

**Policy: Design and Technology (D&T)**

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| **Adopted by Governing Body on** | **September 2020** |
| **Headteacher** | **L Jones** |
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**Contents:**

[Statement of intent](#_Statement_of_intent_1)

1. [Legal framework](#_Legal_framework_1)
2. [Roles and responsibilities](#_National_curriculum)
3. [The curriculum](#_National_curriculum_1)
4. [Cross curricular links](#_Links_to_other)
5. Teaching and Learning
6. Planning
7. Assessment and reporting
8. [Resources and equipment](#_Resources_and_equipment)
9. Health, safety and hygiene
10. Homework
11. Cooking and nutrition
12. [Equal opportunities](#_Equal_opportunities)
13. [Monitoring and review](#_Monitoring_and_review)

## **Statement of intent**

**Royd Nursery Infant School** understands that D&T allows pupils to solve problems, think creatively and develop ideas. D&T offers pupils a chance to use creative thinking and activity within a defined purpose and tangible outcome. The school is committed to nurturing pupils’ curiosity and creativity, as well as preparing them for living in a modern world where technology is rapidly changing and advancing.

In teaching D&T, we aim to help pupils:

* Develop their design and making skills.
* Develop their knowledge and understanding of design and technologies.
* Use a wide range of tools and materials.
* Learn about working safely and protective measures.
* Work individually and collaborate with other pupils in a variety of contexts.
* Develop the capability to create products of a high standard through skills and understanding.
* Evaluate products, made by themselves, their peer groups and companies.
* Explore the man-made world and encourage discussion of how we live and work within it.
* Develop an interest in and understanding of technological processes and the role of manufacturing in society.
* Learn the principles of nutrition, healthy eating and how to cook.

# Legal framework

* 1. This policy has due regard to all relevant legislation and statutory guidance including, but not limited to, the following:
* DfE (2019) ‘Keeping children safe in education’
* DfE (2013) ‘Design and technology programmes of study: key stages 1 and 2’
* The School Admissions (Infant Class Sizes) Regulations 2012

# Roles and responsibilities

* 1. Overall responsibility for monitoring the teaching of D&T throughout the school lies with the **headteacher**.
	2. The **headteacher** will make decisions on:
* How D&T should support, enrich and extend the curriculum.
* The provision and allocation of resources.
* The ways in which D&T can benefit the aims and objectives of the school.
	1. The **headteacher** will also be responsible for overseeing the review of this policy with the subject leader.
	2. The subject leader will be responsible for monitoring the progression of teaching and learning. The **D&T subject leader and curriculum team** will also be responsible for:
* Implementing this policy across the school.
* Maintaining resources and advising staff on the use of materials.
* Assisting the **headteacher** in deciding on the allocation of resources.
* Supporting teaching staff, advising and offering to share their expertise and experience.
* Leading staff training on new initiatives.
* Helping staff to plan future lessons and assessments and advising teachers on teaching methods they may wish to explore.
* Encouraging staff and pupils to be creative.
* Assisting the **headteacher** in reviewing this policy.
	1. Classroom teachers will be expected to:
* Plan and deliver interesting and engaging lessons that adhere to the national curriculum.
* Provide equality of opportunity through their teaching approaches and methods.
* Keep up-to-date assessment records.
* Ensure pupils’ development of skills and knowledge progresses through their learning and understanding of D&T.
* Set pupils suitable targets based on prior attainment.
* Maintain an enthusiastic approach to D&T.

# The curriculum

* 1. The school aims to assist pupils in achieving attainment targets set out in the national curriculum. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills, and processes specified in the national curriculum. Pupils will learn a broad range of subject knowledge and draw on disciplines such as maths, science, computing and art.
	2. In accordance with the national curriculum, the school 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 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.

**EYFS**

* 1. All pupils in the EYFS are taught D&T as an integral part of the topic work covered during the academic year.
	2. All art objectives within the EYFS are underpinned by the following three prime areas outlined in the ‘Statutory framework for the early years foundation stage’:
* Communication and language
* Physical development
* Personal, social and emotional development
	1. There are four specific areas through which the three prime areas are strengthened and applied:
* Literacy
* Mathematics
* Understanding the world
* Expressive arts and design
	1. The D&T curriculum in the EYFS focusses on the specific areas of understanding the world and expressive arts and design.
	2. Pupils will be taught to:
* Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design and texture, form and function.

