Design and Technology in EYFS – An Introduction to our curriculum at Feniscowles

Human resourcefulness and inventiveness means that we have created a world that is filled with objects that have been designed and made - buildings, clothes, vehicles, books, toys, even the food we eat and the natural spaces we create. The well-known inventor, James Dyson, has suggested that 'design and technology is about making things that people want and that work well. Creating these things is hugely exciting; it is an inventive, fun activity.'

Addressing design and technology in the early years can enable children to make sense of the 'made world' in which they live. By making, changing and modifying (or designing) things for themselves, children can come not simply to a greater understanding of their world, but to a sense of agency - of being able to change and modify their environment. Design and technology enables children to gain knowledge and understanding of their world.

Design is not just about drawing, but about thinking. Creating a pizza or designing a new Lego structure require no drawing, but both involve some experience, some imagination and a willingness to change and modify ideas.

Technology, on the other hand, is about doing - making something for a purpose. It involves putting ideas into practice and having an awareness of the possibilities and limitations of different materials. Children need to experience at first hand the consequences of the decisions they have made, rather than quickly being shown by an adult how to get it 'right'. Purposeful making involves creativity, imagination and fun - as well as making mistakes.

What do children learn when designing and making?

Using young children's natural creativity and offering opportunities for investigation, designing and making can enable children to learn a great deal about their world. Design and technology is inextricably linked to exploration and investigation. Babies and toddlers engaged with treasure baskets or heuristic play are exploring and investigating a range of objects and materials, both natural and manufactured.

Through their senses children come to know a great deal about what things can do and what can be done with them. They begin to identify similarities and differences, identifying common patterns and exceptions. For example, one familiar common pattern is that large objects are heavy. However, stones and balloons are clear exceptions to that pattern. Similarly, fabric and paper both can be scrunched up, but fabric usually opens itself up again whereas paper generally stays crumpled unless it is deliberately smoothed out.

Through exploration, children can begin to explore cause and effect, which over time will lead them to questions about how things happen and how they work. Wind chimes, shadows, or balls rolling through tubes offer many opportunities to explore these ideas.

Exploration does not stop in infancy. Whether building with blocks, making three-dimensional models out of recycled materials or using malleable materials, children are taken by exploration of new ideas to new levels of thinking and doing - designing and making.

In exploring a wide range of objects and materials with different textures, shapes and sizes, and weights enables children to develop new insights and skills related to all aspects of the curriculum. The knowledge and understanding of the world that children learn when designing and making contribute to other areas of learning and development, while learning in other aspects of the curriculum can contribute to competence and interest in design and technology.

How do children make progress in Design Technology?

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 channelling 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 Design Technology?

Design and technology can be developed in every area of provision, wherever 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. Special attention should be paid to food technology. In many settings this will be a trolley or even just a box, but labelling, hygiene and dedicated tools are essential.

Creative workshop

The creative workshop is likely to be the area where the tools and resources are most conveniently sited for design and technology. In setting up and resourcing this area, try to ensure:

- a location where interruptions and distractions will be limited
- 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
- an absence of clutter 'a place for everything and everything in its place' is vital if children are to make informed choices and keep themselves safe.