Planning, Designing, Making and Evaluating

Reception	Year 1	Year 2
Explain what they are making and who it is	Draw a simple picture of an intended design with basic labelling.	Produce detailed, labelled drawings or models of products
for.	With help, put ideas into practice.	based on design criteria.
Use talk to clarify their thinking and ideas.	Describe how an existing product works e.g. 'the toy moves	Think of ideas and plan what to do next, based on what they
Explore existing products.	when I turn the handle'	know about materials.
Talk about what they have made and say what they like about their product.	Talk about their own work and others' work identifying strengths or weaknesses.	Investigate a range of existing products and say if they do what they are supposed to do.
Talk about what others have made.	Describe others' work, including work by professional craftspeople and designers and say what they like	Explain how closely, finished products, meet their design criteria and say what they could do better in the future.
	and dislike about it.	Describe similarities and differences between own
	Order products or designs chronologically and begin to explain	and others' work including work by designers.
	reasons why they are ordered in that wayUse ICT packages to	Describe why a design, building or designer is important.
	create a simple plan for a design. *	Use ICT packages to create a labelled design or plan. *

End of KS expectations KS1

Design:

- To design purposeful, functional, appealing products for themselves and other users based on design criteria
- Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.

Make:

- Use and select a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]
- Select and manipulate a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics

Evaluate

- Explore and evaluate a range of existing products.
- Evaluate their ideas and products against design criteria.

Planning, Designing, Making and Evaluating

Year 3	Year 4	Year 5	Year 6
Share ideas through words, labelled sketches and models, recognising that designs have to meet a range of needs, including being fit for purpose. Make realistic plans, identifying processes, equipment and materials needed. Investigate the design features (including identifying components or ingredients) of familiar existing products. Suggest improvements to products made and describe how to implement them (taking the views of others into account). Compare and contrast designs, explaining why a particular design is signi- ficant in engineering history. Explain the impact of a design or designer on design history and how this has helped to shape the world. Use ICT packages to create a labelled design or plan, in detail.	Collect information from a number of different sources and use this information to inform design ideas in words, labelled sketches, diagrams and models, keeping in mind fitness for purpose and the end user. Make realistic, step by step plans, reflecting on designs as the product develops. Explain how an existing product is useful to the user. Identify what has worked well and what could be improved, evidencing and explaining the results of research. Describe the work of a favourite designer and explain why they like his/her designs. Explain how fashions and fabrics have changed over time and how this has affected fashion. Explain how the design of a product has changed over time. Use ICT packages to create alternatives for an initial design. *	Use various sources of information, clarifying/sharing ideas through discussion, labelled sketches, cross- sectional diagrams and modelling, recognising that ideas have to meet a range of needs. Work from own detailed plans, modifying them where appropriate. Investigate the design features of a familiar existing product in the context of the culture or society in which it was designed or made. Test and evaluate products against a detailed design specification and make adaptations as they develop the product. Research the work done by designers artists and say what they like about a piece, identifying the techniques and materials used in creating it and the aesthetic value. Create a timeline to sequence the development of a design over time and describe how technology has influenced it. Use ICT packages to suggest alternative design ideas and explain their ideas and intentions. *	Develop detailed criteria for designs for products aimed at particular individuals or groups, sharing ideas through cross-sectional and exploded diagrams, prototypes and pattern pieces. Check work as it develops and modify their approach in the light of progress. Explain the form and function of familiar existing products. Demonstrate modifications made to a product, as a result of ongoing evaluation, by themselves and others. Research cultural traditions and evidence their influence in their own work. Describe how an individual in the field of design and technology has helped shape the world. Use ICT packages to design moving parts of a design. *
End of KS expectations KS2	·	•	•

Design

- Pupils will be able to use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups;
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design.



- Children will be able to choose from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately;
- They can select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities.

Evaluate

- Pupils will understand how to investigate and analyse a range of existing products;
- They will be able to evaluate their ideas and products against their own design criteria and consider the views of others to improve their work;
- To understand how key events and individuals in design and technology have helped shape the world.