# KS1

* 1. By the end of KS1, pupils will be able 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 and mock-ups and, where appropriate, computing.

**Make**

* Select from and use a range of tools and equipment to perform practical tasks, e.g. 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, e.g. levers, sliders, wheels and axles, in their products.

# Cross curricular links

* 1. D&T contributes to the teaching of a number of other subjects in school.
	2. **English**
* D&T offers the opportunity to reinforce what pupils have been learning during English lessons. Discussion, drama and role-play are important methods that the school employs to help pupils develop an understanding of people’s different views and opinions of D&T and society.
* Evaluating products requires pupils to articulate and formulate their ideas to compare their views with other pupils’; through discussion, pupils will learn to justify their own views and clarify their design ideas.
	1. **Maths**
* D&T will assist pupils in learning about shape and size and will make use of what they have already learned in maths lessons. Pupils will carry out investigations – by doing this, they will learn to read and interpret scales, collect and present data, as well as draw their own conclusions.
	1. **PSHE**
* D&T lessons will be used to teach pupils how to discuss their own work and the work of others; in addition, pupils will be taught about health and hygiene, including diets, and how to prevent disease from spreading when working with food.
	1. **Spiritual, moral, social and cultural (SMSC) development**
* Teaching D&T offers opportunities to support the social development of pupils through the way they are expected to work with each other in lessons. D&T helps pupils to develop a respect for other pupils’ abilities. Working in groups encourages collaboration and gives pupils the opportunity to learn from each other and share ideas and feelings.
	1. **Computing**
* Computing enhances the teaching of D&T and provides pupils with additional equipment, extending the possibilities for developing, sharing and recording their work.
* Utilising computing also benefits pupils by helping them collect information and present their designs and ideas through a range of design and presentation software.

# Teaching and Learning

* 1. D&T lessons are delivered **through continuous provision** for pupils in **the EYFS.** **KS1** children receive a block of D&T lessons during topic lessons depending on whether art is a focus for that half term.
	2. The school uses a variety of teaching and learning styles in D&T lessons that are matched to the activity and ability of pupils. The main aim of these lessons is to develop pupils’ knowledge, skills and understanding.
	3. Teaching and learning styles are adapted to support pupils with SEND to ensure these pupils continue to have their confidence and self-esteem raised.
	4. Teachers ensure pupils apply their knowledge and understanding when developing ideas, planning and producing D&T work, and evaluating these.
	5. Pupils will be taught to describe key characteristics and associated processes in common language, as well as understand and use technical terminology and specialist vocabulary.
	6. The school uses a mixture of whole-class teaching, group work and individual activities. Pupils are given the opportunity to work on their own and collaborate with others, listening to their peers’ ideas and treating these with respect.
	7. Principles for effective teaching include:
* Setting tasks in the context of pupils’ prior knowledge.
* Promoting active learning.
* Inspiring, exciting and motivating pupils to know more.
	1. Strategies for effective teaching include:
* Ensuring the teaching methods used suit the purpose and needs of pupils.
* Providing a meaningful context and clear purpose when assigning tasks.
* Investigating, disassembly and evaluative activities.
* Using focussed practical tasks to help pupils make and evaluate products.
* Ensuring tasks are built on skills and understanding.
	1. The **classroom teacher** will work with the D&T **subject leader and curriculum team** to ensure that the needs of all pupils are met by:
* Setting tasks which can have a variety of responses.
* Providing resources of differing complexity, according to the ability of the pupils.
* Setting tasks of varying difficulty, depending on the ability group.
* Utilising TAs to ensure that pupils are effectively supported.
	1. As part of D&T, pupils are provided with topic books, which they are required to present their work in. The topic book is used to evidence pupils’ responses to a variety of information, through mark making, colour mixing, pattern work and other techniques.
	2. Topic books are an essential record of individual pupils’ experiences and ideas throughout a year, and will be seen as evidence for assessment and reporting purposes.
	3. Displays of D&T work on topic displays are used to celebrate achievement and support teaching and learning.
	4. The school promotes displays of artwork on topic displays in classrooms to influence how pupils feel about their environment, convey standards and promote high expectations.
	5. Displays are used to communicate ideas, stimulate interest, celebrate pupils’ work, reflect the ethos of the school and respond to pupils’ interests.

