Pocklington C of E Infant School

Progression in DT Knowledge & Skills

What is DT?	
Our Aims (Intent)	**We will do this through (Implementation)**
Our intent is for Design and Technology (DT) to be both practical and inspiring and enable children to contribute to the innovation, culture, wealth and well-being of society., Our intent is to focus on the development of the gross and fine motor skills. We aim to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation, as well as the initiative to fully realise their creative ideas. We want pupils to develop the confidence to take risks, through drafting design concepts, modelling and testing and to be reflective learners who evaluate their work and the work of others. We intend to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements in the world around them. Our Design and technology scheme of work from Kapow enables pupils to meet the end of key stage attainment targets in the National curriculum and the EYFS Framework.	At Pocklington Church of England VC Infant School, in the Early Years Foundation Stage Design and Technology is taught through the lens of ' Expressive Art and Design'. The children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. Some units will be taught using the Kapow curriculum. The Design and technology National curriculum outlines the three main stages of the design process: design, make and evaluate. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical, and technical understanding required for each strand. Cooking and nutrition has a separate section, with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality. The National curriculum organises the Design and Technology attainment targets under four subheadings: Design, Make, Evaluate, and Technical knowledge.

	We follow Kapow Primary's Design and technology scheme, which has a clear progression of skills and knowledge within these strands and key areas across each year group. The National curriculum overview shows which of our units cover each of the National curriculum attainment targets as well as each of the four strands. Our Progression of skills shows the skills and knowledge that are taught within each year group and how these skills develop to ensure that attainment targets are securely met by the end of the Early Years Foundation Stage and Key Stage 1. Through Kapow Primary's Design and technology scheme, pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in the six key areas. Each of our key areas follows the design process (design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum. The Kapow Primary scheme is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning. Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means

	that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required. Consideration is given to how greater depth will be taught, learnt and demonstrated within each lesson, as well as how learners will be supported in line with the school's commitment to inclusion. Units are adapted to our pupils by picking out three or four keywords that will be learnt. The units also encourage recall of skills, processes, key facts and vocabulary. Each unit of lessons includes multiple teacher videos to develop subject knowledge and support ongoing CPD to support teachers to deliver lessons of a high standard that ensure pupil progression. In Key Stage 1 Design and Technology is taught every other half term and is alternated with Art and design. The units in our long term plan give the best overall skills coverage when combined with the Art and design units. Our pupils thoroughly enjoy the extra-curricular club craft we run related to Design and Technology, which gives children further opportunities to hone their skills.

Design			
Birth-Three . Notice patterns with strong contrasts and be attracted by patterns resembling the human face. . Start to make marks intentionally. . Express ideas and feelings through making marks, and sometimes give a meaning to the marks they make. . Explore different materials, using all their senses to investigate them. Manipulate and play with different materials. • Use their imagination as they consider what they can do with different materials. • Make simple models which express their ideas.	**Three- Four Years** • Make imaginative and complex 'small worlds' with blocks and construction kits, such as a city with different buildings and a park. . Explore different materials freely, in order to develop their ideas about how to use them and what to make. • Develop their own ideas and then decide which materials to use to express them. • Join different materials and explore different textures. . Create closed shapes with continuous lines and begin to use these shapes to represent objects. . Explore colour and colour-mixing.	**Reception** Explore, use and refine a variety of artistic effects to express their ideas and feelings. . Return to and build on their previous learning, refining ideas and developing their ability to represent them. . Create collaboratively sharing ideas, resources and skills.	**Creating with materials- ELG** . Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. . Share their creations, explaining the process they have used. . Make use of props and materials when role playing characters in narratives and stories.

