham	
Linked curriculum: History, Science, Maths	

Key Vocabulary	seam, seam allowance, wadding, reinforce, right side, wrong side, hem, template, pattern pieces name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up, prototype
Explore	*What are fabric decorations made of? How are they joined?* *What fabrics are they made from? What properties/characteristics does the fabric have? Why has this fabric been chosen?* *What fastenings could they have? How effective are its fastenings?* *How have textile products changed over time? E.g. Velcro, denim, zips etc What still remains?* *What can you see when a decoration is dissembled? What do you notice about the fabric/join?* *How has it been decorated? Does its decoration have a purpose?* *What would the 2-D pattern piece look like?* *What are its measurements? How might you change the product?*
Skills	  **Technical knowledge and understanding** *What does the net look like for the decoration when dissembled?* *Can you create a paper pattern for the decorations you have looked at?* *What's the same/what's different?* *What are the optimum fabrics for a decoration? Pros/cons?* *What is a back stitch and why would you use it?* *What is a backwards stick and why would you use it?* *What is an over sew stitch and why would you use it?* *What is a blanket stitch and why would you use it?* *What is a running stitch and why would you use it?* *How might you finish your decoration?* *Will it need stuffing?* **Evaluation:** *Which joining technique makes the strongest seam? Why?*

	Which stitch is appropriate for the purpose? *Which joining techniques are suitable for the fabric and purpose?* *How can you stiffen your fabric?* *What is the purpose of the fastenings? Which one is most suited to the purpose and user?* *What decorative techniques have been used? What effect do they have?*
Plan	**Context: Making a fabric Christmas decoration** *Who will you make it for?* *What criteria will make it successful?* *What parts will your product need to have and what will it be made from?* *What size will it be?* *How will it be joined and finished?* Will it need stuffing? **Technical drawing:** *What designs have you sketched?* *Are they to scale?* *What material, net and fastening choices have you annotated on your sketched designs?* *Why have you chosen these?* *What does your storyboard of the main stages of making show for you chosen design?* *How have you chosen to finish your design?* **Evaluation:** *Will it work?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will it be something people would like?* **Create a prototype.** *Do your paper pattern prototypes work? Is there anything that needs changing before you make it?*
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *How will you measure and mark out your pattern accurately?*

	Does what you have made meet your plan? Why/Why not? *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your pencil criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

Year B Spring Year 5/6	
Purpose:	**To design and create a moving toy car**
Linked Designer:	*Karl Friedrich Benz and Gottlieb Daimler car inventors*
Linked curriculum: History, Science, Maths	
Key Vocabulary	vocabulary pulley, drive belt, gear, rotation, spindle, driver,follower, ratio, transmit,axle, motor,circuit, switch,circuit diagram,annotated drawings, exploded diagrams, mechanical system,electrical system, input,process, output,design decisions, functionality, innovation,authentic, user, purpose, design specification,design brief.
Explore	*What products or toys have gear or pulley systems?* *Can you draw sketches of the products with the following annotations:* *How innovative is the product?* *What design decisions have been made?* *What type of movement can be seen?* *What types of mechanical components are used and where are they positioned?* *What are the input, process and output of the system?* *How well does the product work?* *Why have the materials and components been chosen?*

	How well has it been designed? *How well has it been made?* • Children could research and, if possible, visit engineering and manufacturing companies that are relevant to the product they are designing and making e.g. Jaguar Land Rover, JCB, local companies
Skills	 **Technical knowledge and understanding** *How can you use construction kits to combine two different size pulleys?* *How does it affect the direction?* *How does it affect the speed of rotation?* *How many times does the smaller pulley turn each time the larger pulley turns once?* *Do the pulleys move in the same direction?* *How can you reverse the direction of rotation?* *What does your circuit need to work?* a battery, a motor and a handmade switch, such as a reversing switch **Evaluation:** *Using the construction kits, what worked well?* *Did your product move?* *What did you have to adapt/change?*
Plan	**Context: Making a moving toy** *Who will you make it for?* *What criteria will make it successful?* *What parts will your product need to have and what will it be made from?* *What size will it be?* *How will it be joined and finished?* **Technical drawing:** *Can you create a technical drawing of your product?* *What would the circuit look like?* *Can you use an exploded diagram with labels to show the components/input/output?* **Evaluation:** *Will it work?*

