



Design and Technology

Vision

It is imperative that children develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.

At Village Primary School children see Design and technology as an inspiring practical subject. In every lesson, children have the opportunity to use and develop their imagination and creativity 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.




Children acquire a broad range of subject knowledge and draw on disciplines from other subject areas such as mathematics, art and computing and these links are highlighted. Pupils are encouraged to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world.

Children at Village understand and apply the principles of nutrition and learn how to cook. They understand the importance of a healthy lifestyle; we instil a love for cooking as an expression of creativity and a crucial life skill that enables children to feed themselves and others affordably and well, now and in later life.


It is our aim that children understand that high quality design and technology education makes an essential contribution to the creativity, culture, economy and well-being of the nation.

EYFS

Expressive arts and design: Creating with materials

	A Unique Child: what a child might be doing	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
 RANGES 1-2	<ul style="list-style-type: none"> Experiments with a range of media – tools, materials, sound and whole body movement – through multi-sensory exploration 	<ul style="list-style-type: none"> Attend to how babies and children are using their whole body in sensing, exploring and experimenting with space, texture, sounds, rhythms, materials, and tools. Welcome the ways in which babies and children arrange, combine, transform, group, and sequence materials that both natural and manmade. 	<ul style="list-style-type: none"> Create a rich and well-ordered environment that enables babies and children to use all their senses. Choose and select with intention the materials and tools available to children. Create the time and space that will ensure that children can engage in depth with a diverse range of materials.
 RANGE 3	<ul style="list-style-type: none"> Continues to explore and experiment with an increasing range of media and movement through multi-sensory exploration and expression Moves while singing/vocalising, whilst listening to sounds and music, while playing with sound makers/instruments Mirrors and improvises actions they have observed, e.g. clapping or waving Sings/vocalises whilst listening to music or playing with instruments/sound makers Notifies and becomes interested in the transformative effect of their action on materials and resources 	<ul style="list-style-type: none"> Listen to and enjoy with children a variety of sounds, and music from diverse cultures. Sensitively introduce children to language to describe sounds and rhythm, e.g. <i>loud</i> and <i>soft</i>, <i>fast</i> and <i>slow</i>. Understand that young children's creative and expressive processes are part of their development of thinking and communicating as well as being important in their own right. Become familiar with the properties and characteristics of materials and tools. Observe, analyse and document the processes involved in a child's creative and expressive processes, to support greater understanding, inform planning and share with families, carers, and other professionals. 	<ul style="list-style-type: none"> Offer a variety of objects that will make different sounds, such as wood, pans and plastic bottles filled with different things. Create opportunities to encounter and revisit key materials, resources and tools where children can further explore their properties including form, colour, texture, composition. Create space and time for movement and dance both indoors and outdoors.
 RANGE 4	<ul style="list-style-type: none"> Joins in singing songs Creates sounds by rubbing, shaking, tapping, striking or blowing Shows an interest in the way sound makers and instruments sound and experiments with ways of playing them, e.g. <i>loud/quiet</i>, <i>fast/slow</i> Experiments with ways to enclose a space, create shapes and represent actions, sounds and objects Enjoys and responds to playing with colour in a variety of ways, for example combining colours Uses 3D and 2D structures to explore materials and/or to express ideas 	<ul style="list-style-type: none"> Help children to listen to music and watch dance when opportunities arise, encouraging them to focus on how sound and movement develop from feelings and ideas. Recognise that children can become fascinated by a pattern of actions or interactions with tools and materials, gaining confidence over extended periods of time. Encourage and support the inventive ways in which children use space, combine and transform both 3D and 2D materials. Be sensitive in how you support a child who is using line, colour, tone and form. It is not necessary for them to have the verbal language to explain, for example, drawing. The drawing itself is one of their multi-modal languages. 	<ul style="list-style-type: none"> Plan a varied and appropriate series of live performances for all young children, e.g. musicians, dancers, storytellers. Draw on a wide range of art works from a variety of cultural backgrounds to extend children's experiences and to reflect their cultural heritages, e.g. architecture, ceramics, theatre. Continue to provide opportunities to encounter and revisit key materials, resources and tools through which children can further explore their properties including form, colour, texture and composition. Invite children to look at and touch unusual or interesting materials, artefacts and resources in their everyday environment, chosen for their design, beauty, pattern and ability to inspire exploration.