	Nursery Baseline	Nursery End of Autumn 2	Nursery End of spring 2	Nursery End of Summer 2 Reception Baseline	Reception End of Autumn 2	Reception End of Spring 2	Reception EY Profile Year one Baseline
DT Progression for planning my ideas	With adult modelling, I am beginning to talk about what I am doing.	I can develop and share my ideas with support from my peers or an adult.		I work with my friend, and we copy, share, and develop ideas together. I can work independently to develop my ideas		I can plan and create collaboratively, sharing my ideas with my peers and developing my ideas further.	I can carefully develop and share my ideas, experiences, and imagination independently or collaboratively.

DT Progression for constructing my ideas.	I can build by stacking vertically.	I can join construction components by pushing, clicking, twisting, and snapping.		I can make enclosed spaces and shapes such as walls, tunnels, and houses. I build horizontally. I can tessellate basic shapes.	I can cover and bridge in my constructions by adding towers, roofs, bridges, and more detailed features. I can balance items. I can explore and add moving parts to my constructions.	I can adapt and improve my models with added features. I add improvements to ensure stability, scale and that it fits the purpose.	I can design, build, review and adapt my constructions to ensure they fit the purpose. I combine materials, shapes, and textures to add details and complexity. I can work on a large and small scale.
DT Progression for using scissors.	I can hold the scissors with two hands, and I am learning how the blades close and open	I can hold the scissors and open and close the blades. I can make small snips into the paper.	I can snip the paper and move the scissors forward.	I am beginning to cut along the paper	I can cut along a straight line, and I am improving in accuracy. I can cut a curved line.	I can cut a circle shape, cutting around the shape with round edges. I can cut out a square shape.	I can cut around complex shapes such as people.
DT Progression for cooking.	I can begin to develop a food vocabulary using taste, smell, texture and feel.		I can begin to work safely and show basic hygiene awareness, e.g., washing hands when prompted by an adult.	I can stir, spread, knead and shape a range of food and ingredients.		I can measure and weigh food items, non-standard measures, e.g., spoons, cups.	

Year 1 / 2: Cycle A

	Structures: Baby Bear's Chair		Mechanisms: Fairground Wheel		Mechanisms: Making a Moving Monster	
Skills Design Make Evaluate	• Generating and communicating ideas using sketching and modelling. • Learning about different types of structures, found in the natural world and in everyday objects. • Making a structure according to design criteria. • Creating joints and structures from paper/card and tape. • Building a strong and stiff structure by folding paper • Exploring the features of structures. • Comparing the stability of different shapes. •Testing the strength of own structures. •Identifying the weakest part of a structure. • Evaluating the strength, stiffness and stability of own structure.		•Selecting a suitable linkage system to produce the desired motion. • Designing a wheel. • • Selecting materials according to their characteristics. • Following a design brief. • Evaluating different designs. • Testing and adapting a design.		• Creating a class design criteria for a moving monster. • Designing a moving monster for a specific audience in accordance with a design criteria. • Making linkages using card for levers and split pins for pivots. • Experimenting with linkages adjusting the widths, lengths and thicknesses of card used. • Cutting and assembling components neatly. • • Evaluating own designs against design criteria. • Using peer feedback to modify a final design.	
Knowledge	• To know that shapes and structures with wide, flat bases or legs are the most stable. • To understand that the shape of a structure affects its strength. • To know that materials can be manipulated to improve strength and stiffness. • To know that a structure is something which has been formed or made from parts. • To know that a 'stable' structure is one which is firmly fixed and unlikely to change or move. • To know that a 'strong' structure is one which does not break easily. • To know that a 'stiff' structure or material is one which does not bend easily. • To know that natural structures are those found in nature. • To know that man-made structures are those made by people.		• To know that different materials have different properties and are therefore suitable for different uses. • To know the features of a ferris wheel include the wheel, frame, pods, a base an axle and an axle holder. • To know that it is important to test my design as I go along so that I can solve any problems that may occur		• To know that mechanisms are a collection of moving parts that work together as a machine to produce movement. • To know that there is always an input and output in a mechanism. • To know that an input is the energy that is used to start something working. • To know that an output is the movement that happens as a result of the input. • To know that a lever is something that turns on a pivot. • To know that a linkage mechanism is made up of a series of levers. • To know some real-life objects that contain mechanisms.	
Vocab	Function Man-made Mould Natural Stable	Stiff Strong Structure Test Weak	Axle Decorate Evaluation Ferris wheel Mechanism	Stable Strong Test Waterproof Weak	Evaluation Input Lever Linear motion Linkage Mechanical Mechanism	Motion Oscillating motion Output Pivot Reciprocating motion Rotary motion Survey
Website	See links in each Kapow module and lesson.					
Assessment	Use teacher assessment in lessons, Kapow end of unit assessments either as a class, small groups or individually (teacher discretion).					

