

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

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xperiments with a range of media - tools.

e Child:

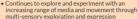
ild might be doing

materials, sound and whole body movement hrough multi-sensory exploration

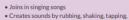
Positive Relationships: what adults might do

- 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

- . Create a rich and well-ordered environment that enables babies and children to use all their senses.
- and tools available to children.
- children can engage in depth with a diverse range



- 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
- · Notices and becomes interested in the transformative effect of their action on materials



- striking or blowing Shows an interest in the way sound makers and instruments sound and experiments with ways of
- playing them, e.g. loud/quiet, fast/slow 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

- Listen to and enjoy with children a variety of sounds, and music
- · Sensitively introduce children to language to describe sounds and
- rhythm, e.g. loud and soft, fast and slow 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
- 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
- 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.

- . Choose and select with intention the materials
- Create the time and space that will ensure that of materials.
- 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.
- 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
- Invite children to look at and touch unusual or interesting materials, artefacts and resources design, beauty, pattern and ability to inspire

Expressive arts and design: Creating with materials

A Unique Child: what a child might be doing



- · 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
- 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

Positive Relationships: what adults might do

- 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 tint, shade, hue.
- 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
- 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
- . Encourage children to notice changes in movement and sound, e.g. louder, quieter, smaller, bigger. 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.

Enabling Environments: what adults might provide

- Offer resources for mixing colours, joining things together and combining materials, supporting where appropriate.
- Create a place where work in progress can be kept
- . Share with children other artists' work that connects with their ideas, interests and
- . 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
- 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	 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 History of hom Geography Ho Autumn Ter	mes: Toy vehicles to build	 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 	 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

Year 2	Wheels and Axles – Vehicle	Cooking and Nutrition – Fruit Salad	Textiles - Puppet	
End Points	 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 	 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 	 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	See also: DT skills progression document Design 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 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 Evaluate Explore and evaluate a range of existing products Evaluate their ideas and products against design criteria Technical Knowledge 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 Cooking and nutrition Use the basic principles of a healthy and varied diet to prepare dishes			

	Understand where food comes from			
Year 3	Pulleys – Wells	Structures – Roman Fort	Cooking and Nutrition – Healthy Soup	
End Points	 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 	 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 	 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	 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 	 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 	 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 Poin	 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 	 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 	 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 Broach with Fastening and Marketing	Cooking and Nutrition – A Meal for a Purpose	Structures - Mayan
End Poin	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 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 	 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

•	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
- Select from and use a wider range of tools and equipment to perform practical tasks (for example, cutting, shaping, joining and finishing), accurately
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, patterns pieces and computer-aided design

See also: DT skills progression document

Design

- 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

Make

- 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

Evaluate

Skills KS2

- 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

Technical knowledge

- 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

Cooking and nutrition

- 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