Expressive arts and design: Creating with materials

	A Unique Child: what a child might be doing	Positive Relationships: what adults might do	Enabling Environments: what adults might provide
 RANGE 5	<ul style="list-style-type: none"> Explores and learns how sounds and movements can be changed Continues to explore moving in a range of ways, e.g. mirroring, creating own movement patterns Enjoys joining in with moving, dancing and ring games Sings familiar songs, e.g. pop songs, songs from TV programmes, rhymes, songs from home Taps out simple repeated rhythms Develops an understanding of how to create and use sounds intentionally Continues to explore colour and how colours can be changed Develops an understanding of using lines to enclose a space, and begins to use drawing to represent actions and objects based on imagination, observation and experience Uses various construction materials, e.g. joining pieces, stacking vertically and horizontally, balancing, making enclosures and creating spaces Uses tools for a purpose 	<ul style="list-style-type: none"> Support children's talk by sharing terms used by artists, potters, musicians, dancers, e.g. as children show interest in exploring colour mixing, support them in using terms such as <i>tint</i>, <i>shade</i>, <i>hue</i>. When children have a strong intention in mind, support them in thinking about what they want to create, the processes that may be involved and the materials and resources they might need. Encourage children to notice changes in properties of media as they are transformed, e.g. through becoming wet, dry, flaky or fixed. Talk about what is happening, helping them to think about cause and effect. Observe, analyse and document the processes involved in a child's creative and expressive processes, to support greater understanding, inform planning and share with families, carers, and other professionals. Encourage children to notice changes in movement and sound, e.g. <i>louder</i>, <i>quieter</i>, <i>smaller</i>, <i>bigger</i>. Talk about what is happening, helping them to think about cause and effect. Introduce new skills and techniques based on your observations and knowledge of children's interests and skills. 	<ul style="list-style-type: none"> Offer resources for mixing colours, joining things together and combining materials, supporting where appropriate. Create a place where work in progress can be kept safely. Share with children other artists' work that connects with their ideas, interests and experiences. Introduce children to a wide range of music, movement, painting and sculpture. Provide a range of musical instruments that are used in different ways, for children to bang, pluck, blow, strum. Offer children opportunities to use their skills and explore concepts and ideas through their representations.

Statutory ELG: Creating with Materials

Children at the expected level of development will:

- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function;
- Share their creations, explaining the process they have used;
- Make use of props and materials when role playing characters in narratives and stories.

DT - Curriculum Map

	Autumn	Spring	Summer 1	Summer 2
Year 1	Textiles – Weaving Patterns	Structures – Homes	Sliders – Pop-up Book	Cooking and Nutrition – Porridge
End Points	<ul style="list-style-type: none"> • Design purposeful, functional, appealing products for themselves and other users based on design criteria • Select from and use a wide range of materials and components including textiles • Explore and evaluate a range of existing products 	<ul style="list-style-type: none"> • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups (from Lego) and where appropriate information and communication technology. • Build structures, exploring how they can be made stronger, stiffer and more stable • Evaluate their ideas and products against criteria 	<ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks (cutting, shaping, joining and finishing) • Explore and use mechanisms (e.g. levers and sliders) • Explore and evaluate a range of existing products 	<ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes • Understand where food comes from • Explore and evaluate a range of existing products

History of homes +
 Geography Homes:
 Autumn Term

Additional unit: Structures:
 Toy vehicles to build
 towards Y2 using Y1 skills.

