Queen's Park Infant Academy

Design and Technology Progression

Overview:
Children are given the opportunity to design and develop, make and evaluate by providing inspiring real-life scenarios and reasons to make purposeful products. Through exploration and guidance, we aim to develop pupils' skills and knowledge of how products are designed, built and improved for their intended purpose. We want pupils to draw on their cross-curricular skills in a variety of contexts and understand how design technology has influenced the world we live in today.

Aims for the National Curriculum design and technology curriculum:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users
- Critique, evaluate and test their ideas and products and the work of others
- Understand and apply the principles of nutrition and learn how to cook

Pupils will be taught the following knowledge and skills:

	EYFS	Y1	Y2
Design Generating, developing, modelling and understanding contexts, users and purposes	**As a designer I can…** explore different materials freely in order to develop ideas about how to use them and what to make. say which materials I will use to achieve my ideas. explain how I will join the materials of their choice. **As a designer I know…** to select and name the tools I need. to use the language of designing and making, *e.g. join, build, shape, mix, weave, longer, shorter, heavier etc.*	**As a designer I can…** **explain what I am making.** **explain what my product is for and how it will work.** begin to draw on my own experience to help generate ideas **As a designer I know…** **that there is a reason behind why we design and make something.** how explore materials and components from existing products. **how to use talking and drawing to plan my design.** how to design a product for myself using a simple design criterion.	**As a designer I can…** **explain what I want to design and how I will do it.** **explain how the product is suitable for the user.** **identify a target group for what I intend to design.** **use knowledge of existing products to help come up with ideas.** use models, templates, mock-ups and ICT to plan my design. **label my designs.** design a product for myself and others using design criteria. **As a designer I know…** how to explore how products have been created. why we need a design criterion to identify the need that a product should meet.
Make	**As a designer I can…** construct with a purpose, using a variety of resources. select tools and techniques to shape, assemble and join. join materials *e.g. using glue, staple, cellotape, masking tape, paperclip, split pin.* use a template to draw around. use scissors to cut along a straight and curved lines. use hole punches to create holes. build structures joining components together. mix, stir, cut, pour, shape and spread. **As a designer I know…** that materials can be joined together in different ways. How to explain what they I am making and which material I am using. discuss how to make an activity safe.	**As a designer I can…** **select tools/equipment to cut, shape and join, and explain choices.** **handle tools safely.** **accurately cut around templates and shapes.** choose suitable materials and explain simple choices. assemble, join and combine materials and components. make simple moving mechanisms with support, *e.g. wheels (moving vehicles)* **As a designer I know…** **that simple *tools* (*e.g. scissors, knives, peelers, needles)* need to be handled safely, and that there are safety rules associated with using each tool.** **that, when joining, some methods create a more permanent joins than others** *(e.g. temporary: paperclips, tape; permanent: glue, staples).*	**As a designer I can…** **join materials/components together in different ways.** **measure and mark materials/components, in order to cut out.** **build simple 3D structures.** choose suitable materials and explain choices depending on characteristics. use simple finishing techniques to make products look good. sieve, slice, squeeze, grate and peel. **As a designer I know…** **that there are some techniques that can reinforce materials** (how to make materials stronger, stiffer and more stable). **to reinforce and stiffen materials** *e.g. using folding and layering.* **to make simple moving mechanisms**, *e.g. sliders on a bridge*

