

KEY STAGE 1

Knowledge, Skills and Understanding

To be taught within the Year group scheme objectives

	Covered
INVESTIGATING SKILLS	
Look at a range of familiar products	
Consider how they are made	
Consider how they work	
Discuss whether the product does what it is supposed to do	
DESIGNING SKILLS	
Draw on their own and others experiences to help generate ideas	
Clarify their ideas through discussion	
Develop their ideas through assembly	
Make suggestions about how to proceed	
Consider ideas as they develop and identify strengths and weaknesses	
Use a variety of methods including drawing and making models	
MAKING SKILLS	
Select materials, tools and techniques	
Explore sensory qualities of materials	
Measure, mark, cut out and shape	
Assemble, join and combine materials	
Talk about ideas including likes and dislikes	
EVALUATING	
Evaluate products as these are developed saying how things could have been done differently or how improvements could be made in the future.	
TECHNICAL KNOWLEDGE	
The working characteristics of materials	
How to make materials stronger e.g. folding paper to make it stiffer, plaiting yarn to make it stronger	
How mechanisms can be used in different ways e.g. wheels and axles, joints etc.	

KEY STAGE 2

Knowledge, Skills and Understanding

To be taught within the Year group scheme objectives

Pupils should:

	Covered
INVESTIGATING SKILLS	
Examine a range of familiar products	
Consider how they are made	
Consider how they work	
Consider how they are used	
Consider views of people who use them	
DESIGNING SKILLS	
Use information sources to help in the designing including ICT based sources	
Generate ideas, considering the users and purposes for design	
Clarify their ideas, develop criteria for their design and suggest ways forward	
Consider appearance, function, safety and reliability when developing proposals	
Explore, develop and communicate aspects of their design proposals by modelling their ideas in a variety of ways	
Develop a clear idea of what has to be done, proposing a sequence of actions and suggesting alternatives when necessary	
Evaluate their design ideas as these develop, indicating ways of improving their ideas	
Recognise the quality of a product and how this depends on how well it is made and how well it meets its intended purpose	
MAKING SKILLS	
Select appropriate tools, materials and techniques	
Measure, mark out, cut and shape a range of materials, using additional tools, equipment and techniques	
Join and combine materials and components accurately in temporary and permanent ways	
Apply additional finishing techniques appropriate to the material being used and the purpose of the product using a range of equipment including ICT (CAD)	
Develop a clear idea of what has to be done, planning how to use materials, equipment and processes and suggest alternative methods when necessary	

EVALUATING	
Evaluate their proposals identifying strengths and weaknesses and carry out appropriate tests	
Implement improvements they have identified	

Pupils should be taught how:-

TECHNICAL KNOWLEDGE	Covered
The working characteristics of materials effect the way they are used	
Materials can be combined and mixed to create more useful properties	
Mechanisms can be used to make things move in different ways, using a range of equipment including an ICT control programme	
Electrical circuits, including those with simple switches, can be used to achieve results that work	

Reception

		Covered
Stiff and flexible sheet materials, mouldable materials and mechanisms. E.g. paper, card, plastic, wood, clay, plaster of paris dough.		
Cutting	Experiment with the use of scissors and clay/dough tools	
Joining	Introduce a range of fixing materials, eg. glue, staples, fasteners, tape	
Moulding	Introduce use of clay tools	
Construction	Introduce use of construction apparatus	
Textiles – Handle different textiles and begin to understand properties e.g. strength, texture, warmth, water resistance etc.		
Cutting	Develop grip and independent use of scissors	
Joining	Glue for fixing	
	Introduce stitching to join	
Stitching	Simple threading and weaving	
Food		
Introduce hygiene procedures		
Handle different types of food		
Experience properties eg. smell, colour, texture, taste etc.		
Measuring using spoons, cups and scales with support		

Follow a simple recipe with adult support	
Use basic kitchen tools safely and correctly, ie knife	
Prepare simple foods	
Begin to understand and talk about the idea of a healthy diet	