Technical Knowledge

Reception	Year 1	Year 2	
Select and use simple tools	Select and explain why they have chosen a particular tool for	Use tools safely for cutting and joining materials and components.	
effectively. Select appropriate resources	a task. Select and explain their choice of materials, sometimes with	Choose appropriate materials and suggest ways of manipulating them to	
Handle objects and construction safely and with increasing control.	help. Explain how to keep safe during a practical task.	Work safely and hygienically in construction and cooking activities.	
Attempt to fix models.	Explain how they would fix simple products.	explaining objectives.	
Experiment to create different	Cut out shapes from a range of fabrics and papers.	Join fabrics using running stitch, glue, staples, over sewing and tape.	
texture.	Fold, tear, roll and cut paper and card.	Create simple hinges and pop-ups using card.	
Decorate simple cards for occasions.	Join appropriately, using glue or tape.	Join appropriately, with glue and/or tape, for different materials and	
Join materials using glue or tape.	Build simple structures.	situations.	
Handle construction materials safely	Use wheels, axles, levers and sliders.	Improve structures by making them stronger, stiffer and more stable.	
Support an adult to measure and	Identify and talk about products that use electricity.	Create and use wheels and axles, levers and sliders.	
chop.	Measure and weigh food items using non-standard measures	Create working circuits to light a bulb or work a buzzer.	
Understand the need for safety and	(e.g. spoons and cups).	Cut, peel, grate and chop a range of ingredients to make dishes from	
hygiene in the kitchen.	Identify the main food groups including fruit and vegetables.		
Identify how some vegetables grow.	Identify the source for common foods.	Recognise the need for a variety of foods in a diet.	
		Explain where the food they eat comes from.	
End of KS expectations KS1			

Technical knowledge

- Children are able to build structures, exploring how they can be made stronger, stiffer and more stable
- The children can explore and use mechanisms [for example, levers, sliders, wheels and axles] in their products.



Technical Knowledge

Year 3	Year 4	Year 5	Year 6
Select the appropriate tools and explain choices.	Analyse the potential of a range of tools and use them with accuracy.	Name and select appropriate tools for a task and use them with precision.	Use more complex tools with increasing accuracy.
Plan which materials will be needed for a task and explain why. Follow health and safety rules for cooking and baking activities.	Choose from a range of materials showing an understanding of their different characteristics. Follow health and safety rules when working with materials and substances.	Select and combine materials with precision. Select and name appropriate tools for specific jobs and demonstrate how to use them safely.	Choose the best materials for a task, showing an understanding of their working characteristics. Demonstrate how their products take into account the safety of the user.
Try an alternative way of fixing something, if their first attempt isn't successful Create a simple pattern for a design. Cut slots in card and create nets. Join fabrics using a running stitch.	Describe how a product could be made better, stronger or more sustainable. Use a simple pattern to create a life-sized item of clothing. Use more complex pop-ups. Use a glue gun with close supervision (one to	Recycle, repair and mend old clothes/tools and explain why this is a good idea. Create a 3-D product using a range of materials and sewing techniques. Combine materials with temporary or fixed	Combine fabrics to create more useful properties and make a product of high quality, checking for snags and glitches. Combine materials with moving joints. Join materials, using the most appropriate method for the materials or
Create a shell or frame structure using diagonal struts to strengthen. Create and use simple gears, pulleys, cams, levers and linkages.	one) Prototype and build frame and shell structures, showing awareness of how to strengthen, stiffen and reinforce.	Use a glue gun with close supervision. Build a framework using a range of materials to support mechanisms.	Select the most appropriate materials and frameworks for different structures, explaining what makes them strong. Select the most appropriate mechanical system
Build models incorporating circuits with buzzers and bulbs. Combine a variety of ingredients using a range of cooking techniques.	Build models incorporating motors. Measure and weigh ingredients appropriately to prepare and cook a range of savoury dishes.	Build models, incorporating switches to turn on and off. Combine food ingredients appropriately (e.g.	for a particular purpose. Design products incorporating the most appropriate electrical systems. Use appropriate tools and equipment, weighing
Describe what a balanced diet is. Identify food which comes from the UK and other countries in the world.	Make healthy eating choices and explain why. Explain some of the processes that foods go through to preserve/make them more appealing.	kneading, rubbing in and mixing). Evaluate meals and consider if they contribute towards a balanced diet. Explain what times of year particular foods	and measuring with scales. Plan how they can have a healthy/affordable diet. Explain how ingredients were grown, reared,
End of KS expectations KS2			caught and processed.



