

## Vision Statement

At KDPS we aim to provide all children with a broad and balanced curriculum which prepares them for life beyond primary education. We encourage children to use their creativity and imagination, 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.

During Design and Technology, we teach children the language skills they will need to be effective communicators. We actively encourage our children to be critical thinkers, forward planners and effective problem solvers. We also teach our children to be able to work as capable individuals and as part of a valuable, productive team.

Resilience is a key theme running through our DT curriculum, and the children are encouraged to become innovators and risk-takers.

Design and Technology is a subject where children's capability in designing and making is developed through combining their designing and making skills with knowledge and understanding. At KDPS we view Design and Technology as a subject which allows children to apply their knowledge and understanding in a creative way to design and make products.

## Intent

### Aims

The national curriculum for design and technology aims to ensure that all pupils:

- Develop the creative, technical and practical expertise needed to perform everyday tasks confidently and to participate successfully in an increasingly technological world.
- Build and apply a repertoire of knowledge, understanding and skills in order to design and make high-quality prototypes and products for a wide range of users.
- Critique, evaluate and test their ideas and products and the work of others.
- Understand and apply the principles of nutrition and learn how to cook.

### Objectives

- Children will understand what skills they have developed that are DT based and can apply to other areas of their learning.
- High quality, enjoyable DT provision with clear curriculum coverage and progression of skills across all year groups.
- Appropriate assessments will be in place and used to move children's learning forward.
- Resources will be stored centrally to support curriculum delivery.

## Implementation

### Organisation

DT is taught for one half term a year. Staff plan their DT units on their medium term plans and weekly planning sheets, which can be found on the Google Staffroom Classroom. The curriculum map is to be used to inform all planning.

The DT subject lead will look at medium term planning and weekly planning to ensure consistency and correlation to the DT overview.

### Curriculum

We follow the National Curriculum Programme of Study for DT. 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]. 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.

### EYFS

Children in EYFS will undertake investigative and skills based tasks during independent working time. They will be encouraged to undertake focused practical tasks through directed and self-initiated stimuli. They will be provided with resources based on topics within the focus of the classroom and will be encouraged to design and develop ideas independently. Children in EYFS work on a range of creative themes and tasks, and their work in Creative Development links closely to other areas of the curriculum, especially Physical Development.

### KS1

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. They will also have opportunities during Design and Technology lessons to develop their own ideas and generate designs independently. Progression of Design and Technology skills will be monitored by staff formally and informally with references to expectations from the National Curriculum.

Planning will follow Medium term planning linked to National Curriculum guidelines.

### Cooking and nutrition

Pupils should be taught to:

- use the basic principles of a healthy and varied diet to prepare dishes (with consideration given to the Kashrut laws).
- understand where food comes from.

## **KS2**

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**

Pupils should be taught to:

- understand and apply the principles of a healthy and varied diet.
- prepare and cook a variety of dishes using a range of cooking techniques (with consideration given to the Kashrut laws).
- understand seasonality, and know where and how a variety of ingredients are grown, reared, caught and processed.

## **Inclusion and Adaptive Teaching**

At KDPS, we recognise the need to cater for all children's needs. All children, regardless of gender, ethnic origin, physical or intellectual capacity should have equal access and be given equal opportunity to participate in DT lessons and learn and develop their skills. Lessons must be taught in an adaptive way and support children with specific needs. This could be in the form of additional adult or peer support, extra time, differentiated tasks, use of ICT etc.

## **Spiritual, Moral, Social and Cultural Development**

**Spiritual** – DT supports spiritual development by allowing pupils the opportunity to exercise imagination, inspiration, intuition and insight through creativity and risk taking in analysing, designing and manufacturing a range of products. It instils a sense of awe, wonder and mystery when studying the natural world or human achievement. Encouraging creativity allows pupils to express innermost thoughts and feelings and to reflect and learn from reflection, for example, asking 'why?', 'how?' and 'where?'.

**Moral** – DT supports moral development by raising awareness of the moral dilemmas by encouraging pupils to value the environment and its natural resources and to consider the environmental impact of everyday products. It educates pupils to become responsible consumers.

**Social** – DT supports social development by providing opportunities to work as a team, recognising others' strengths and sharing equipment. Design Technology promotes equality of opportunity and provides an awareness of areas that have gender issues e.g. encouraging girls to use equipment that has been traditionally male dominated.

**Cultural** – DT supports cultural development by encouraging children to reflect on ingenious products and inventions, the diversity of materials and ways in which design technology can improve the quality of life. It investigates how different cultures have contributed to technology and reflects on products and inventions, the diversity of materials and ways in which design can improve the quality of our lives. Through the study of cooking and nutrition, we will have to opportunity to develop our understanding of the Kashrut laws.

## Impact

### Progression and Continuity

Throughout school, children's understandings of concepts should be revisited and built upon. The KDPS DT progression map provides a structure in which this can take place. Teachers need to use this to inform their planning to ensure continuity. We use a variety of teaching and learning styles in DT lessons, with the aim of developing the children's knowledge, skills and understanding in DT.

### Progress and Achievement

By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in NC programme of study for DT.

[National Curriculum - Design and technology key stages 1 to 2 \(publishing.service.gov.uk\)](https://www.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/442422/nc-dt-key-stages-1-to-2.pdf)

### Assessment and Recording

- The Subject Leader will keep a photographic portfolio of designs, drawings, pictures and finished products. These can be used for assessment purposes and for monitoring progression through year groups.
- Records will be used by each class/year group to document the progress in DT. These can be images, prototypes or children's quotes/evaluations and can be used to assess the progression throughout the year and to share with the subject leader for monitoring.
- A display of design and technology work will be set up in areas of school, periodically. This will include drawings, patterns, quick models and final products to demonstrate to parents the whole and making process.

### Monitoring

D+T teaching needs to be monitored across the school in order to ensure that it is consistent and progressive for the children. In order to do this, a number of tools will be used.

- Planning scrutiny
- Work scrutiny
- Observation of teaching and learning

- Pupil voice
- Staff voice

Any form of monitoring will take into consideration the well-being of all involved. The main aim of monitoring is to ensure the best possible DT education for the children of KDPS.

## Role of the Subject Leader

The role of the subject leader is to ensure delivery of the aims and objectives of this policy and ensure that children's learning develops and improves. The action plan plays a role in this, ensuring that the school has everything in place to support staff so that the children achieve their best.

### Roles & Responsibilities

- To lead the development of design and technology in school.
- To maintain a subject leader file.
- To create, follow and re-evaluate an action plan relevant to KDPS and to review and monitor the success and progress of the planned units of work.
- To monitor the delivery of DT in each year group in order to ensure children are making progress
- To support and signpost CPD opportunities to support the teaching of DT and general subject knowledge.
- To keep up to date with local and national developments in design and technology and disseminate relevant information.
- To be responsible for the organisation and maintenance of design and technology resources.
- To co-ordinate any display of design and technology work

## Resources

Tools and Equipment (E.g. glue guns and cutting tools) – 5K side room – Will be updated on a regular basis

Teachers are responsible for ordering their own mediums like clay or ask Subject Lead to order for specific projects.

Subscriptions to DT websites to be researched.

Subject Lead is discussing with the High School a timetable to use their resources.

## Health and Safety

Teachers will always teach the safe use of tools and equipment and insist on good practice. DT frequently involves the use of tools or equipment which may cause danger or injury. Therefore consideration to safety must be paramount at all times. Seek advice from SLT as required.

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