Froxfield Primary School DT progression (2 year cycle)

	Class 1	Class 2	Class 3	Class 4
Taking Inspiration	Learn about an inventor or chef relevant to a DT topic.	Learn about an inventor or chef relevant to a DT topic.	Understand how key events and individuals in D&T have helped shape the world Know an inventor, chef, engineer and manufacturer who have developed ground-breaking products	Combine elements of a design from a range of inspirational designers throughout history, giving reasons for choices.
Designing	(With support) Design purposeful, functional, appealing products for themselves and other users based on a design criteria Generate, develop, model and communicate their ideas through talking, drawing, templates, Mock-ups and where appropriate IT Begin to work within a range of contexts: imaginary, story-based, home, school, garden, playground, local community, industry and wider environment With support, explore existing products giving likes, dislikes Describe the product using simple vocabulary Talk about simple design for a product for self or peers Describe it in a simple sentence As a class, agree criteria to help develop design ideas from first-hand experience Communicate ideas by drawing and talking	Design purposeful, functional, appealing products for themselves and other users based on a design criteria Generate, develop, model and communicate their ideas through talking, drawing, templates, Mock-ups and where appropriate IT Work within a range of contexts: imaginary, story-based, home, school, garden, playground Begin to explore existing products giving likes, dislikes Describe what the products are and where they might be used Explain product being designed and for self or others to use Describe how it will work In groups agree simple design criteria to help develop ideas Communicate ideas by drawing and talking	Begin to work confidently within a range of contexts: home, school, leisure, culture, enterprise, industry, local community, industry and wider environment Explore existing product (it's design & purpose) with the user of the product in mind. Give preferences. Investigate the design and materials chosen with existing products With support, collect information or ideas about the needs of the intended user of the product to be made Begin to use this to develop own design criteria and annotated drawings	Work confidently within a range of contexts: leisure, culture, enterprise, industry, local community, industry and wider environment Design and describe (with the user in mind) motivated by the service a product will offer. Indicate design features of product to appeal to intended user Gather information about the needs of the intended user through a survey or research on web-based resources Use this to develop their own design criteria identifying the needs and preferences of their 'market' Begin to Investigate simple costs of materials in existing products Make detailed plan, with annotated drawings and notes
Making See progression of skills	Build structures exploring how they can be made stronger, stiffer and more stable Explore and use mechanisms e.g sliders Select from and use a wide range of materials and components, including constructions materials, textiles and ingredients, according to their characteristics Model ideas by exploring materials, simple components like a slider and construction kits Teacher to use IT where appropriate to communicate and develop ideas as a class	Build structures exploring how they can be made stronger, stiffer and more stable Explore and use mechanisms e.g wheels and axles Select from and use a wide range of materials and components, including constructions materials, textiles and ingredients, according to their characteristics Model ideas by exploring materials, components, and construction kits, making templates Teacher or groups to use IT where appropriate to communicate and develop ideas as a class	Use patterned pieces to help and consider availability of resources Where possible, products should have a high quality finish, using art skills where appropriate Measure and cut with some accuracy Use IT where appropriate to communicate and develop ideas in pairs	Make a simple prototypes to help inform final product design. Use pattern pieces where necessary Make design decisions based on resources, time and costs Ensure products have a high quality finish, using art skills where appropriate With support, use computer-aided designs to represent designs Use IT where appropriate to communicate and develop ideas in pairs or on own
Evaluating & Improving	Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria With support,compare finished piece against class design criteria With support, suggest what you like and dislike, enjoyed.	Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria	Investigate and analyse a range of existing products With growing independence. evaluate own design criteria as they make Then use their design criteria to evaluate the strengths and areas to develop in their final product. Record. Begin to evaluate skills used.	set own design criteria as they design and make. Then use their design criteria to evaluate the strengths and areas to develop in their final product. Give a detailed evaluation of product based on purpose, effectiveness, construction and success

