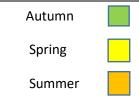


Progression of Skills and Knowledge in Design & Technology Year 5 & 6

Skills/Knowledge	Year 5	Year 6
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<u>Developing, planning</u> <u>and communicating</u> <u>ideas.</u>	 -Gather ideas by using the internet, questionnaires, research and drawing on their own and other people's experiences whilst making comparisons. -Generate and develop innovative ideas and share and clarify these through discussion -Generate ideas through brainstorming and identify a purpose and needs of user for their product ensuring product is fit for purpose -Draw up own specification for their design based on a range of ideas, planning realistically and logically, how to use materials, equipment and processes, and suggesting alternative methods of making if the first attempts fail -Make cross sectional planning and annotated drawings from different views showing specific features and possible materials, explaining how parts work -Refine ideas through prototypes, use of pattern pieces and computer aided design where possible. Know key vocab: designer, purpose, product, user, criteria, features, labelled diagrams, technical drawing, evaluate -Explain what a prototype is -Identify basic structures and the materials used to construct them -Use Science language that links with more complex switches and circuits -Know what a healthy foods are and their benefits -Identify food from different sources, seasons, cultures, countries and climates 	 -Use market research and questionnaires to gather ideas by drawing on their own and other people's experiences whilst making comparisons and links to help inform designs. -Generate ideas through research and identify the purpose and needs of the user for their product. Explain how design features will meet the needs and appeal to the intended user. -Communicate their ideas through annotated and exploded drawings from different viewpoints and models showing specific features -Develop own design specification with innovative ideas, creating a detailed, logical plan of the order of their work, choosing appropriate tools, techniques and also allocating responsibilities if working in a team. Refine plan as necessary. -Consider the resources needed and cost, explaining whether fit for purpose. -Use results of investigations, information sources, including ICT when developing design ideas -Using textiles: develop, model ideas through talking, drawing, templates, mock-ups, and prototypes and where appropriate computer aided design. Know key vocab: designer, purpose, product, user, criteria, features, labelled diagrams, exploded diagram, technical drawing, model, evaluate -Explain what an axle, axle holder, fixed and free wheel are -Use science language that links with more complex switches and components -Know what a mechanical system is -Explain what a mock-up is -Know what nutritional value means -Understand that some people have specific dietary requirements due to medical or religious grounds -Use Maths language that links with capacity when measuring and weighing ingredients -Know the features of recipes and generate own with ingredients, utensils , detailed steps and serving
Working with tools, equipment, materials and components to make quality products (including food)	 Select with precision appropriate materials, tools and techniques for making a product -Know and use correct names and terms for tools and techniques and explain choices in relation to each other -Measure, mark out, cut and shape a range of materials, using appropriate tools, equipment and techniques with greater accuracy - Join and combine materials and components accurately in temporary and permanent ways -Work safely and accurately with a range of simple tools following a step-by-step plan -Weigh and measure accurately (length, time, dry ingredients, liquids) -Select and combine appropriate fruit and vegetables. -Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens, know safe chopping and slicing techniques -Cut and join with accuracy to ensure a good-quality finish to the product -Sew using a range of different stitches, weave and knit -Use finishing techniques with several steps -Name the materials and tools being used and explain how to use. -Name a broader range of stitches such as zig-zag and chain. -Explain the finishing and decorative techniques to be used on the end product -Understand how to strengthen, stiffen and teinforce 3D structures -Know how to set yassenble electrical components to prudence a controlled working circuit -Know how to measure and weigh accurately using a range of equipment -Know the units of measures appropriate to the task and read scales 	 suggestions use techniques that involve a number of steps and be resourceful with practical problem Precisely Select and use appropriate tools, materials, components and techniques for making a product Use techniques that use several steps Use specific names / terms for tools and techniques, listing them and give reasons for selections Measure, mark out, cut and assemble components, using appropriate tools, equipment and techniques with greater accuracy Join and combine materials and components accurately in temporary and permanent ways, making models to help with the planning process Work safely and accurately (length, time, dry ingredients, liquids, temperature) Apply the rules for basic food hygiene and other safe practices e.g. hazards relating to the use of ovens and electricity, know safe chopping and slicing techniques Select and combine appropriate fruit and vegetables based on specific criteria. Make, decorate and present food for the intended user Make modifications as they go along Pin, sew with a range of stitches to attach materials together create a product Use finishing techniques strengthen and improve the appearance of their product using a range of equipment including ICT Name the materials and tools being used and provide reasons for why they have been selected. Know how to correctly join/bond specific materials describing best methods. Name a broader range of stitches such as zig-zag, chain and some finishing techniques like applique. Identify a range of fabrics and methods for joining Know that a 3D textile product can be made from combining a range of fabrics Understand that mechanical and electrical systems have an input and output process Know that gas and pulleys can be used to speed up, slow down or change the direction of movement Know how to measure, combine, read scales and weigh accurate





Evaluating	-Investigate a range of existing frame structures -Investigate famous inventors who created ground breaking electrical systems or components	-Investigate famous manufacturing and engineering comp -Investigate and analyse textile products related to own pro-
processes and	-Investigate key chefs that have influenced eating habits such as healthy eating: Jamie Oliver -Research key events and individuals relevant to frame structures	-Investigate how key chefs have influenced eating habits to diets
products	 Evaluate a product against the original design specification. Evaluate their product carrying out appropriate tests against original design criteria e.g. how well it meets its intended purpose Continually evaluate and modify the product to meet the initial criteria set Carry out sensory evaluations to describe the look, feel and aroma Disassemble and evaluate familiar products Evaluate it personally and seek evaluation from others Record evaluations in different formats: tables, graphs, charts or star rating system Know and use technical vocabulary relevant to the structures project 	-Test a range of products that have been designed for a sp quality, manufacture and fitness for purpose -Evaluate their products, identifying strengths and areas for appropriate tests -Record their evaluations using drawings with labels -Evaluate against their original criteria and suggest ways th -Consider the views of others to improve own work -Disassemble and evaluate familiar products -Carry out sensory evaluations to compare and describe th
	-Know and use technical vocabulary relevant to switches and circuits -Know / use the technical relevant and sensory language related to food	-Know and use technical vocabulary relevant to mechani -Know and use technical vocabulary relevant to textiles an -Know and use the technical relevant and sensory language

mpanies relevant to project such as JCB products is to promote healthy varied and healthy a specific user and critically evaluate the for development, and carrying out that their product could be improved

e the look, feel and aroma of ingredients anical systems, pulleys and gears and combining different fabrics uage related to food