YEAR 1

		Covered
Plans		
Plan and design 2D drawings of models		
Stiff and flexible sheet materials, mouldable materials and mechanisms. E.g. paper, card, plastic, wood, clay, plaster of paris dough.		
Cutting	Introduce the use of scissors, saws and cutting tools for different purposes.	
Joining	Introduce a range of fixing materials, eg. glue, staples fasteners, hinges and joints.	
Moulding	Correct use of clay tools	
Construction	Use of construction apparatus	
Textiles – Handle different textiles and begin to understand properties e.g. strength, texture, warmth, water resistance etc.		
Cutting	Begin to develop the use of scissors	
Joining	Learn how to thread a needle	
	Experiment with different sized needles for sewing	

	Glue for fixing	
Stitching	Simple free stitching Simple stitched patterns Running stitch and cross stitch	
Food		
Develop hygiene procedures		
Handle different types of food		
Begin to understand properties eg. smell, colour, texture, taste etc.		
Measuring using spoons, cups and scales		
Follow a simple recipe		
How to use kitchen tools safely and correctly		
Prepare simple foods		
Understand the idea of a healthy diet		

Year 2

		Covered
Plans		
Plan and design 2D drawings of models		
Understand how 3D can be represented – labels		
Stiff and flexible sheet materials, mouldable materials and mechanisms. E.g. paper, card, plastic, wood, clay, plaster of paris dough.		
Cutting	Develop the use of scissors, saws and cutting tools for different purposes.	
Joining	Develop the use of a range of fixing materials eg. glue, staples, nails, fasteners, hinges	

	<p>and joints</p> <p>Be able to choose the most appropriate fixing material for its intended use</p> <p>Know how to strengthen a structure when necessary</p> <p>Know how to use a hammer safely</p>	
Moulding	Develop the use of clay tools in making simple 2D and 3D shapes eg. tiles and sculptures.	
Construction	Develop more detail in the use of construction apparatus.	
Textiles – Explore textures and colour of fabric.		
Cutting	<p>Develop the use of scissors</p> <p>Design simple 2 D pattern template</p>	
Joining	<p>Choose and use threads correctly</p> <p>Choose correct needle for purpose</p> <p>Choose appropriate adhesive for joining</p>	
Stitching	<p>Simple stitching to form a collage</p> <p>Stitched patterns on binca or hessian</p> <p>Back stitch, chain stitch</p>	
Food		
Understand the need for hygiene procedures		
Handle different types of food		
Understand the properties of food		
Measuring more accurately using spoons, cups and scales		
Follow a simple recipe		
Use correctly and safely a range of kitchen tools		
Understand that food comes from different sources		
Handle and prepare different foods correctly		
Understand the requirements of a healthy and varied diet		

Year 3

	Covered
Plans	

Produce accurate drawing to use for making/recording modifications and alterations. Plans should include explanatory labels.		
Stiff and flexible sheet materials, mouldable materials and mechanisms. E.g. paper, card, plastic, wood, clay, plaster of paris dough.		
Cutting	Correct and safe use of scissors, saws and cutting tools Accurate cutting thinking about minimising waste	
Joining	Correct and safe use of a range of fixing materials, eg. glues, staples, nail fasteners, hinges or joints. Use of drilling to form a stronger join. Be able to choose the most appropriate join. Understand how to use a drill and hammer safely correctly.	
Moulding	Understand how to use clay tools to mould and join more complex 3D shapes.	
Construction	Be able to use more complex construction equipment. Generate a design that included levers and pop-up features.	
Textiles		
Cutting	Be able to choose correct scissors for purpose	
Joining	Make appropriate choice of threads to suit purpose Make appropriate choice of adhesive to suit purpose	
Stitching	Understand how to start and finish stitching correctly Make appropriate choice of stitch to suit purpose Use more complex stitches on binca, hessian and collage work eg. French knots etc.	
Food		
Understand the necessity for safety and hygiene		
Handle and prepare everyday foods but predominantly savoury		
Handle and experiment with more unusual foods		
Use correctly and safely a range of kitchen tools		
Follow a detailed recipe		
Use more accurate measures such as gms and mls		

