Gillespie Primary School

Design and Technology progression overview
2022/2023

Design and Technology - Progression Framework (Knowledge, Skills and Understanding)

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
1.Background Research *Understanding contexts, users and purposes* *Explore existing products*	Understand what a product is and who it is for Understand how a product works and how it is used Identify where you might find the product	Understand what a product is and who it is for Understand how a product works and how it is used Identify where you might find the product Identify the materials used to make the product Express an opinion about the product	Identify who made a specific product, when it was made and what its purpose is Identify what the product has been made from Evaluate the product on design and use Research facts about famous inventors/ chefs / designers linked to product	Identify who made a specific product, when it was made and what its purpose is Identify what the product has been made from Evaluate the product on design and use Research facts about famous inventors/ chefs / designers linked to product	Identify who made a specific product, when it was made and what its purpose is Identify what the product has been made from and how environmentally friendly the materials are Evaluate the product on design, appearance and use Identify the cost to make the product Research facts about famous inventors/ chefs / designers linked to product	Identify who made the product, when it was made and what its purpose is Identify what the product has been made from and how environmentally friendly the materials are Evaluate the product on design, appearance and use Identify the cost to make the product and whether it has any other purposes, e.g. Leading innovation of the time, trend setting Research facts about famous inventors/ chefs / designers linked to product

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
2.Design Criteria *Understanding their intended users and their own product*	Begin to draw on their own experiences and existing products to develop ideas Explain what product they will be designing and making Explain who their product will be used by Describe what their product will be used for	Draw on own and other people's experiences and existing products to develop ideas Explain what product they will be designing and making Explain who their product will be used by Describe what their product will be used for and how it will work Explain why their product is suitable for the intended user	Understand and gather information about what a particular group or people want from a product Describe the purpose of their product and how it will work Identify design features that will appeal to intended users Explain how parts of their product work Generate realistic ideas that meet needs of user	Understand and gather information about what a particular group or people want from a product Describe the purpose of their product Identify design features that will appeal to intended user Explain how parts of their product work Develop their own design criteria and use for planning ideas Generate realistic ideas that meet needs of user and take into account availability of resources	Understand and gather information about what a particular group or people want from a product e.g. using questionnaires, surveys Describe the purpose of their product Identify design features that will appeal to intended users Explain how parts of their product will work Develop their own design criteria and use for planning ideas Generate innovative ideas that meet needs of user and take into account availability of resources	Understand and gather information about what a particular group or people want from a product e.g. using questionnaires, surveys Describe the purpose of their product Identify design features that will appeal to intended users Explain how parts of their product will work Create a design description for their product Highlight the impact of time, resources and cost within their design ideas Generate innovative ideas that meet needs of user

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
3. Planning *Communicating ideas and creating prototypes for product*	Discuss what their steps for making could be Represent ideas through talking and drawing	Discuss what their steps for making could be Represent ideas through talking, drawing and computing – (where appropriate) Choose materials to use based on suitability of their properties Create templates/pattern pieces and explore materials whilst developing ideas	Share and discuss ideas with others Order the main stages of making Choose materials to use based on suitability of their properties Represent ideas in diagrams (labelled), annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes	Share and discuss ideas with others Order the main stages of making Choose materials to use based on suitability of their properties Represent ideas in diagrams (labelled), annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes	Share and discuss ideas with others Record a step by step plan for making Produce lists for the tools, equipment and materials they will be using Choose materials to use based on suitability of their properties and aesthetic qualities Represent ideas in diagrams (labelled), annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes	Share and discuss ideas with others Record a step by step plan for making Produce lists for the tools, equipment and materials they will be using Choose materials to use based on suitability of their properties and aesthetic qualities Represent ideas in diagrams (labelled), annotated sketches and computer based programmes (where appropriate) Create pattern pieces and prototypes

