Design and Technology Subject Expectations

At Oasis Academy Broadoak, Design and Technology is an inspiring subject that allows our pupils to use their creativity and imagination. It gives them the opportunity to design and make products that solve real and relevant problems within a variety of contexts, considering the needs of themselves and others. Throughout Design and Technology lessons, they will be given many opportunities to learn through mathematics, science, engineering, computing and art and further develop their skills in these areas of the curriculum. At Oasis Academy Broadoak, we want the children not only to become designers but to learn to take risks as well as become resourceful, innovative, enterprising and capable people.

Design Technology at Broadoak is taught through different topics throughout the year, we have several Design technology days, which includes Food Technology lessons, where specific skills are taught progressively throughout the school. In the summer term, we have a half term dedicated to design technology where the children learn how to research, design and create a specific model or prototype.

*** Please see website link for the whole school overview & coverage***

Our Design and Technology curriculum covers all objectives in the National Curriculum & the Early Years framework. It also includes additional opportunities linked to art and other experiences such as meeting and presenting protypes to the Major of Tameside.

National Curriculum objectives

Design and technology – key stages 1 and 2 Subject content

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

Key stage 2

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.



In Years 1-6, the children use their theme book for DT which they use to show the progression in their researching, designing, and creating. Knowledge organisers have been additionally designed to be used to enhance the children's learning. These are stuck in their topic books before the start of their unit.

All entries in the theme books should have the date and a lesson objective. Teachers should live mark and feedback in theme books where appropriate as with any other subjects.

The lessons structure for Design and Technology lessons follows the school's policy. All lessons are planned using notebook or power point presentations. Each lesson has a clear learning objective and a set of success criteria that is progressive throughout the schools.

Do Now

Our lessons begin with a 'do now' task which is a quick task all pupils access without any teacher input as an introduction to the DT lesson.

New Learning

The New Learning segment introduces the star words and the vocabulary needed for the new learning – this may be a recap or an introduction depending on what part of the topic you are teaching. It is imperative to insist on the use of key vocabulary throughout the lesson.

Developing Learning

The Develop Learning segment builds on the new learning and develops a deeper understanding of the DT concepts of that lesson.

Plenary

The Plenary segment recaps on the lesson, checking understanding and celebrating success.

Resource expectations

At Broadoak we ensure that our children have access to a wide range of dt resources from a variety of materials & a wide variety of paints to clays, modelling tools and printing screens.

Vocabulary

Vocabulary is important with DT lessons and is focussed on across the school. It is vital that the children know the correct words for various tools and skills. At Oasis Broadoak, we plan for new Vocabulary to be incorporated into our lessons and also use the children's prior learning to build upon their existing vocabulary.