



Thomas Harding Design and Technology Progression of Skills

	Year 3	Year 4	Year 5	Year 6
DESIGN	- begin to research others' needs - show design meets a range of requirements - describe purpose of product - follow a given design criteria - begin to create a simple plan which shows order, equipment and tools - describe design using a labelled sketch and words - make design decisions - explain how product will work	- use research for design ideas - show design meets a range of requirements and is fit for purpose - begin to create own design criteria - have at least one idea about how to create product and suggest improvements for design. - create a simple plan about how to create the product beginning to think about resources - include an annotated sketch - make and explain design decisions considering availability of resources - explain how product will work - make a prototype	- use internet and questionnaires for research and design ideas - take a user's view into account when designing - begin to consider needs/wants of individuals/groups when designing and ensure product is fit for purpose - create own design criteria - have a range of ideas - produce a logical, realistic plan and explain it to others - use cross-sectional planning and annotated sketches - make design decisions considering time and resources - clearly explain how parts of product will work - model and refine design ideas by making prototypes and using pattern pieces - begin to use computer-aided designs	- draw on market research to inform design - use research of user's individual needs, wants, requirements for design - identify features of design that will appeal to the intended user - create own design criteria and specification - come up with innovative design ideas - follow and refine a logical plan - use annotated sketches, cross-sectional planning and exploded diagrams - make design decisions, considering, resources and cost - clearly explain how parts of design will work, and how they are fit for purpose - independently model and refine design ideas by making prototypes and using pattern pieces - use computer-aided designs

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MAKE	• select suitable tools/equipment, explain choices; begin to use them accurately • select appropriate materials, fit for purpose • work through plan in order • begin to measure, mark out, cut and shape materials/components with some accuracy • begin to assemble, join and combine materials and components with some accuracy • begin to apply a range of finishing techniques	• select suitable tools and equipment, explain choices in relation to required techniques and use accurately • select appropriate materials, fit for purpose; explain choices • work through plan in order. • measure, mark out, cut and shape materials/components with some accuracy • assemble, join and combine materials and components with some accuracy • apply a range of finishing techniques with some accuracy	• use selected tools/equipment with good level of precision • select appropriate materials, fit for purpose; explain choices, considering functionality • create and follow detailed step by-step plan • mainly accurately measure, mark out, cut and shape materials/components • mainly accurately assemble, join and combine materials/components • mainly accurately apply a range of finishing techniques • use techniques that involve a small number of steps • begin to be resourceful	• use selected tools and equipment precisely • select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics • create, follow, and adapt detailed step-by-step plans • accurately measure, mark out, cut and shape materials/components • accurately assemble, join and combine materials/components • accurately apply a range of finishing techniques • use techniques that involve a number of steps • be resourceful with practical problems - make changes to improve quality
EVALUATE	• look at design criteria while designing and making • use design criteria to evaluate finished product • say what I would change to make design better • begin to evaluate existing products, considering: how	• refer to design criteria while designing and making • use criteria to evaluate product • begin to explain how I could improve original design	• evaluate quality of design while designing and making • evaluate ideas and finished product against specification, considering purpose and appearance	• evaluate quality of design while designing and making; is it fit for purpose? • keep checking design is best it can be • evaluate ideas and finished product

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	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 were designed • learn about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products	• evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose • discuss by whom, when and where products were designed • begin to research whether products can be recycled or reused • know about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products	• test and evaluate final product • evaluate and discuss existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose • begin to evaluate how much products cost to make and how innovative they are • begin to research how sustainable materials are • talk about some key inventors/designers/engineers/chefs/manufacturers of ground-breaking products	against specification, stating if it's fit for purpose • test and evaluate final product; explain what would improve it and the effect different resources may have had • do thorough evaluations of existing products considering: how well they've been made, materials, whether they work, how they've been made, fit for purpose • evaluate how much products cost to make and how innovative they are • research and discuss how sustainable materials are • consider the impact of products beyond their intended purpose • discuss some key inventors/designers/engineers/chefs/manufacturers of ground-breaking products
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Unit	
Food	- begin to measure ingredients accurately to the nearest gram - follow a recipe with support - assemble, combine or cook ingredients - use equipment safely and hygienically - make product look attractive - think about how to grow plants to use in cooking - begin to understand food comes from UK and wider world. Understand how some food is grown, e.g. underground, animal - describe how healthy diet = variety/balance of food/drinks and explain how food and drink are needed for active/healthy bodies - describe the five a day - grow in confidence using some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading - follow a recipe - assemble, combine or cook ingredients (controlling the temperature if necessary) - think about presenting product in interesting/attractive ways - understand ingredients can be fresh, pre-cooked or processed - begin to understand about food being grown, reared or caught in the UK or wider world and some foods are seasonal - describe eat well plate and how a healthy diet=variety /balance of food and drinks - explain importance of food and drink for active, healthy bodies - prepare and cook dishes safely and hygienically - use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading - explain how to be safe / hygienic and follow own guidelines - present product well - interesting, attractive, fit for purpose - understand seasonality of foods - understand food can be grown, reared or caught in the UK and the wider world - describe how recipes can be adapted to change appearance, taste, texture, aroma - explain how there are different substances in food / drink needed for health - prepare and cook some savoury dishes safely and hygienically including, where appropriate, use of heat source - use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking - understand a recipe can be adapted 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 - adapt recipes to change appearance, taste, texture or aroma. - 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. - use a range of techniques confidently such as peeling, chopping, slicing, grating, mixing,

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				spreading, kneading and baking
Textiles	• know how to strengthen, stiffen and reinforce existing fabrics • understand how to securely join two pieces of fabric together • understand the need for patterns and seam allowances • begin to devise a template • begin to use decorating techniques such as applique • know and use technical vocabulary relevant to the project		• think about user's wants/needs and aesthetics when choosing textiles • Reuse and upcycle materials • create objects that employ a seam allowance • join textiles with a combination of stitching techniques (such as back stitch, running stitch, over sewing stitch) • use the qualities of the materials to create suitable visual and tactile effects in the decoration of textiles • show an understanding of the quality of materials to choose appropriate tools to cut (such as the nature of fabric may require sharper scissors than those used to cut paper)	
Mechanical Systems	• select appropriate tools /techniques • alter product after checking, to make it better		• refine product after testing • grow in confidence about trying new / different ideas	

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	- begin to try new/different ideas - use simple lever and linkages to create movement - measure accurately		- considering aesthetics, functionality and purpose - begin to use cams, pulleys or gears to create movement	
Electrical Systems		- create a series circuit with simple components - understand how switches work and make their own working switch, incorporating this into their circuit		Create circuits using electronic kits that employ a number of components (such as LEDs, resistors, transistors and chips)
Structures		- cut materials accurately and safely using appropriate tools - measure and mark out to the nearest centimetre - use appropriate materials - work accurately to make cuts and holes - begin to make strong structures - cut simple materials with safety and accuracy		- show an understanding of the quality of materials to choose appropriate tools to cut and shape - reinforce and strengthen a 3D frame - measure accurately enough to ensure precision - ensure product is strong and fit for purpose - cut materials with precision and refine the finish with appropriate tools (such as sanding wood or a precise scissor cut) - develop a range of practical skills to

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				create products (such as cutting, drilling, screwing, nailing, gluing, filing and sanding)
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