**DT Progression of Skills**

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  | EY | Year 1 | Year 2 | Year 3 | Year 4 | Year 5 | Year 6 |
| Design | * Represent my thoughts through designs. * Select appropriate resources. * Use language of designing and making e.g. join, build, shape, longer, shorter, heavier etc. | * Have my own ideas. * Explain what I want to do., what the product is for, and how it will work. * Use pictures and words to plan and begin to use models. * Design a product for myself following design criteria. * Research similar existing products. | * Using my own ideas, explain what I want to do and describe how I may do it. * Explain the purpose of my product, how it will work and how it will be suitable for the user. * Describe my design using pictures, words, models, diagrams and begin to use ICT. * Design products following a design criterion. * Use my knowledge of existing products to produce ideas. | * Begin to research others’ needs. * Show my design meets a range of requirements. * Describe the purpose of the product. * Follow a given design criterion. * Create a plan which shows order, equipment and tools. * Describe my design using an accurately labelled sketch and words. * Attempt to make a prototype. * Begin to use computers to show design. | * Research others’ needs. * Show my design meets a range of the requirements and is fit for purpose. * Begin to create my own design criteria. * Produce a plan and say how realistic it is. * Explain how the product will work. * Make a prototype. * Become more confident using computer aided design. | * Use the internet and questionnaires for research and design ideas. * Take a user’s view into account when designing. * Begin to consider the needs/wants of individuals or groups when designing a product and ensure it is fit for purpose. * Create my own design criteria. * Produce cross-sectional planning and annotated sketches. * Make design decisions considering time and resources. * Refine ideas by making prototypes and patterned pieces. * Use computer-aided designs. | * Draw on market research to inform design. * Use research of a user’s view into account when designing. * Identify features that will appeal to the intended user. * Create my own design criteria and specification. * Come up with innovative designs. * Make design decisions considering resources and costs. * Produce cross-sectional planning, exploded diagrams and annotated sketches. * Make design decisions considering time and resources. * Refine ideas by making prototypes and patterned pieces. * Use computer-aided designs. |
| Make | * Make simple representations. | * Explain what I’m making and why * Consider what I need to do next * Select tools/equipment to cut shape, join, finish etc. * Measure, mark out, cut and shape with support. * Choose suitable materials and explain choices. * Try to use finishing techniques to make the product look good. * Work in a safe manner. | * Explain what I am making and why it fits the purpose. * Make suggestions as to what I need to do next. * Join materials/components together in different ways. * Measure, mark out, cut and shape materials/components with support. * Describe which tools I’m using and why. * Choose suitable materials and explain choices depending on characteristics. * Use finishing techniques to make the product look good. | * Select suitable tools/equipment, & begin to use them accurately. * Select appropriate materials fit for purpose. * Work through the plan in order. * Begin to measure, mark out, cut and shape with some accuracy. * Begin to assemble, join and combine with some accuracy. * Begin to apply a range of finishing techniques with some accuracy. | * Select suitable tools/equipment, explain choices in relation to required techniques and begin to use them accurately. * Work through the plan in order. * Think if the product is going to be of good quality. * Begin to measure, mark out, cut and shape with some accuracy. * Begin to assemble, join and combine with some accuracy. * Begin to apply a range of finishing techniques with some accuracy. | * Select tools and equipment with a good level of precision. * Produce lists of tools and materials needed. * Choose appropriate materials considering functionality. * Create a step-by-step plan. * Explain how my product would appeal to an audience. * Mainly accurately mark out, cut and shape materials/ components. * Mainly accurately assemble, join and combine. * Mainly accurately apply a range of finishing techniques. * Begin to be resourceful in solving practical problems. | * Select tools and equipment with a good level of precision. * Produce lists of tools and materials needed. * Choose appropriate materials considering functionality. * Create a detailed step-by-step plan. * Explain how my product would appeal to an audience. * Mainly accurately mark out, cut and shape materials/ components. * Mainly accurately assemble, join and combine. * Mainly accurately apply a range of finishing techniques.   Begin to be resourceful in solving practical problems. |
| Evaluate | * Discuss what I like about what I have made. | * Talk about my work, linking it to what I was asked to do. * Talk about existing products considering: use, materials, how they work, audience, where they might be used. * Talk about existing products thinking about what is and isn’t good. * Begin to talk about what could make my product better. | * Describe what went well, thinking about the design criteria. * Talk about existing products considering: use, materials, how they work, audience, where they might be used, express personal opinion. * Evaluate how good existing products are. * Talk about what I would do differently if I were to do it again and why. | * Use the design criteria when evaluating. * Begin to evaluate products considering: use, materials, how well they have been made, materials, whether they work, how they have been made, fit for purpose. * Begin to understand by whom, when and where products where designed. * Learn about some inventors/designers/engineers/chefs/ manufacturers of ground-breaking