Year 4

		Covered
Plans		
Produce 3D drawings as a design for construction including detailed labels, measurements and refinements		
Stiff and flexible sheet materials, mouldable materials and mechanisms. E.g. paper, card, plastic, wood, clay, plaster of paris dough.		
Cutting	<p>Correct and safe use of scissors, saws and cutting tools</p> <p>Use of appropriate saw for a particular purpose eg. hack-saw, tennon saw.</p>	
Joining	<p>Correct and safe use of a wide range of fixing materials</p> <p>Be able to choose the most appropriate join to suit the purpose</p> <p>Be able to use a jinx joint</p> <p>Understand when drilling is appropriate</p>	
Moulding	Be able to mould clay, dough etc. to make a purposeful finished product eg. Pot, egg cup, candle holder	
Construction	Use complex construction equipment including cogs, wheels, axles etc. (push, pull, rotate)	
Textiles - Choose from a range of textiles for utility and decoration		
Cutting	<p>Design and make a pattern for cutting out, pin and tack</p> <p>Safe and correct use of a variety of scissors including pinking shears.</p>	
Joining	<p>Correct use of start and finish techniques</p> <p>Choose from a range of threads to suit purpose</p>	
Stitching	<p>Be able to use more complex stitches particularly for adornment</p> <p>Make appropriate choice of stitch to suit purpose</p> <p>Understand how to weave</p>	
Finishing	<p>Be able to produce a product as a final piece</p> <p>Design and print a fabric</p>	
Food		
Understand and use safety and hygiene procedures		
Handle and taste a wide range of unusual/unfamiliar foods		
Be able to develop own simple recipe		
Be able to follow own or other more complex recipes		
Understand how food should be correctly stored		
Understand "seasonality" of food, how it is grown, reared, caught and processed.		
Understand the elements of a healthy and varied diet		
Be able to use standard measures accurately		

Year 5

		Covered
Plans		
Designs using accurate measurements and scale when necessary		
Labels to show information		
Notes to support		
Stiff and flexible sheet materials, mouldable materials and mechanisms. E.g. paper, card, plastic, wood, clay, plaster of paris dough.		
Cutting	<p>To be able to use tools more accurately to cut parts such as cogs, gears and other structures</p> <p>Cut and shape using tools appropriate to purpose</p> <p>Be able to use safely and accurately all cutting tools</p> <p>Understand the need for economy of materials</p>	
Joining	<p>Be able to mould and join clay using slip</p> <p>Be able to choose and use a wide range of fixing materials accurately and safely</p> <p>Understand the best use of materials in order to strengthen a structure</p>	
Moulding	<p>Be able to use clay and handling techniques to improve earlier work</p> <p>Understand the need to keep clay moist over longer periods of use</p>	
Construction	Be able to design and make a model using switches and outputs	
Textiles - Choosing and use fabrics from a range to suit purpose of activity		
Cutting	Design and make own pattern for cutting out	
Joining	Develop an understanding of more advanced tools and techniques eg. knitting, weaving and sewing machines	
Stitching	Be able to use a range of complex stitches to join and adorn work	
Finishing	<p>Understand how to "finish off" a product</p> <p>Design and print a more complex pattern on fabric eg. tie dye and batik</p>	
Food		
Understand and use correctly safety and hygiene procedures		
Understand how, why and when foods are combined		
Be able to accurately use measurements		
Understand the control and transfer of heat when preparing foods		
Be able to choose a recipe to fit a purpose		

Year 6

		Covered
Plans		
Designs using accurate measurements and scale		
Label to show information and notes to support		
Draw parts of models showing mechanisms		
Shading to show form and texture		
Stiff and flexible sheet materials, mouldable materials and mechanisms. E.g. paper, card, plastic, wood, clay, plaster of paris dough.		
Cutting	To be able to use all tools safely appropriately and accurately To be able to accurately estimate quantities required	
Joining	To be able to use detailed construction and jointing techniques to produce a more sophisticated product	
Moulding	To be able to select and combine malleable materials with others To design and make moulds for clay	
Construction	To develop an appreciation of 3D To develop constructions using accurate nets To use electricity in constructions Be able to use computer control or circuits	
Textiles - Choosing and use fabrics from a range to suit purpose of activity		
Cutting	Accurate and safe use of all tools Design and make pattern consisting of 2 or more pieces	
Joining	Accurately and safely use more advanced tools and techniques eg. knitting, weaving, sewing machines and iron (under supervision)	
Stitching	Develop an understanding of soft sculpture 3D Use detailed stitching and embroidery for surface decoration Understand how to use applique techniques	
Finishing	Understand washing instructions re: symbols on labels	

Food	
Understand and use correctly safety and hygiene procedures	
Make simple informed choices when combining foods	
Devise a more complex recipe/menu	
Plan a simple meal taking into account diet and health	
Understand the importance of finished appearance and presentation	