DESIGN AND TECHNOLOGYFS CURRICULUM






EYFS

Design and Technology taps into young children's natural creativity at WINS by our settings offering opportunities for investigation and exploration and enabling young children to make sense of the 'made world' in which they live.

In the EYFS Design and Technology is identified as Creating with Materials and Being Imaginative and Expressive which are the aspects of the Area of Learning known as Expressing Arts and Design in the EYFS curriculum.

Early Learning Goal: *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.*
Early Learning Goal : *Invent, adapt and recount narratives and stories with peers and their teacher. Sing a range of well-known nursery rhymes and songs. Perform songs, rhymes, poems and stories with others, and – when appropriate – try to move in time with music.*

Design and Technology at WINS Early Years contributes to learning development in other areas:

Personal, Social and Emotional Development

- **Managing Self**- Creating something that has a purpose and which can be modified may bring satisfaction to learning. Confidence, excitement, enthusiasm and perseverance can emerge from and contribute to success in designing and making. Furthermore, managing their own basic hygiene and personal needs by understanding the importance of healthy food choices.
- **Self-Regulation**- Increased ability to share, take turns and collaborate may emerge as children engage in group interests and design topics.

Communication and Language

- **Listening, Attention and Understanding -** Discussing ideas with others develops language for communication and for thinking.
- **Speaking** -Talking about what they have made offers children opportunities to explain their choices and evaluate their own work and that of others. Positional language is used in many elements of Design and Technology, such as in talking about block play and using other types of construction material, modelling with clay or making a birthday card.

Physical Development

- **Fine Motor Skills**- Children use a range of tools and equipment, developing control and skill in skills as cutting, joining and folding.

Mathematics

- **Number, Numerical Patterns**- Problem-solving is at the heart of both Mathematics and Design and Technology - similar skills are involved.
- Measurement, counting, calculation and awareness of shape and size support Design and Technology.

Understanding of the world

- **People, Culture and Communities**- Exploring everyday objects- talking about how they work

Creative workshops

Each Early Years classroom has a creative workshop where the tools and resources are kept for Design and Technology. In these workshops the children have:

- Sufficient space and time for both independent and collaborative work
- Appropriate siting for tools and materials which staff feel should only be used under close supervision
- Clear labelling (ideally words and pictures) with silhouettes for tools that are to be replaced on a board or shelf in a particular position

- A range of tools such as a range of different scissors, hole punches, sellotape dispensers, ribbon dispensers, glue sticks, pots of sticky glue and books for the children to use for ideas and inspiration
- A range of materials including junk boxes, plastic bottles, construction kits such as mobilio, knex, lasy and lego

HOW DO CHILDREN MAKE PROGRESS IN D&T?

Children can make progress in Design and Technology through:

Open-ended play

This enables children to explore materials, to work with tools and to observe and play with natural and manufactured objects. Firm foundations for more purposeful designing and making in future will be laid by

- Investigating through heuristic play, treasure baskets, and collections of natural and manufactured resources
- Playing with everyday objects such as empty boxes. blocks and construction materials
- Experimenting with tools such as scissors, hammers, hole punches
- Making use of fixing and joining materials such as sellotape, masking tape, string, pipe cleaners.

Producing items which represent other objects

Early efforts at making things, as with drawings, are often quite ambiguous. The box covered in glue with scraps of paper, paint and fabric stuck to it might be a house or a car - or a trap for monsters.

Producing items that look and function more like purposeful objects

- Early interest in playing with dough (or even pastry) may become more focused on producing something which can actually be eaten.
- Children may begin to want to make bags for their shop, create signs for their library, put a lighting system into their cardboard house or explore ways of channeling water.

Progress may also be supported by introducing a wider range of tools and materials:

- **Cutting** - scissors (ideally different ones for paper and fabric, as paper blunts the scissors, making it harder to cut fabric), knives (for cooking), safety snips (for card and plastic), saws (for wood)

- **Using more demanding materials** - including fabric, card, foil, plastic, wood
- **Making holes** - single hole punch, tapered reamer, hand drill.
- **Increasing challenge by including different thicknesses** of card, cardboard cylinders, plastic bottles - of card, cardboard cylinders, plastic bottles
- **Moulding and squeezing** - sand, play dough, clay, bread dough, papier mache
- **Joining or linking papers, boxes, trucks, fabrics** - with string, glue, masking tape, treasury tags, elastic bands, plastic nuts and bolts, clothes pegs.

WHERE CAN CHILDREN LEARN ABOUT D&T?