products. | * Use the design criteria when evaluating. * Begin to evaluate products considering: use, materials, how well they have been made, materials, whether they work, how they have been made, fit for purpose. * Begin to understand by whom, when and where products where designed. * Learn about some inventors/designers/engineers/chefs/ manufacturers of ground-breaking products. * Research whether products can be recycled of reused. | * Evaluate the finished product against the specification, considering purpose and appearance. * Test and evaluate the final product. * Evaluate products considering: materials, quality, materials, whether they work, the process, fit for purpose. * Begin to evaluate how much products cost to make and how innovative they are. * Research how sustainable the materials are. * Talk about some key inventors/designers/engineers/chefs/ manufacturers of ground-breaking products. | * Evaluate the finished product against the specification, considering purpose and appearance. * Test and evaluate the final product considering if it’s fit for purpose and explain possible improvements if different materials had been used. * Do thorough evaluations on products considering: materials, quality, materials, whether they work, the process, fit for purpose. * Evaluate how much products cost to make and how innovative they are. * Research how sustainable the materials are. * Talk about some key inventors/designers/engineers/chefs/ manufacturers of ground-breaking products. * Consider the impact of the product beyond the intended user. |
| TK – Structures | * Interested in simple mechanisms on toys and know how to operate them. * Experiment with stacking blocks. * Use various construction materials. * Join construction materials together. | * Build a free standing structure. * Beginning to measure and join materials, with some support. * Join materials in different ways. * Suggest ways to make product stronger, stiffer and more stable. * Describe differences in materials. * Use joining, rolling or folding to make it stronger. |  | * Build a shell structure. * Use appropriate materials. * Work accurately to make cuts and holes. * Join materials. * Measure carefully to avoid mistakes. * Make a strong, stiff structure. |  | * Reinforce and strengthen a 3D frame. * Make more complex structures including a frame structure. * Measure accurately enough to ensure precision. * Make products that are strong and fit for purpose. |  |
| TK – Mechanism | * Experiment with blocks. * Interested in toys with knobs and pulleys. | * Use levers or sliders. | * Use wheels and axles. | * Use levers and linkages to create movement. * Use pneumatics to create movement. |  | * Use cams, pulleys and gears to create movement. |  |
| TK – Textiles | * Explore a range of fabrics and textures. * Use scissors to cut fabrics. |  | * Measure, cut and join textiles to make a product, with some support * Join textiles together to make a product. * Carefully cut textiles to produce accurate pieces. * Cut out shapes that have been created by drawing around a template onto the fabric. * Begin to sew using a range of [basic stitches](https://www.twinkl.co.uk/resource/t-m-866-simple-sewing-stitches-display-posters) including a running stitch. |  | * Begin to devise a template. * Understand that a simple fabric shape can be used to make a 3D textiles project. * Join fabrics using a range of stitches with increasing independence. * Sewing skills become more accurate. * Learn to add further decoration by adding buttons, beads, sequins etc. |  | * Use my own template. * Consider seam allowance. * Use a range of joining techniques including using a blanket stitch. * Confidently make 3D products. * Pin and tack fabric pieces together. * Make products with increasing accuracy and independence. |
| TK – Electrical Systems |  |  |  |  | * Use number of components in circuit including bulbs and buzzers. * Program a computer to control a product. |  | * Use different types of circuits in product including a motor and a switch. * Think of ways in which adding a circuit would improve product. * Program a computer to monitor changes in environment and control product. |
| Food | * Wash and dry hands independently. * Understand the need for a variety of foods. * Explore different foods. | * Wash surfaces down. * Decorate food. * Explain source of foods. * Know fruits & veg are healthy. * Cut, peel and grate with support. | * Hygiene procedures * Describe how food is farmed, home-grown, caught. * Draw eat well plate and explain there are groups of food. * Describe 5 a day. * Cut, peel and grate with increasing confidence. * Begin to measure using measuring cups and digital scales. | * Follow a recipe. * Think about how to grow plants to use in cooking. * Begin to understand where food is grown. * Describe how healthy diet= includes food and drinks. * Prepare and cook some dishes safely and hygienically. * Begin to chop, slice, mix, grate etc. | * Understand ingredients can be fresh, pre-cooked or processed. * Beginning to understand about food being grown, reared or caught in the UK or wider world. * Explain importance of food and drink for active, healthy bodies. * I can chop, slice, grate, knead * Measure food to the nearest gram accurately. | * Follow hygiene guidelines. * Present a product well - interesting, attractive, fit for purpose. * Begin to understand seasonality of foods. * Prepare & cook some savoury dishes safely and hygienically including, where appropriate, use of heat source. * I can peel, chop, slicing etc. * Begin to adapt a recipe by adding / substituting ingredients to change taste, look, texture etc. | * Adapt a recipe by adding / substituting ingredients. * Explain seasonality of foods. * Learn about food processing methods. * Name some types of food that are grown, reared or caught in the UK or wider world. * Describe some of the different substances in food and drink, and how they can affect health. * Prepare and cook a variety of savoury dishes safely and hygienically including, where appropriate, the use of heat source. * I can use a range of techniques. |