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Construction Structures & Electrical Systems	Cycle A - Autumn 1 (London's Burning) Picture frame with a hinge stand Cycle B - Autumn 1 (On the Move) Photo frame with a hinge stand	See Mechanisms	Cycle A - Spring 2 (Irresistible Isles) Bird Feeder Cycle B - Autumn 2 (Deadly 60) Night light lamp box (y4 electrical Systems)	Cycle A - Autumn 1 (Ancient civilisation) Bridges
	Explore constructing simple square and rectangular shapes using building equipment e.g. lego Select straws. card and joiners and with support assemble simple 2D shapes. Measure lengths using non-standard units Cut equal lengths of straw to build a rectangle (house) or card (photo-frame). Join securely with joiners. Attach with PVA glue. Decorate using paper and card With support, use equipment & tools safely		Skills built on from Year 1 Night light lamp box Using a ruler, plan on squared paper the dimensions of the frame or light box front in cm's Plan & use ruler to measure accurately card lengths with some accuracy Saw safely, (wearing goggles) using a handsaw, 1 to 1, with a neat finish Assemble the L shape (2 batons), glue with hot-glue gun to create a solid frame. Repeat Measure and cut backing for frame or attach light box front to box. Cut and glue stand to back of frame so that it stands accurately / secure light box front to box. Build simple circuit with light and on/off (y4 only) Decorate, embellish frame / light box Evaluate frame against own set criteria With some help, select and use equipment & tools safely. Begin to explain why they have chosen some tools or equipment. Bird Feeder Using construction and recycling materials apply skills to construct a birdfeeder	Skills built on from Year ¾ **Understand how key events and individuals in D&T have helped shape the world (Brunel, landmark bridges)** **Apply their understanding of how to strengthen, stiffen and reinforce more complex structures** Accurately assemble; join and combine different materials e.g cardboard sleeve to join, cylindrical upright to horizontal base, duct tape to join tubing and range of orientations Measure using rulers, plan and adjust final measurements, trial & error Use paper straws and masking tape Demonstrate resourcefulness when tackling practical tasks e.g apply previous knowledge to solve securing a 360 degree loop bend Reinforce & strengthen frame using triangulation, structures of 3 **Test final product and evaluate against set criteria, consider the views of others to improve their work**

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Mechanisms Sliders Wheels & Axles, Motorised Mechanisms Mechanical Systems / CAM	Cycle A - Summer 1 (Anchor's Away) Titanic Moving Picture Cycle B - Summer 1 (Mountain Explorers) Sliding Mountaineer on Mountain poster	Cycle A - Spring 2 (To Infinity and Beyond) Mechanisms (wheel & axles) Moon Buggy Cycle B - Autumn 2 (I'll huff and I'll puff) Mechanisms (wheels & axles) Vehicle for carrying materials	Cycle B - Spring 2 (The Conqueror's Legacy) Electrical systems Steady Hand Game	Cycle B - Summer 2 (Strength & Fortitude) Motorised Systems Fairground Rides Cycle A - Spring 1 (Survival of the Fittest) CAMS / Moving Toy
	Explore and use mechanisms in their products e.g sliders Explore sliders in a range of picture books and investigate how they work. Find examples on web. Cut using scissors safely. Attach slider to a character with PVA glue Using art skills, create a background. Insert securely a handle 'slider'. Cut line for slider to run along. Use slider to support story-telling	Skills built on from Year 1 (Structures) Explore and use mechanisms in their products e.g wheels and axles Explore the simple mechanisms of toy cars (axle, axle rod, wheel, chasis) With support, measure, mark out and cut dowling rod with a saw safely to create axle rods Securely join the axle holder to the chassis (shoe box) using glue Assemble the wheel and axle components so the wheels spin freely Test the movement of the wheels & axles to ensure it travels in a straight line Use finishing techniques to decorate the moon buggy effectively	Skills built on from Year 2 & Year 1 **Understand and use electrical systems in their products e.g bulbs and switches** Research simple steady hand game using online resources and link to Science unit and how an electrical have changed over the years. Investigate creating a complete electrical circuit with different types of wire and make a rod that completes the circuit well. Which wire is the best conductor to carry electricity to the rod? Sketch prototypes and label using technical language: Use sketches to inform final design in pairs Construct, join and adapt materials to create a final product that will effectively work as an electrical game. Evaluate the success of the product in terms of how far the projectile travels.	Skills built on from Year 3/4 Understand and use mechanical systems in their products e.g gears, levers and linkages Understand and use electrical systems in their products e.g motors Explore how mechanical systems such as CAMS / motors create movement (by converting rotary to linear movement) Explore motors and how they work adding a pulley system Offset CAMS on an axle and explore how this affects rotation / orientation https://planbee.com/collections/all-complete-series/products/moving-toys?variant=34521093111963 Accurately measure to nearest mm, mark, saw dowel to ensure accurate alignment of handle device Accurately assemble & refine by sanding, fillling and adjusting with tools safely Evalutate in pairs against own criteria

Textiles 2D to 3D patterns		Cycle B - Summer 2 (Local Life) Hand puppets Cycle A - Summer 2 (Froxfield Fun!) Pond Animal Hand Puppet	Cycle A Summer 2 (Raiders or Settlers) Money Pouches	Cycle B - Autumn 1 (Democracy Rules! / Ancient Greece) Cushion
		Investigate pre-made hand puppets Use a pre-drawn template to mark and cut our fabric accurately Practise first then use a running stitch to join 2 pieces of material / puppet together Know that a needle has to be thread and it is tied on the end of the thread (with help) With support, assemble and stitch puppet together Use finishing techniques to embellish a hand-puppet including gluing on eyes and extra details like scale, tongue fin etc	**Skills built on from year 2** Investigate and analyse a range of existing products (money pouches) Explore and research information of a range of purses and pouches from current and historical times from the Viking period. With support create a paper template by accurately drawing and cutting out Begin to accurately cut and assemble fabrics Learn to sew blanket stitch or over stitch to secure and join fabric together Fasten toggle accurately by sewing on to join securely Evaluate money pouch against peer set criteria	**Skills built on from year 4** Investigate and analyse a range of existing products (slippers) Plan and research printed pattern for the front of the cushion including tie dyeing Create a template for cushion, square or rectangle with accurate dimensions Investigate different types of stitching to join seams and embellish. Measure and plan with pattern. Print on fabric uing fabric paints or tie-dyeing Use decorative stitch neatly to embellish Pin and stitch bag together using stitch of choice evenly. Alter and adjust as product takes shape. Evaluate against own criteria and in terms of cost, purpose and success