Year 2	Wheels and Axles – Vehicle	Cooking and Nutrition – Fruit Salad	Textiles - Puppet
End Points	<ul style="list-style-type: none"> • Explore and use mechanisms for example wheels and axles • Design purposeful, functional, appealing products for themselves and other users based on design criteria • Select from and use a range of tools and equipment to perform practical tasks 	<ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes • Understand where food comes from e.g. importing and exporting, trade • Explore and evaluate a range of existing products 	<ul style="list-style-type: none"> • Design purposeful, functional, appealing products for themselves and other users based on design criteria • Select from and use a wide range of materials and components including textiles • Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and where appropriate information and communication technology.
Skills KS1	<p>See also: DT skills progression document</p> <p>Design</p> <ul style="list-style-type: none"> • 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 <p>Make</p> <ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing) • Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics <p>Evaluate</p> <ul style="list-style-type: none"> • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria <p>Technical Knowledge</p> <ul style="list-style-type: none"> • Build structures, exploring how they can be made stronger, stuffer and more stable • Explore and use mechanisms (for example, levers, sliders, wheels and axles), in their products <p>Cooking and nutrition</p> <ul style="list-style-type: none"> • Use the basic principles of a healthy and varied diet to prepare dishes 		

	<ul style="list-style-type: none"> Understand where food comes from 		
Year 3	Pulleys – Wells	Structures – Roman Fort	Cooking and Nutrition – Healthy Soup
End Points	<ul style="list-style-type: none"> 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 Understand and use mechanical systems in their products Understand how key events and individuals in design and technology have helped shape the world 	<ul style="list-style-type: none"> Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, patterns pieces and computer-aided design Apply their understanding of how to strengthen, stiffen and reinforce more complex structures Investigate and analyse a range of existing products 	<ul style="list-style-type: none"> Understand and apply the principles of a healthy and varied diet Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed Investigate and analyse a range of existing products
Year 4	Levers – Shaduf - Egyptian lifting mechanism (structures and counter weights)	Cooking and Nutrition – South American Fairtrade Baking	Structure with a circuit – Anderson Shelter (WW2)
End Points	<ul style="list-style-type: none"> Understand and use mechanical systems in their products. Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, patterns pieces and computer-aided design Select from and use a wider range of tools and equipment to perform 	<ul style="list-style-type: none"> Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed 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 Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work 	<ul style="list-style-type: none"> Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors) Apply their understanding of computing to programme, monitor and control their products Apply their understanding (Homes Y1) of how to strengthen, stiffen and reinforce more complex structures

	practical tasks (for example, cutting, shaping, joining and finishing), accurately		
Year 5	Cams and Levers – Moving Toys	Cooking and Nutrition – Baking Bread	Textiles – Greek Sandals
End Points	<ul style="list-style-type: none"> Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages) Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately 	<ul style="list-style-type: none"> Understand and apply the principles of a healthy and varied diet Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed 	<ul style="list-style-type: none"> 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 Understand how key events and individuals in design and technology have helped shape the world (machinery vs hand-made) 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
Year 6	Textiles – Poppy Brooch with Fastening and Marketing	Cooking and Nutrition – A Meal for a Purpose	Structures – Mayan
End Points	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> Understand and apply the principles of a healthy and varied diet Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed 	<ul style="list-style-type: none"> Understand how key events and individuals in design and technology have helped shape the world Apply their understanding of how to strengthen, stiffen and reinforce more complex structures

	<ul style="list-style-type: none"> • Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work 	<ul style="list-style-type: none"> • Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately 	<ul style="list-style-type: none"> • Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, patterns pieces and computer-aided design
<p>Skills KS2</p>	<p>See also: DT skills progression document</p> <p>Design</p> <ul style="list-style-type: none"> • 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, patterns pieces and computer-aided design <p>Make</p> <ul style="list-style-type: none"> • Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately • 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 <p>Evaluate</p> <ul style="list-style-type: none"> • Investigate and analyse a range of existing products • Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work • Understand how key events and individuals in design and technology have helped shape the world <p>Technical knowledge</p> <ul style="list-style-type: none"> • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures • Understand and use mechanical systems in their products (for example, gears, pulleys, cams, levers and linkages) • Understand and use electrical systems in their products (for example, series circuits incorporating switches, bulbs, buzzers and motors) • Apply their understanding of computing to programme, monitor and control their products <p>Cooking and nutrition</p> <ul style="list-style-type: none"> • Understand and apply the principles of a healthy and varied diet • Prepare and cook a variety of predominantly savoury dishes using a range of cooking techniques • Understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed 		