# Planning

* 1. All relevant staff members are briefed on the school’s planning procedures as part of staff training.
	2. Throughout school, D&T is taught as a discrete lesson and as part of cross-curricular themes when appropriate.
	3. Teachers will use the key learning content in the DfE’s ‘Design and technology programmes of study: key stages 1 and 2’ and the national curriculum as a starting point for their planning.
	4. Issues of health and safety are addressed in the planning and delivery of the D&T curriculum.
	5. Lesson plans will demonstrate a balance of interactive and independent elements used in teaching, ensuring that all pupils engage with their learning.
	6. Lesson plans will demonstrate the balance of visual, auditory and kinaesthetic elements used in teaching, ensuring that all pupils with different learning styles can access the learning experience.
	7. There will be a clear focus on direct, instructional teaching and interactive oral work with the whole class and targeted groups.
	8. The school creates long-term, medium-term and short-term plans for the delivery of the art curriculum – these are as follows:
* Long-term: includes the topics studied in each **term** during the key stage
* Medium-term: includes the details of work studied each **term**
* Short-term: includes the details of work studied during each **lesson**
	1. The **D&T** **subject leader and curriculum team** is responsible for reviewing and updating long-term and medium-term plans, and communicating these to teachers.
	2. Teachers are responsible for reviewing and updating short-term plans, building on the medium-term plans, taking into account pupils’ needs and identifying the methods in which topics could be taught.
	3. Long-term planning will be used to outline the units to be taught within each year group.
	4. Medium-term planning will be used to outline the vocabulary and skills that will be taught in each unit of work, as well as highlight the opportunities for assessment.
	5. Medium-term plans will identify learning objectives, main learning activities and differentiation.
	6. Medium-term plans will be shared with the **D&T** **subject leader and curriculum team** to ensure there is progression between years.
	7. Short-term planning will be used flexibly to reflect the objectives of the lesson, the success criteria and the aims of the next lesson.
	8. All lessons will have clear learning objectives, which are shared and reviewed with pupils.

# Assessment and Reporting

* 1. Pupils will be assessed, and their progression recorded, in line with the school’s **Assessment Policy**.
	2. By the end of each key stage, pupils are expected to know, apply and understand the matters, skills and processes specified in the relevant programme of study.
	3. An EYFS profile will be completed for each pupil in the final term of the year in which they reach age five.
	4. The progress and development of pupils within the EYFS is assessed against the early learning goals outlined in the ‘Statutory framework for the early years foundation stage’.
	5. The progress and development of pupils within KS1 is assessed against the descriptors outlined in the national curriculum.
	6. Throughout the year, teachers will plan on-going creative assessment opportunities in order to gauge whether pupils have achieved the key learning objectives.
	7. Assessment will be undertaken in various forms, including the following:
* Talking to pupils and asking questions
* Discussing pupils’ work with them
* Marking work against the learning objectives
* Pupils’ self-evaluation of their work
* Classroom tests and formal exams
	1. Teachers will assess pupils’:
* Knowledge of tools, materials and equipment.
* Ability to record and communicate their design ideas in a clear manner.
* Personal qualities and attitudes towards their work.
* Ability to explain what they have created and how.
* Ability to use tools and materials safely and effectively.
* Ability to evaluate their work and the work of others.
	1. Teachers will record pupils’ ability and progression through two types of assessment – formative and summative.
	2. Formative assessment, which is carried out informally throughout the year, will be used to identify pupils’ understanding of subjects and inform their immediate lesson planning.
	3. In terms of summative assessments, the results of end-of-year assessments will be passed to relevant members of staff, such as pupils’ future teachers, in order to demonstrate where pupils are at a given point in time.
	4. Summative assessments are also used at the end of a unit of work. Teachers will make a judgement about the work of each pupil in relation to the national curriculum.
	5. Parents will be provided with a written report about their child’s progress during the **Summer term** every year. This will include information on pupils’ attitudes towards D&T, understanding of methods, investigatory skills and the knowledge levels they have achieved.
	6. Verbal reports will be provided at parents’ evenings during the **Autumn** and **Spring** terms.
	7. The progress of pupils with SEND will be monitored by the **SENCO**.

