

What will our designers be able to do when they leave us?

By the time our designers leave Little Gonerby Infant Academy they will have become resourceful, innovative, enterprising and capable citizens. They will have been inspired by inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products and in doing so made the world a better place. Our designers will be able to critique, evaluate and test their ideas and products and the work of others. They will use their creativity and imagination with confidence, to design and make products that solve real and relevant problems within a variety of contexts, considering their own and others' needs, wants and values. They will be given the opportunities to collaborate with others and to reflect on the products they have created.

As designers we can...							
	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Key Concepts	Key Concept - Design						
Core Knowledge Progression	- To use what they have learnt about media and materials in original ways, thinking about uses and purposes. - They represent their own ideas, thoughts and feelings through design and technology, art, music, dance, role play and stories.	- Use senses to explore a wide range of familiar products. - Take simple products apart and talk about how their parts work. - Talk about and/or use construction materials, drawings and words to plan their own original designs. - State what products they are designing and making. - Describe what their products are to be used for.	- State what products they are designing and making. - Describe what their products are to be used for. - Say how their products will work and how they're suitable for intended users. - Use simple design criteria to help develop their ideas. - Use knowledge of existing products to support plans for a similar product. - Develop and communicate ideas by talking and drawing. - Describe, explore and investigate products that have been disassembled. - Use construction	- Use knowledge of a range of products to inform plans and designs. - Talk about and disassemble products and describe their function. - Use simple prototypes, labelled sketches and detailed instructions in plans and designs. - Talk in depth about ideas, plans and reasons for choices. - Describe the purpose of their products. Indicate design features of their products. - Gather information about the needs and wants of individuals or groups. - Develop their own	- 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. - produce a plan and explain it to others - say how realistic plan is. 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	- 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, crosssectional planning and exploded diagrams - make design decisions,

			kits, pictures, templates, mock ups and captions to plan and design. Talk about and describe the tools and materials needed in order complete the key tasks within a plan.	design criteria. - Share and clarify ideas through discussion. - Model ideas using prototypes. - Use annotated diagrams and some computer aided design packages to develop and communicate ideas. - Generate realistic ideas focusing on the needs of the user. - Begin to take account of the availability of resources.	begin to use computers to show design.	parts of product will work. - model and refine design ideas by making prototypes and using pattern pieces. - use computer-aided designs	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
Key Concepts	Key Concept - Make						
Core Knowledge Progression	- To handle equipment and tools effectively, including pencils for writing. - To safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function. - To use simple tools to effect changes to materials. - To handle tools, objects, construction and malleable materials safely and with increasing control.	- Plan by suggesting what to do next - Select from a range of tools, materials and components. - Follow procedures for safety and hygiene. - Cut paper/ card using scissors. - Join with tape or glue. - Apply simple finishes. E.g., paint, PVA, glue glaze. - Use a range of materials, including food ingredients. - Measure, mark out and cut a range of materials. - Cut and stick fabrics together. - Apply simple finishing techniques. E.g., fabric crayons, glueing on feathers.	- Explore and talk about the characteristics of an increasing range of materials. - Select and use simple tools to cut and join a range of materials. - Use a straight edge to mark lines for cutting. - Join edge-to-edge using glue. - Curl paper. - Use a hole punch and stapler. - Select from a range of finishes to improve the appearance of a product. - Follow procedures for safety and hygiene.	- Use a wide range of materials and components. E.g. textiles, mechanical, construction kits, electrical and food ingredients. - Select some materials and components according to known characteristics and functions. - Select and use an increasing range of tools suitable to the task to cut, shape and join materials and components. - Explain their choices. - Order the main stages of making. Use a ruler to measure and mark lines for cutting with some accuracy. - Make and use glueing tabs.	- 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. - realise if product is going to be good quality - 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 - produce suitable lists of tools, equipment/materials needed - select appropriate materials, fit for purpose; explain choices, considering functionality - create and follow detailed step-by-step plan - explain how product will appeal to an audience - mainly accurately measure, mark out, cut and shape materials/components - mainly accurately assemble, join and combine materials/components	- use selected tools and equipment precisely - produce suitable lists of tools, equipment, materials needed, considering constraints - select appropriate materials, fit for purpose; explain choices, considering functionality and aesthetics - create, follow, and adapt detailed step-by-step plans - explain how product will appeal to audience; make changes to improve quality - accurately measure, mark out, cut and shape materials/components - accurately assemble,

				• Applies some finishing techniques. • Select an appropriate way to improve the appearance of a product. • Follow procedures for safety and hygiene.		• mainly accurately apply a range of finishing techniques • use techniques that involve a small number of steps • begin to be resourceful with practical problems	• 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
Key Concepts	Key Concept - Evaluate						
Core Knowledge Progression		• Talk about their design ideas and what they are making • Talk about the steps taken to achieve the outcome. • Talk about how to make their products better. • Explore what their products are, what they are made from, who they are for, how they are used. • Talk about likes and dislikes of existing product.	• Talk about and describe key features of a range of products. • Explore and evaluate a range of existing products. • Begin to evaluate the success of the product in terms of function and aesthetic criteria. • Make simple judgements about their products and ideas against design criteria. • Talk and write about how to make their products better. • Talk about likes and dislikes of existing product. • Give reasons.	• Investigate and compare a range of similar existing products. • Compare and contrast the similarities and differences of products with the same function. • Identify the strengths and areas for development in their ideas and products. • Evaluate ideas and products against design criteria. • Investigate and analyse how well products have been designed and made; which materials and methods were used and were successful; how well the products worked; whether they achieved their purpose and the needs/ wants of the users and suggest ways in which products can be improved. • Recognise successful inventors, designers, chefs and engineers,	• refer to design criteria while designing and making • use criteria to evaluate product • begin to explain how I could improve original design • 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 • research whether products can be recycled or reused • know about some inventors/designers/engineers/chefs/manufacturers of ground-breaking products	• evaluate quality of design while designing and making • evaluate ideas and finished product against specification, considering purpose and appearance. • 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 • research how sustainable materials are • talk about some key inventors/designers/engineers/chefs/manufacturers of groundbreaking products	• 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 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

