



Design and Technology Policy 2021-22

This Design and Technology Policy is to be read alongside our Curriculum Policy.

Vision

At Urmston Primary School we place children at the heart of all we do, our values leading us in the way we teach and the way we learn. We embed these values into the fabric of our school culture and enable our children to learn in an environment that is relevant, engaging, exciting and challenging and encourages them to reflect upon their learning.

We believe that it is imperative for children to have the confidence and opportunity to explore, investigate and try new things in a supportive but challenging environment. All pupils are increasingly aware of the new skills and knowledge that they have an opportunity to develop within DT, alongside understanding the need to study and learn from relevant artists and designers of the past and present. Lessons will always aim to build on cultural capital alongside the guidance of the DT skills progression objectives. It is our aim to provide children with a wide range of experiences in a multitude of mediums.

Aims

- To ensure coverage of all objectives set out in the Primary National Curriculum
- To ensure our pupils are supported and challenged and nurtured in developing their knowledge, skills and understanding
- To provide creative and inspiring topics that our children are engaged in and enthused about through giving learning context and meaning
- To ensure learning is fun
- To ensure memorable learning experiences that stick with our children
- To provide opportunities for children to use their imaginations and explore and investigate with a variety of medium and tools

- To improve knowledge of materials by allowing children to experiment freely and by encouraging them to use materials sensibly and safely
- To offer opportunities for learning to be child-led, giving children the licence to question the world and find out the answers
- To evoke intrigue and inquisitiveness in our children
- To learn to work in two and three dimensions using art, craft and design media
- To enable our children to understand how our values are important in today's societies and cultures and how they might differ depending on belief systems and geographical location. This will be taught through artists, crafts people and designers of the past and present
- To provide opportunities for children to empathise with others locally, nationally and globally
- To nurture confidence and independence through encouraging growth mind-set in all areas of the curriculum
- To ensure staff are aware of pupils' abilities and plan, assess and deliver lessons and programs appropriately

Planning

Teachers produce long term and shorter term plans which consider the most effective ways of linking learning and giving it context and relevance for our pupils. Topics are planned for at the beginning of the year and although this is obviously subject to ongoing change and development, it enables teachers to ensure coverage and plan engaging learning around national curriculum objectives, whilst weaving the children's learning needs and desires into the program of study.

Throughout key stage 1 key stage 2 the children will have the opportunity to develop their skills and techniques through the use of a variety of media and materials. These skills and techniques will be built upon and progress over the children's time at Urmston Primary School as indicated on the skills progression document. Cross curricula links are encouraged through the exciting curriculum and evident through the planning. Where links to topics are not appropriate or possible, 'projects on a Page' will be used for discrete units.

Early years

Early years planning centres around the EYFS statutory framework and the development matters document, in particular, the 'Expressive arts and design: exploring and using media and materials' and the 'Being imaginative' sections.

KS1

In Key Stage 1, knowledge and skills progressions and topic overviews demonstrate coverage of the National Curriculum and these are embedded into topic overviews. Imagination and experimentation will be encouraged, however skills and design context will be guided and supported to a greater degree by the teacher than in KS2.

KS2

As children progress into Key Stage 2, they begin to take more ownership of their learning through more independent research and the freedom to present their work, following the research, design, make and evaluate framework, in imaginative ways. Again, the knowledge and skills that children will learn are embedded into the topics in KS2.

Teaching and Learning

Topics will provide engaging and exciting links to DT for pupils, who will always be given meaning for learning that will be relevant. Teachers will deliver lessons and programs of study in line with our Teaching and Learning Policy, catering for all types of learning styles and incorporating all manner of activities; visual, audio, kinaesthetic, investigatory and exploratory – with an appropriate balance between child and teacher-led learning. Teachers' knowledge and skilled questioning will support and challenge our pupils in broadening their own knowledge, skill and understanding and developing their acumen in design and technology.

The National Curriculum outlines what our own curriculum needs to cover and the following are embedded into our DT knowledge and skills progressions:

National curriculum objectives Key stage 1:

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home and school, gardens and playgrounds, the local community, industry and the wider environment].

