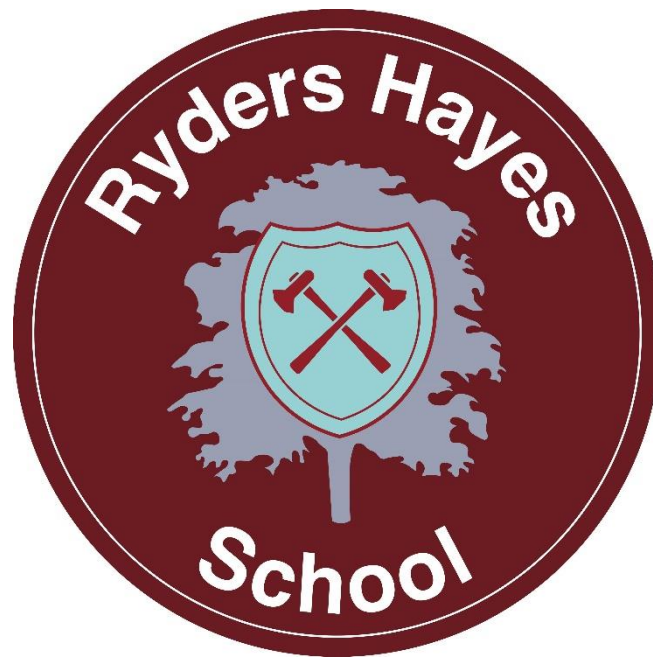


# Ryders Hayes School

A Primary Learning Academy



## Guidance for Design and Technology

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*'Do the right thing to be the best you can be'...* 

# Guidance for Design and Technology

## Our Vision

*To nurture and facilitate the growth of our pupils and their learning; equipping them with the skills and attributes to embrace the challenges of a rapidly changing world. To enjoy success for today and be prepared for tomorrow, by instilling the values of inquiry, adaptability, resilience, morality, effective communication, thoughtfulness, collaboration, respect, international/open mindedness and growth mindset.*

“Design and technology is an inspiring, rigorous and practical subject. Using creativity and imagination, pupils design and make products that solve real and relevant problems within a variety of contexts, considering their own and others’ needs, wants and values. They acquire a broad range of subject knowledge and draw on disciplines such as mathematics, science, engineering, computing and art. Pupils learn how to take risks, becoming resourceful, innovative, enterprising and capable citizens. Through the evaluation of past and present design and technology, they develop a critical understanding of its impact on daily life and the wider world. High-quality design and technology education makes an essential contribution to the creativity, culture, wealth and well-being of the nation”

(National Curriculum Document 2014)

## 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.

## **Planning:**

### **Foundation Stage**

Children in the Foundation Year will undertake investigative and skills based tasks during independent working time. The Design and Technology area will be available to them on a daily basis and 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 the Foundation Stage work on a range of creative themes and tasks, and their work in Creative Development links closely to other areas of the Foundation Stage Profile, especially Physical Development.

### **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 1 children will undertake one unit of work per term, at least. 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 in a two-year cycle to ensure balance and progression.

## **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.

## **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.

## **Organisation**

Children will be taught by Foundation Stage staff or Key Stage 1 and 2 staff. External specialists will be used when possible. Students in school will be encouraged to consider the benefits and learning opportunities possible through Design and Technology.

## **Assessment and record keeping**

The Subject Co-ordinator will keep a photographic portfolio of drawings, pictures and finished products. These can be used for assessment purposes and for monitoring progression.

A display of design and technology work will be set up in the general display area of school, periodically. This will include drawings, patterns, quick models and final products to demonstrate to parents the whole and making process.

One staff meeting per year will be held for agreement trialling. Teachers will be asked to identify a child working at a specific level and bring some examples of their work. Examples of this work, including photographs, will be kept for the school portfolio. An annual report to parents will detail progress and achievements made in designing and making.

## **Equal opportunities and inclusion of all children**

As a Rights Respecting School, we believe that it is important for all children to experience the range of design and technology activities. We will use opportunities within design and technology to challenge stereotypes.

All children will be encouraged and supported to develop design and technological capability through a range of materials. We recognise the importance of identifying the specific difficulties that individual

children might experience, and targets will be set within their IEP to reflect appropriate teaching and organisational strategies to meet their needs.

We expect all children to participate in Design and Technology projects. Specialist equipment and support will be sought and provided for any children who need them in order that they will be included within and have access to tasks in Design and Technology.

The subject co-ordinator will liaise closely with the Inclusion leader to ensure that all our children have differentiated access to Design and Technology, including provision of special resources or equipment where necessary and possible.

### **Resources**

All resources for Foundation Stage are held within the Foundation Stage classrooms.

Resources for Key Stage 1 and 2 are held centrally in the DT cupboard.

### **Health and Safety**

Teachers will always teach the safe use of tools and equipment and insist on good practice.

This guidance outlines the teaching and learning of design and technology. It reflects the views of all teaching staff and was drawn up as a result of staff discussion.

This guidance will be reviewed annually by the co-ordinator. The implementation of the guidance is the responsibility of all teaching staff and will be monitored by the head teacher. The guidance is written with consideration to our school commitment to the Rights of the Child and our achievement of becoming a Rights Respecting School. Although direct reference to this is not continuously made, the guidance has been written with full awareness of our commitment to this initiative.