# Resources and equipment

* 1. The school has a selection of centrally stored materials, tools and equipment to ensure that all pupils have access to the necessary resources.
	2. The school library contains resources and topic books to support pupils’ research. The school receive books form Sheffield City Council Library on the topic focus for each half term. Books are displayed in the classroom linked to the half termly topic.
	3. The D&T budget covers the cost of materials and replacement tools. Class teachers are required to maintain the tools and equipment in their classrooms.
	4. Pupils may occasionally be asked to bring materials from home if they can; however, to provide all pupils with the same opportunities, the school will provide for pupils who are unable to do this.
	5. Display walls are utilised and updated on a **half termly** basis, in accordance with the area of art being taught at the time.
	6. At the **start of each school year**, the D&T **subject leader and curriculum team** will work with the **head teacher** to assess the school’s art tools, materials and equipment to ensure there is sufficient equipment for pupils, allowing for funds to be allocated where necessary.
	7. Food technology resources will be kept in the **resource cupboards in the hall**.

# Health, safety and hygiene

* 1. In order to maximise their learning experience, pupils are allowed full access to a wide range of materials in D&T lessons; however, health and safety concerns are inherent with D&T, including storing materials and tools, and the use of equipment.
	2. PPE; such as gloves, head protection, eye protection and hearing protection is made available to all pupils and teachers.
	3. The risks of each task will be assessed by the **classroom teacher** **D&T subject leader and curriculum team** before lessons and relevant PPE will be compulsory based on their decisions.
	4. Equipment will be tested before the start of every lesson by the **classroom teacher**.
	5. Pupils will be supervised at all times during D&T lessons. In order to maintain safe supervision D&T classes will not exceed **30 pupils**.
	6. All tools, such as glue guns, will be checked before use by the **D&T subject leader and curriculum team**. It is also the duty of staff to recognise and assess the hazards and risks associated when working with food and other materials.
	7. All pupils will be taught how to use all equipment properly by the classroom teacher before doing so; similarly, pupils will also be fully briefed on the importance of how to correctly use equipment and tools.
	8. Pupils are only allowed to use a lower temperature glue gun under one-to-one supervision – an adult must use the glue gun at all other times. Glue guns will be considered alongside all viable alternatives such as adhesive tapes, blue tack and other fasteners, to ensure the most suitable materials are used for each project.
	9. Perishable food will be stored sensibly and refrigerated if necessary. Care must be taken by teachers and teaching assistants to ensure food is not used after the given sell by date
	10. A fire safety blanket will be kept in the kitchen and staffroom.
	11. If any cooking or food preparation is taking place in the classroom, all surfaces will be cleaned before and after use.
	12. TAs may take a small group of pupils to cook in the dining room.
	13. Parent helpers will be supervised when cooking with groups of pupils.
	14. Teachers and TAs will oversee that all cupboards, table tops and cookers are clean and in working order.
	15. Prior to pupils being enrolled in school, parents complete an allergy form and this information is present in all Safeguarding folders in each classroom.

# Homework

* 1. Homework will be set on a weekly basis and will follow and build upon curriculum content. The content of the homework will be decided by the class teacher and monitored by **SLT.** Throughout the academic year there will be a range of homework provided linked to differing subjects.
	2. Parents will receive a **weekly** newsletter informing them about the main topics and units of work that will be covered.
	3. Parents will be encouraged to discuss the homework that is set with their child. If they have any queries or other comments about the homework, parents should make an appointment to see their child’s class teacher.

# Cooking and nutrition

* 1. As part of their work with food, pupils will be taught how to cook and apply the principles of nutrition and healthy eating. 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.
	2. By the end of KS1, pupils will be able to:
* Use the basic principles of a healthy and varied diet to prepare dishes.
* Understand where food comes from.

# Equal opportunities

* 1. We are an inclusive school that ensures all pupils are provided with equal learning opportunities, regardless of social class, gender, culture, race, disability or learning difficulties. Our **Equal Opportunities Policy** ensures all pupils are able to achieve their potential in all areas of the curriculum.
	2. In order to ensure pupils with SEND achieve to the best of their ability, outcomes are adapted, and the delivery of the D&T curriculum is differentiated for these pupils, in line with the school’s **SEND Policy**.
	3. The planning and organising of teaching strategies for D&T will be reviewed on an **annual** basis by the **D&T** **subject leader and curriculum team** to ensure that no pupil is at a disadvantage.
	4. The school aims to maximise the use and benefits of D&T as one of many resources to enable all pupils to achieve their full potential.

# Monitoring and review

* 1. This policy will be reviewed on an **annual** basis by the D&T **subject leader and curriculum team** and **head teacher**.
	2. Any changes made to this policy will be communicated to all members of staff and the governing board.
	3. All members of staff directly involved with teaching D&T are required to familiarise themselves with this policy.