When designing and making, pupils should be taught to:

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, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

National curriculum objectives Key stage 2:

Pupils should be taught:

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an iterative process of designing and making. They should work in a range of relevant contexts [for example, the home, school, leisure, culture, enterprise, industry and the wider environment].

When designing and making, pupils should be taught to:

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, pattern 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

- 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 program, monitor and control their products.

Cooking and nutrition

As part of their work with food, pupils should be taught how to cook and apply the principles of nutrition and healthy eating. Instilling a love of cooking in pupils will also open a door to one of the great expressions of human creativity. Learning how to cook is a crucial life skill that enables pupils to feed themselves and others affordably and well, now and in later life.

Pupils should be taught to:

Key stage 1

- use the basic principles of a healthy and varied diet to prepare dishes
- understand where food comes from.

Key stage 2

- 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.

We have also accounted for the recommendations of the DfE document, 'Teaching a broad and balanced curriculum for educational recovery' and we have considered that to engage in

the design process, pupils need to know the different factors that contribute to complex design decisions. Securing knowledge of the relevant materials, equipment, tools and manufacturing methods is therefore important before pupils are expected to design their own products. The DT section of this document can be found in the appendix.

Beyond the curriculum

To supplement our curriculum, we will incorporate whole school events and awareness days/weeks - some relating to the curriculum and some not - to offer different learning experiences for our children, some relating to nurturing their skills in design and technology. These will be planned for on a yearly or termly basis or perhaps more ad-hoc, depending on the circumstances. Such events may include British Values Week, Diversity Week, Children's Mental Health Week, Diwali, Eid al-Fitr among others.

Extra curricula clubs are offered and provided when available.

Recording

Pupils' learning will be recorded in a number of ways:

- Seesaw is used to document photographic evidence.
- In Early Years, DT work is largely practical and showcased on displays in the classroom and around the school.
- DT in Key Stage 1, can be evidenced in many forms. Written tasks, when appropriate, can be found in topic books, however, predominantly it is largely verbal and collaborative. This is evidenced through photographs (which can be viewed on Seesaw) and final products.
- Children in Year 3 are given DT books to work through research, designs and evaluations. These are supplemented by photographic evidence (which can be viewed on Seesaw) and final products. These books follow the children as they progress through the school and allow for a clear continuation of skills to be observed.

Monitoring impact: assessment and 'end points'

Children's skills will be assessed in DT using the same procedures as the rest of the 'foundation' curriculum and this is set out in the curriculum policy. However, there will also be plenty of opportunities built into lessons to enable teachers to make judgements on pupils' attainment against the knowledge and skills progressions. Furthermore, as mentioned in the Curriculum Policy, the DT subject lead will use whole school monitoring

procedures, including work reviews, pupil discussions and learning walks, to gauge the impact of our curriculum and pupils' knowledge, skill and enjoyment and engagement in DT.

Progression, Support and Challenge

Our Teaching and Learning Policy makes clear the expectation that pupils of differing abilities are both supported and challenged. Teachers will use a range of age-appropriate models and activities to engage all learners and ensure progression year on year (follow our knowledge and skills progressions in DT), with work set appropriate to the ability levels of the children. This is particularly the case for our SEND pupils as well as stretching those children who excel and are particularly able, gifted or talented in certain areas of the curriculum, or indeed outside it.

Celebrations of success and display

It is important that children's success in DT is acknowledged and celebrated appropriately. This will be done through displays in classrooms and around school. We also hold an annual Open Day during which family members can celebrate the achievement of their child.

This policy is intrinsically linked to the following policies among others:

- Curriculum
- Teaching and Learning
- Other subject policies

Policy written: July 2021

To be reviewed: September 2022

Appendix: (Taken from *Teaching a broad and balanced curriculum for educational recovery*)

At key stages 1 and 2, teachers should prioritise:

- developing pupils' ability to design by, first, providing them with knowledge of materials, equipment and tools to support their application of concepts such as 'functionality' and 'aesthetics'. Activities to consolidate and embed this knowledge can be low cost, for example, asking pupils to evaluate a range of similar products (such as toothbrushes, toys, cutlery, t-shirts, or school bags)
- encouraging pupils to work with a range of simple materials, including textiles and ingredients, emphasising the design process rather than simply the end product. Where practicable, pupils should be introduced to simple tools and their safe use to meet an identified need.