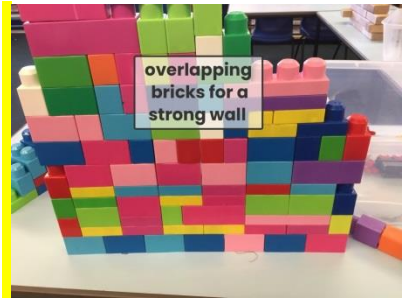
Design and Technology can be developed in every area of our provision as children have opportunities to:

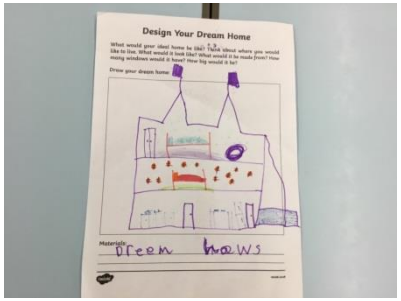
- **Make things move** - not just vehicles but pulleys, water and balls, using guttering, wind chimes
- **Construct** - using everything from tiny Lego to crates, ladders and tyres
- **Squash and squeeze materials** - clay, dough, wet sand
- **Explore natural phenomena** such as floating and sinking, magnetism and electricity, shadows and the effects of wind
- **Fold, cut and decorate** - including paper, card, fabric
- **Taste and make** - exploring foodstuffs.






DESIGN AND TECHNOLOGY- KEY STAGE ONE









The children learn:

- About the designed and made world and how things work.
- How to design and make functional **products** for particular purposes and users and then critically evaluate their work.
- To acquire and apply knowledge and understanding of materials and components, mechanisms and control systems, structures, existing products, quality and health and safety.
- To develop skills through collaborative working and problem-solving
- To become resilient when solving problems
- Knowledge in design, materials, structures and mechanisms
- How to use a range of tools, materials and components safely
- The principles of nutrition and how to prepare food
- Key concepts such as structures, mechanisms and textiles
- To be creative and innovative, and are actively encouraged to think about important issues such as sustainability and enterprise (understanding of the ways in which people have designed products in the past and present to meet needs)
- Children will also understand how key events and individuals have helped shape design and technology globally.
- To develop a critical understanding of Design and Technology impact on daily life and the wider world. How it makes an essential contribution to the creativity, culture, wealth and wellbeing of the nation.

Cross curricular links
The subject allows children to apply the knowledge and skills learned in other subjects, particularly Maths, Science, Computing and Art and Design.

- Science: Knowledge about the properties of materials
- Maths- the practice of measuring accurately

How we teach Design and Technology
We give meaning to the children's learning by making sure that the design process has a real life, relevant context.

All teaching of Design Technology follows Three Phases (Schemes/Units)

- Investigative and evaluative activities IEAs (Product Analysis)
- Focused Tasks (FT)
- Design, Make and Evaluate Assignments (DEMA)

Children can choose from a wide range of tools and materials for their work and once they complete their makes they evaluate their own products against the design criteria, a process that helps them to understand how and why a product or design element has been successful or not and then use this to adapt and improve their product.






Progression of Skills in Design and Technology- Year One to Year Two

Strands	Year One	Year Two
Design, make, evaluate and improve	-Explain what they are making and which materials they are using -Design products which have a clear purpose and an intended user -Use pictures and words to convey what they want to make -Make products using a range of tools to cut, join, shape and finish -Say what they like and don't like about their product and explain why -Talk about how closely their finished product meets their design criteria -Begin to use software to represent their 2D designs	
Cooking and Nutrition	Understand where food comes from. Group familiar food products e.g. fruit and vegetables. Cut ingredients safely. Prepare simple dishes safely and hygienically without using a heat source.	-Group foods into the five groups in the Eatwell plate. -Cut gate or peel ingredients safely -Prepare simple dishes safely and hygienically without using a heat source. -Measure or weigh using cups or electronic scales.
Construction and mechanics	-Mark out materials needing to be cut using a template -Make vehicles with construction kits with free running wheels	-Use a range of materials to create models with wheels or axles e.g. tubes, dowel and cotton reels. -Attach wheels to a chassis using an axel -Use materials to practice drilling, screwing, nailing and gluing to strengthen products
Materials	-Fold, tear, cut paper or card -Investigate strengthening sheet materials -Roll paper to create tools	Demonstrate a range of joining techniques such as gluing, taping or creating hinges. -Cut materials safely using tools provided

	-Demonstrate a range of joining techniques such as gluing or taping -Measure and mark out lines	-Demonstrate a range of cutting and shaping techniques such as tearing, cutting, folding and curling -Use simple pop-ups.
Take inspiration from design throughout history	Explore objects and designs to identify likes and dislikes Explore how products have been created	

WINS DESIGN AND TECHNOLOGY KEY STAGE ONE CURRICULUM OVERVIEW

	Autumn One	Autumn Two	Spring One	Spring Two	Summer One	Summer Two
Year One	**Two story building** **-With different floors and levels with stairs (using classroom construction toys and equipment)** **-Continue with cardboard version increasing strength** **BUILD STRUCTURE**	**Christmas Card** **-With a slider/ lever** **MOVING MECHANISMS**				**Fruit Salad** **With design criteria** **COOKING AND NUTRITION**
Year Two		**Vehicles** **-Pull along toy** **MOVING MECHANISMS**			**Healthy Sandwich** **-Link to Healthy eating in Science** **COOKING AND NUTRITION**	**Bendy Bags** **- Design with Textiles** **TEXTILES**