				who have been influential in the design and technology industries.			- of products beyond their intended purpose - discuss some key inventors/designers/engineers/chefs/manufacturers of groundbreaking products
Key Concepts	Key Concept - Technical Knowledge						
Core Knowledge Progression	- To use simple tools to effect changes to materials. - To handle tools, objects, construction and malleable materials safely and with increasing control.	- Pupils show an interest in toys with buttons, flaps and simple mechanisms and operate them successfully. - Pupils know about the movement of simple mechanisms such as levers, sliders, wheels and axles - Use simple construction materials to make a vehicle. - Explore and talk about books containing flaps and moving pictures. - Construct a simple lever with support. - Explore building bridges and towers using large and small-scale construction materials. E.g. Duplo, cardboard boxes. - Make simple 2D structures using straws.	- Attach wheels to a chassis using an axle, e.g. cotton reels and dowel. - Deconstruct a simple slider and describe how it works. - Construct a simple slider independently. - Make a lever by joining card strips with paper fasteners. - Construct a range of simple structures. - Make a structure more stable by widening the base. - Talk about and begin to select textiles based on characteristics of an increasing range of materials. - Use a simple template. - Join fabrics using glue, staples and thread. - Apply an increasing range of finishing techniques, e.g. painting and printing.	- Deconstruct a range of sliders and describe how they work. - Construct increasing complex sliders. - Join levers to make linkages to create moving parts. - Construct a simple pneumatic system with one moving part. - Deconstruct and assemble the net of basic 3D shapes. - Strengthen 2D frames by adding diagonal bracing struts. - Make a rectangular frame from strip wood. - Use materials to make simple joints, glue, tape and paper clips. - Describe how a simple battery powered circuit can be controlled by different kinds of switches. - Talk about simple electrical safety. - Create simple circuits incorporating a battery, bulb, switch, buzzer and wires.	- measure carefully to avoid mistakes - attempt to make product strong - continue working on product even if original didn't work - make a strong, stiff structure - select most appropriate tools / techniques - explain alterations to product after checking it - grow in confidence about trying new / different ideas. - use levers and linkages to create movement - use pneumatics to create movement - think about user when choosing textiles - think about how to make product strong - begin to devise a template - explain how to join things in a different way - understand that a simple fabric shape can be used to make a 3D textiles project	- select materials carefully, considering intended use of product and appearance - explain how product meets design criteria - measure accurately enough to ensure precision - ensure product is strong and fit for purpose - begin to reinforce and strengthen a 3D frame - refine product after testing - grow in confidence about trying new / different ideas - begin to use cams, pulleys or gears to create movement - think about user and aesthetics when choosing textiles - use own template - think about how to make product strong and look better - think of a range of ways to join things - begin to understand that a single 3D textiles project can be made from a combination of fabric shapes.	- select materials carefully, considering intended use of the product, the aesthetics and functionality. - explain how product meets design criteria - reinforce and strengthen a 3D frame - refine product after testing, considering aesthetics, functionality and purpose - incorporate hydraulics and pneumatics - be confident to try new / different ideas - use cams, pulleys and gears to create movement - think about user's wants/needs and aesthetics when choosing textiles - make product attractive and strong - make a prototype - use a range of joining techniques - think about how product might be sold - think carefully about what would improve product - understand that a

				- Construct cubes of different sizes from a net. - With support attach a fixed axle to a chassis and add wheels ensuring that they can move freely. - Construct a simple pulley using rope over a horizontal bar to raise an object off the ground. - Use construction kits with gears to construct a line of gears that turn.			single 3D textiles project can be made from a combination of fabric shapes
Key Concepts	Key Concept - Cooking and Nutrition						
Core Knowledge Progression		- Recognise that food comes from plants or animals. - Know that food is farmed, grown or caught. - Sort fruit and vegetables by taste, shape, size, colour, texture and simple food groups, e.g. meat, vegetables etc. - Begin to recognise that everyone should eat at least five portions of fruit and vegetables a day. - Use basic tools e.g. cutters and whisks. - Use techniques – cutting, peeling and grating.	- Sort and classify food into food groups, e.g. vegetables, pulses, cereals, dairy etc. - Talk about what happens when food is heated and cooled - Know how to prepare simple dishes safely and hygienically without using a heat source. - Measure and weigh accurately using cups and spoons. - Use techniques – cutting, chopping, peeling and grating	- Know that food is farmed, reared, grown, imported or caught locally, regionally and internationally. - Sort and classify an increasing range of food according to specific food groups, e.g. proteins, carbohydrates, fats etc. - Recognise that a healthy diet is made up of a variety and balance of different foods and drinks as depicted on ‘The Eatwell Plate’. - Know that to be active and healthy, food is needed to provide energy for the body. - Talk about what needs to be done in order to work safely and hygienically. - Measure and weigh	- explain how to be safe/hygienic - 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 - 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 some dishes safely and hygienically - use some of the following techniques: peeling,	- explain how to be safe / hygienic and follow own guidelines - present product well - interesting, attractive, fit for purpose - begin to 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	- 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

				using standard units and scales. - Discuss about the way in which food processing can affect the taste, appearance, texture and colour of food. - Know how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	chopping, slicing, grating, mixing, spreading, kneading and baking	use range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.	techniques confidently such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking.
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