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Food Technology	Cycle A - Spring 2 (All Change please) Fruit Smoothie Cycle B - Spring 1 (God Save the Queen) Royal sandwich	Cycle A - Autumn 2 (Healthy Humans) Healthy Dips Cycle B - Spring 1 (Let's Check out China) Noodle Dishes	Cycle A - Autumn 2 (Fasten your seatbelts) Brazillian Pasties Cycle B - Summer 1 (Bella Italia) Make your own Pizza	Cycle A - Summer 2 (Mayan Magic) Mexican Wraps Cycle B - Spring 2 (United we stand!) Seasonal Vegetable soup
	https://www.foodafactoflife.org.uk/5-7-years/healthy-eating-5-7-years/food-and-drinks-5-7-years/ https://www.foodafactoflife.org.uk/5-7-years/healthy-eating-5-7-years/food-choice-5-7-years/ Understand where food comes from Investigate sensory characteristics of taste – sweet, sour, sharp, smooth by tasting a selection of bought smoothies. Give likes / dislikes for each one. Explore a range of fruits by tasting and use to inform design criteria with preferences Peel and chop fruit with yogurt, apple juice. Observe how to use a food mixer. Taste and evaluate different smoothies, giving likes / dislikes. Adapt for Cycle B with sandwich fillings. Same skills, chopping, slicing, tasting.	Skills built on from year 1 https://www.foodafactoflife.org.uk/5-7-years/healthy-eating-5-7-years/eat-well-5-7-years/ https://www.foodafactoflife.org.uk/5-7-years/healthy-eating-5-7-years/healthy-eating-interactive-resources-5-7-years/ Use the basic principles of a healthy and varied diet to prepare dishes Investigate sensory characteristics of bought savoury Name & sort dip ingredients link to EATWELL plate (Science link) Use equipment to safely cut, peel and grate ingredients for savoury dip, considering texture. Measure ingredients using teaspoon, ½ tsp, tablespoon, ½ tablespoon. Prepare a simple dip using equipment safely and hygienically (no heat source) Evaluate dips against a simple success critieria agreed as a class	Skills built on from year 2 & 3 Understand and apply the principles of a healthy and varied diet. Understand seasonality and availability of products beyond the UK that are grown, reared, caught and processed Explore & research food ingredients in the wider world (Brazil and Italy), e.g. banana, pineapple and chocolate, ingredients grown or reared in Italy Investigate and analyse a range of existing products (pasty / pizza topping tasting) Prepare & assemble a savoury dish (pasty/ pizza) using the following baking skills: With help/some independence, accurately measure / weigh ingredients using scales. Rolling pastry with a rolling pin, cutting shapes accurately with cutters, chopping, folding and mixing ingredients to fill the pasty, add flavouring Observe how to safely use an oven Chop ingredients safely and use utensils hygienically Evaluate pasty against criteria set per group	Skills built on from year 4 Understand and know where and how a variety of ingredients are grown, reared, caught and processed. Explore & research food ingredients in the wider world (Mexico) e.g black beans, peppers, sour crème, chirizo, salsa verde , avocado Investigate and analyse a range of existing products (tortilla ingredients) from around the world Evaluate tortilla breads and fillings (pre-bought) Make simple side like guacamole or salsa verde Accurately weigh and measure ingredients, cost of some ingredients. Prepare & assemble filling for savoury tortilla using the following skills: chopping, slicing,peeling, mashing folding and mixing ingredients to fill the tortilla Chop ingredients safely and use utensils Hygienically combine and mix in tortilla Observe and with supervision using frying pan safely to fry tortilla Evaluate tortilla fillings against criteria set per group Investigate and analyse a range of produce grown in the U.K and available each season – seasonality Apply knowledge of seasonality to choice and seletion of vegetables for own soup Usie soup-tasting of bought soups to inform choices based on flavour and texture Peel, chop and slice vegetables to create a suitable recipe adding stock and herbs, understanding that cornflour is used to thcken Evaluate 2 soup recipes, with 2 different textures (chunky and smooth blened with hand-blender) against personal criteria

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