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Evaluate	As a designer I can… recognise problems that arise. dismantle, examine and talk about structures and objects. look at similarities and differences between structures, objects and materials. describe textures. take part in a class discussion to evaluate a product. As a designer I know… that ideas don't always work.	As a designer I can… **say what is good and what is weaker in a product.** **describe work, linking it to what I was asked to do.** **explain likes and dislikes about a product, and why.** **explain what I would do next.** **make a labelled drawing of my final product, to show my evaluation.** As a designer I know… that plans can be adjusted if part of a product doesn't work.	As a designer I can… **evaluate my product by saying how well it works in relation to the purpose.** **discuss reasons for any changes to initial design,** including why they were needed. **identify strengths and possible changes that could be made.** explain what I have learnt from the designing and making process. As a designer I know… **that how effective a product is depends on how well it meets the brief.**
Technical knowledge Cooking and nutrition Textiles Mechanisms/Product design	As a designer I know… that hands can carry germs and should be washed before handling food. that ingredients can be measured using non-standard measurements, *e.g. cups, spoons etc.* that fruit and vegetables are healthy. that too much sugar is not healthy. that eating well contributes to good health.	As a designer I know… **that there are basic hygiene rules that should be followed when preparing food,** *e.g. hands washed, hair up, apron on, sleeves rolled up.* **that ingredients have properties,** *e.g. sweet, sour, soft, hard, runny.* **the original sources of some common foods,** *e.g. milk from a cow, egg from a chicken, chips from potatoes, which come from the ground, ketchup from tomatoes, cheese from milk/cow, beef from a cow.* **that wheels are fixed to axles.** **that axles cannot be fixed to their holders.** that paper and card can be rolled to make tubes. **that two pieces of material can be joined together**, e.g. by using glue. **that different materials have different properties.**	As a designer I know… **that there are different types of food,** *e.g. carbohydrate, fruit/veg, protein (refer to Eat Well plate).* **that ingredients can be measured accurately using given tools,** *e.g. scales, spoons, cups. (a dip?)* that surfaces need to be prepared and kept clean when working with food. **know that care must be taken when cutting ingredients.** **that both levers and sliders help us move things.** **that a lever is a handle or bar or strip that turns around a pivot.** **that a slider moves along a bar or strip.** **that freestanding structures can be made stronger,** *e.g. making thicker, propping up, gluing or using stronger material.*

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	EYFS		Y1		Y2	
Projects	Child-led projects or the following Teacher led projects if needed Cutting, sticking and gluing Christmas decorations - Matisse Vegetable mini beasts – Guiseppe Archimboldo Rockets – Tom Sachs		Fabric buildings Simple moving toys/vehicles/dinosaurs Sandwiches (healthy picnic)		Lever and Pivots on Castle Healthy kebabs Strengthening Castle Drawbridges	
Designers	Cutting, sticking and gluing Christmas decorations – Mattisse Using Matisse's cut and stick technique to create and decorate Christmas trees) Vegetable mini beasts – Guiseppe Archimboldo used vegetables greatively to create incredible pictures Rockets – Tom Sachs' NASA rocket workshop		buildings - Jackie Gale Simple moving toys/vehicles/dinosaurs - Jim Gary (giant dinosaur sculptures) Sandwiches (healthy picnic) – Jeff Koons (sandwiches 2000)		Eden Project Healthy kebabs - Amber Locke – (Fruit Art) Dennis Wojtkiewicz – (Hyperrealism) Puppets with Guts (Warhorse) Jim Henson (The Muppets)	
Possible Texts	The Nutcracker-ETA Hoffman – Retold by Jamie French Henri's Scissors – Jeanette Winter Oliver's Vegetables – Vivian French How to Catch a Star – Oliver Jeffers Man on the moon – Simon Bartram		What we'll build – Oliver Jeffers A place called home – Kate Baker Sam's Sandwich The Disgusting Sandwich - Gareth Edwards Dear Dinosaur – Chae Strathie		The Very Last Castle – Travis Jonker Peep inside the Castle – Usborne Oliver's Fruit Salad – Vivian French Which Food Will you Choose? – Claire Potter The Very Last Castle – Travis Jonker Peep inside the Castle – Usborne	
Vocabulary Progression	Expressive	Receptive	Expressive	Receptive	Expressive	Receptive
 Design	choose, colour	*ideas*	design, designing, drawing, labels, model, purpose, user	*template*	,	*properties, criteria* *user, purpose, design criteria, product, function, target audience, appealing*
 Make	cut, make, try		Cut, combine, finish, join, making, mark out, shaping,	*appearance, decorations, equipment, construction materials, fabric, materials, plan, tools.*	assemble, finishing techniques, manipulate, score,	*accuracy, characteristics, components, hand tools, running stitch, textiles*
 Evaluate	difficult, don't like, easy, feelings, thoughts, like, use.		change, compare, repeat		discuss, evaluate, improve, improvements, positive, process, refine, stages, strengths, successes.	*product, design criteria.*
 Cooking & Nutrition	mix, stir, cut, pour, shape		slice, spread,	*equipment, utensils, ingredients, raw, cooked, hygiene, soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard*	slicing, peeling, cutting, squeezing,	*healthy diet, flesh, skin, seed, pip, core*
 Mechanisms	join	*tools, split pin, paperclip, staple, hole punch*		*structure, framework, weak, strong, base, top, wheel, axle*		*lever, pivot, slider, pulley, twine, mechanism*
 Textiles		*cloth, cardboard, paper, fabric, scissors, fabric,*	cut, fold, fix, join,	*decoration*		