	What will be tricky? How will you overcome this? *Does it meet the purpose and user needs? Will it be something people would like to play with or use?* **Create a prototype.** *Does it work?*
Make	*What tools/ materials do you need?* *How will you use the tools safely?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your moving toy criteria?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?*

Year B Summer Year 5/6	
Purpose:	**To design and create some seasonal bread to share to celebrate religious festivals (Passover/Ramadan)**
Linked Designer: The local Almond Thief Bakery/ Riverford Farm Shop	
Linked curriculum: History, Science, Maths	
Key Vocabulary	ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble ,design specification, innovative, research, evaluate, design brief
Explore	*What do people look for when buying food products?* ***Personal/cultural, healthy balanced diet, allergies, diet preferences, local/sesonal/organic produce?*** *What will you research?* *Who will you ask?* *How will you record the information?*

	What do your results tell you? ***Visit the local Almond Thief bakery/Riverford Farm.*** *What do their customers want? What do they offer?* *Over a week do sales change much?* *What does this tell us about people's food habits?* *What ingredients are used to make their products?* *How are they sourced and why?* *Are the ingredients processed?* *What shapes do customer like?* *How would you know?* *What substances are used in the foods e.g? nutrients, fibre, water, E numbers, Carbohydrates, sugars?* *How do they match to the eat well plate?* *What do your results tell you about the balance of diet across lunch boxes?* ***Trip to Almond Thief/Riverford farm shop Dartington to test some produce:*** *What ingredients can be added to foods? Herbs, spices, veg, cheese* *What do they add? Texture, smell, taste etc* *Where can they be sourced?* *What ingredients add spice, crunch, rise and crisp textures to the food?* *How does this affect the colour, taste and shape of the foods? E.g. seasonings, yeast,* *Are they seasonal/fair trade/ organic?* *How can you represent your data collected?* *What does it tell you?* *What key chefs promote seasonality, local produce and healthy eating?* *How do they do this and why do you think it is important?.*
Skills	 **Technical knowledge and understanding** *How do you measure out ingredients and why is it important?* *What is the purpose of kneading, beating, rubbing and mixing? Why are they different?* *What utensils are needed?* *What do you need to remember to keep yourself and other same using equipment?* *How will you prepare your workstation for hygiene?* **Evaluation of basic practice recipe:** *Did you manage to follow the practice recipe?* *What was difficult?* *How will you factor this into your final design?* *What ingredients could you change in the basic recipe for your own? Flour, seeds, spice, season, garlic, vegetables, taste, shape, appearance, smell*
Plan	**Context: Make seasonal bread to share and a religious feast** *Who will you make it for?*

	What criteria will make it successful? *What ingredients will your product need to have and where will they be sourced from?* *What additional options will you add to your design and why?* *What steps will you take to make your product?* *What equipment will you need?* **Technical drawing:** *What is your design specification?* *Does your design drawing meet the criteria?* *Why have you chosen your additional ingredients/shape/appearance?* *Can you label the nutritional content and choices?* *How will it link with the eat well plate?* *What skills will need to be used to make your design? E.g kneed, mix, peel, spread, beat, rub* **Evaluation:** *Will it work?* *Does it meet the design brief?* *What will be tricky?* How will you overcome this? *Does it meet the purpose and user needs? Will it be something people would like to play with or use?* **Create a prototype.** *Does it work?*
Make	*What utensils/ingredients do you need?* *How will you use them safely?* *How did you prepare your work station?* *Does what you have made meet your plan? Why/Why not?* *Have you had to change your design in any way whilst making it?*
Evaluate	Evaluate their ideas throughout and their final products against original design criteria. *Did your design work for its purpose? Why/Why not?* *Did it meet the requirements of your design brief?* *What did I find difficult? Why?* *Did I have to change my plan? What did I change?* *What would you adapt/change next time?* *How would this improve your product?*