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
4. & 5. Making *Selecting the tools and applying the practical skills and techniques to make quality products*	Use materials - construction materials and kits, textiles, food and mechanical components Choose suitable tools for making Begin to make their design using appropriate techniques Follow safety and food hygiene procedures With help measure, mark, cut and shape materials and components Begin to Join, assemble and combine materials together using temporary methods e.g. glue, masking tape, split pins	Use materials - construction materials and kits, textiles, food and mechanical components Choose suitable tools for making whilst explaining why they should be used Begin to make their design using appropriate techniques Follow safety and food hygiene procedures With help measure, mark, cut and shape materials and components with some accuracy Start to Join, assemble and combine materials in order to make a product Use finishing techniques,	Use materials – construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making and use appropriate techniques Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components with some accuracy Join, assemble and combine materials and components with some accuracy Use finishing techniques, including skills	Use materials – construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making and use appropriate techniques Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components with some accuracy Join, assemble and combine materials and components with some accuracy Use finishing techniques,	Use materials – construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components accurately Join, assemble and combine materials and components accurately Demonstrate problem solving skills when encountering a	Use materials – construction materials and kits, textiles, food, mechanical and electrical components Choose suitable tools for making whilst explaining why they should be used Use design criteria whilst making Follow safety and food hygiene procedures Measure, mark, cut and shape materials and components accurately Join, assemble and combine materials and components accurately Demonstrate problem solving skills when encountering a mistake or practical problem Use finishing techniques that involve a number of steps, including skills learnt in Art accurately

	including skills learnt in Art	learnt in Art with some accuracy	including skills learnt in Art with some accuracy	mistake or practical problem Use finishing techniques, including skills learnt in Art accurately	

	Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
6. Evaluation *Referring to planning and initial ideas in evaluating their product*	Talk about their design ideas and what they have made Make simple judgements of how the product met their design ideas	Talk about their design ideas and what they have made Make simple judgements of how the product met their design ideas Suggest how their product could be improved	Use design criteria to evaluate product – identifying both strengths and areas for development Consider the views of others, including intended user, whilst evaluating product	Use design criteria to evaluate product – identifying both strengths and areas for development Consider the views of others, including intended user, whilst evaluating product	Use design criteria to evaluate product – identifying both strengths and areas for development Consider the views of others, including intended user, whilst evaluating product	Use design criteria to evaluate product – looking at quality of end product and design and whether it is fit for its intended purpose Consider the views of others, including intended user, whilst evaluating product
7. Technical Knowledge *To know:*	- The simple working characteristics of materials and components - The movement of simple mechanisms such as levers, sliders, wheels and axles - How freestanding structures can be made stronger, stiffer and more stable		- How to use learning from science and maths to help design and make products that work - That materials have both functional properties and aesthetic qualities - That mechanical and electrical systems have an input, process and output - Mechanical systems create movement e.g. levers - Electrical circuits and components can be used to create functional products - Program, monitor and control their products applying their understanding of computing			

Teaching Cooking and Nutrition

Understanding where food comes from	**Across KS1:** Understand that food comes from plants or animals	**Lower KS2:** Understand which foods are reared, caught, or grown and that this happens in the UK and across the globe	**Upper KS2:** Understand which foods are reared, caught, or grown and that this happens in the UK and across the globe Understand that the seasons can affect food produce

	Understand that food has to be farmed, caught, or grown	Understand that recipes can be changed by adding or taking away ingredients	Understand that sometimes, raw ingredients need to be processed before they can be used in cooking (E.g. De-feathering a chicken)
		Understand that the seasons can affect food produce	Understand that recipes can be adapted to change the appearance, taste and aroma of a dish
Understanding food preparation, cooking and nutrition	**Across KS1:** Sort foods into the 5 groups using The Eat well Plate Identify that people should eat at least 5 portions of fruit and vegetables a day Prepare simple dishes hygienically and safely without a heat source Use cooking techniques such as: cutting, peeling and grating	**Lower KS2:** Sort foods into the 5 groups using The Eat well Plate and identify that this makes up a healthy diet Identify that food and drink are needed to provide energy for a healthy and active lifestyle Identify that people should eat at least 5 portions of fruit and vegetables a day Prepare simple dishes hygienically and safely, where needed with a heat source Use cooking techniques such as: chopping, peeling, grating slicing, mixing, spreading, kneading and baking	**Upper KS2:** Sort foods into the 5 groups using the eat well Plate and identify that this makes up a healthy diet Identify that food and drink provide certain nutritional and health benefits which support a healthy lifestyle Identify that people should eat at least 5 portions of fruit and vegetables a day Prepare simple dishes hygienically and safely, where needed with a heat source Use cooking techniques such as: chopping, peeling, grating slicing, mixing, spreading, kneading and baking