Technical Knowledge

- Pupils can apply their understanding of how to strengthen, stiffen and reinforce more complex structures;
- They can understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages];
- Children will understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors];
- Be able to apply their understanding of computing to program, monitor and control their products.

Cooking and Nutrition

Reception	Year 1	Year 2		
Support an adult to measure and chop.	Measure and weigh food items using non-standard measures (e.g. spoons and cups).	Cut, peel, grate and chop a range of ingredients to make dishes from other countries.		
Understand the need for safety and	Identify the main food groups including fruit and vegetables.	Recognise the need for a variety of foods in a diet.		
hygiene in the kitchen.	Identify the source for common foods.	Explain where the food they eat comes from.		
Identify how some vegetables grow.				
Participate in planting vegetables.				
End of KS expectations KS1				
 Use the basic principles of a healthy and varied diet to prepare dishes; Children should understand where food comes from. 				



Cooking and Nutrition

Year 3	Year 4	Year 5	Year 6
Combine a variety of ingredients using a range of cooking techniques. Describe what a balanced diet is. Identify food which comes from the UK and other countries in the world.	Follow health and safety rules when working with materials and substances. Measure and weigh ingredients appropriately to prepare and cook a range of savoury dishes. Make healthy eating choices and explain why. Explain some of the processes that foods go through to preserve/make them more appealing.	Combine food ingredients appropriately (e.g. kneading, rubbing in and mixing). Evaluate meals and consider if they contribute towards a balanced diet. Explain what times of year particular foods are in season.	Use appropriate tools and equipment, weighing and measuring with scales. Plan how they can have a healthy/affordable diet. Explain how ingredients were grown, reared, caught and processed.
End of KS expectations KS2			
 The children should be able to The pupils can prepare and co They are able to understand s 	understand and apply the principles of a health bok a variety of predominantly savory dishes usine seasonality, and know where and how a variety of the seasonality.	iy and varied diet; ng a range of cooking techniques; of ingredients are grown, reared, caught and	processed.

Design Technology Progression of Skills

Vocabulary



Reception	Year 1	Year 2
join,	explore,	evaluate,
build,	create,	construct,
make,	evaluate,	product,
mix,	construct,	model,
stir,	join,	structure,
glue,	build,	function,
scissors,	apron,	design,
tape	chop,	materials,
	cut,	mechanism,
	mix,	plan.
	stir,	
	cooking,	
	ingredients,	
	scissors,	
	cellotape,	
	masking tape,	
	draw,	
	brush,	
	paper,	
	card.	



Vocabulary

Year 3	Year 4	Year 5	Year 6
design criteria,	design criteria,	exploded diagrams,	exploded diagrams,
evaluate,	evaluate,	functionality,	functionality,
material,	technique,	aesthetic,	aesthetic,
function,	safety,	analyse,	analyse,
plan,	assemble/disassemble,	health and safety	criteria,
product,	structure,		requirements,
method,	back stitch,		hygiene
amount,	cross stitch,		
axel,	running stitch,		
circuit	seam allowance		

Design Technology Progression of Skills

DT Overview



	Autumn	Spring	Summer
1	Make vegetable skeletons. (Cooking and nutrition)	Chinese dragon—puppets. (Textiles)	Mini project designing a shelter/home. (Structure) Gingerbread house. (Cooking and nutrition)
2	Making ferris wheels. (Structure and mechanism)	African food. (Cooking and nutrition)	Create a working lighthouse. With a simple circuit to turn on a bulb. (Structure/ Electronics)
3	Bridges (Structure)	Building model villages. (Structure) Food - slice, mix, spread and bake. (Cooking and nutrition)	Class rag rug. (Textiles)
4	Viking long ship. (Construction)	Making a character puppet. (Textiles)	Making shudufs. (Construction and mechanisms)
5	Space (Construction Electronics)	Pop up card for an occasion (Mechanisms)	Trojan horse (Construction and mechanism) Greek Food (Cooking and Nutrition)
6	Rationed recipes (Cooking and Nutrition)	Weaving (Textiles) Making a mask for a dance performance.	Making props/programmes. (Construction)