Year 1 / 2: Cycle B

	Cooking & Nutrition: Smoothies	Textiles: Puppets	Structures: Stable Structures
Skills Design Make Evaluate	• Designing smoothie carton packaging. • Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Suggesting information to be included on packaging. • Comparing their own smoothie with someone else's. • Tasting and evaluating different food combinations. • Describing appearance, smell and taste. • Suggesting information to be included on packaging. • Comparing their own smoothie with someone else's.	• Using a template to create a design for a puppet. • Cutting fabric neatly with scissors. • Using joining methods to decorate a puppet. • Sequencing steps for construction. • Reflecting on a finished product, explaining likes and dislikes.	● Thinking about what others might want from a design. ● Beginning to recognise how products and designs in the world around us solve certain needs. ● Considering who they are designing for - identifying the user. ● Stating what they intend to make and why - identifying the purpose. ● Talking about ideas, with purpose and user in mind. ● Talking about existing products when generating ideas. ● Using basic drawing skills to communicate ideas. ● Choosing between a small number of materials, ingredients or components. ● Explaining their choices based on personal experiences. ● Requesting equipment appropriate to the purpose. (e.g. scissors for cutting, glue for joining) ● Beginning to use objects with a fixed width or length to create even spacing of markings or cuts (e.g. a lolly stick). ● Refining their grip to cut competently and confidently. ● Cutting straight lines and evenly spaced lines. ● Beginning to cut large shapes and thicker materials like cards. ● Discussing existing products, saying what they like about them. ● Comparing two products and discuss which is better for a specific purpose. ● Saying what they like about their peers' designs and products. ● Accepting feedback and understanding it is meant to improve their work.
Knowledge	• To know that a blender is a machine which mixes ingredients together into a smooth liquid. • To know that a fruit has seeds. • To know that fruits grow on trees or vines. • To know that vegetables can grow either above or below ground. • To know that vegetables is any edible part of a plant (e.g. roots: potatoes, leaves: lettuce, fruit: cucumber).	• To know that 'joining technique' means connecting two pieces of material together. • To know that there are various temporary methods of joining fabric by using staples. glue or pins. • To understand that different techniques for joining materials can be used for different purposes. • To understand that a template (or fabric pattern) is used to cut out the same shape multiple times. • To know that drawing a design idea is useful to see how an idea will look.	● Recognising that different structures are used for different purposes. ● Exploring the features of structures. ● Describing structures as buildings or freestanding structures. ● Making stable structures from cards. ● Creating supporting structures to aid stability. ● Using stable objects like cylinders to create structures.
Vocab	Blender Fruit Healthy Ingredients Recipe Smoothie Vegetable Seed Root Leaf Stem Flavour Design Cut Juice Table Knife Plant Chopping Board Taste Fork Compare	Decorate Design Fabric Glue Model Hand puppet Safety pin Staple Stencil Template	Better Cut Design Dislike Even Explain Freestanding Join Like Product Stable Structure Unstable User Worse
Website	See links in each Kapow module and lesson.		
Assessment	Use teacher assessment in lessons, Kapow end of unit assessments either as a class, small groups or individually (teacher discretion).		