Policy for Design and Technology at Reed First School

Early Years

We follow the Statutory framework for the Early Years foundation stage: The most relevant statements for DT are taken from the following areas of learning:

- Physical Development
- Expressive Arts and Design
- Personal Social and Emotional Development

Physical Development: Physical activity is vital in children's all-round development, enabling them to pursue happy, healthy and active lives. Gross and fine motor experiences develop incrementally throughout early childhood, starting with sensory explorations and the development of a child's strength, co-ordination and positional awareness through tummy time, crawling and play movement with both objects and adults.
Expressive Arts and Design The development of children's artistic and cultural awareness supports their imagination and creativity. It is important that children have regular opportunities to engage with the arts, enabling them to explore and play with a wide range of media and materials. The quality and variety of what children see, hear and participate in is crucial for developing their understanding, self-expression, vocabulary and ability to communicate through the arts. The frequency, repetition and depth of their experiences are fundamental to their progress in interpreting and appreciating what they hear, respond to and observe.

Personal, Social and Emotional development: Children's personal, social and emotional development (PSED) is crucial for children to lead healthy and happy lives, and is fundamental to their cognitive development. Underpinning their personal development are the important attachments that shape their social world. Strong, warm and supportive relationships with adults enable children to learn how to understand their own feelings and those of others.

To support our play based learning in Early Years, our skilled Early Years teachers will identify and plan opportunities for all children to develop key knowledge and skills which will support them in successfully accessing the National Curriculum for Design Technology when they enter Year One using the Key Stage One and Two categories of **structures**, **mechanisms**, **textiles** and **food.**

Key Stages One and Two

We follow national curriculum for design and technology 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

At Reed First School, we follow the Design Technology Association 'Projects on a Page'. https://www.data.org.uk/ These projects are adapted to create a series of lessons to achieve an end product which is purposeful to the children and linked to a cross curricular topic or themed week.

Projects will enable our pupils to:

- **Draw upon prior learning**
- **Design**
- **Make**
- **Evaluate**
- **Develop technical knowledge and understanding**

The curriculum is split to follow our mixed age planning policy used throughout the subjects. Over the years, our pupils work with the following aspects:

KS1	**A Year**	**Structures** Free Standing structures	**Textiles** Templates and joining	**Food** Preparing fruit and vegetables
	B Year	**Mechanisms** Sliders and Levers	**Mechanisms** Wheels and Axles	
KS2	**A Year**	**Electrical systems** Simple circuits and switches	**Textiles** 2D shape to 3D product	**Food** Healthy and varied diet
	B Year	**Mechanical systems** Levers and linkages	**Structures** Shell structures (including computer –aided design)	**Food** Celebrating culture and seasonality

Teachers will plan projects which have meaning and purpose and think about the overall

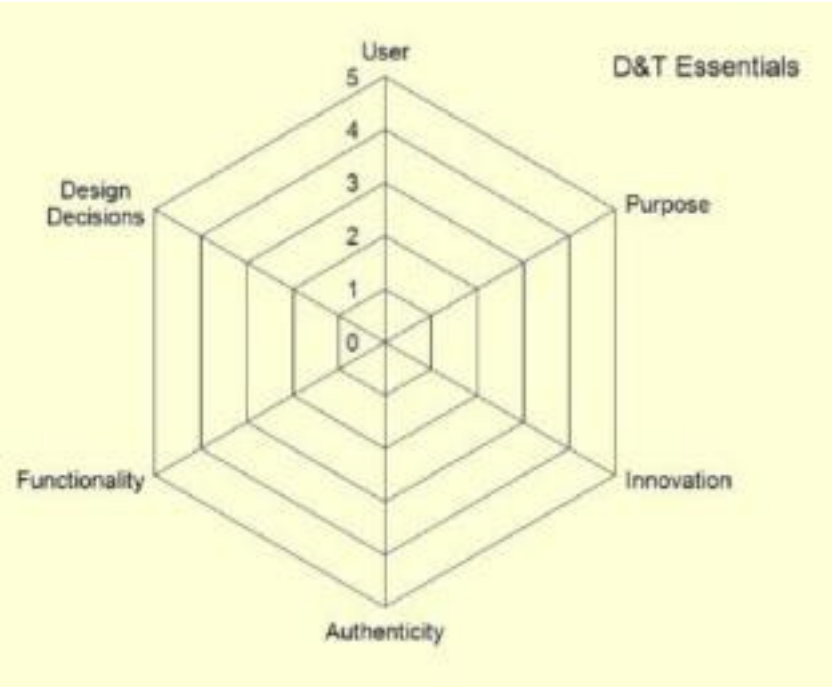
potential of the project. The project title will follow this frame:

Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose).

Every pupil will work on three projects every year. During every project, pupils will have the opportunity to carry out:

- **Investigative and Evaluative Activities (IEAs)**
- **Focused Tasks (FTs)**
- **Design, Make and Evaluate Assignment (DMEA)**

The planned project will be evaluated against the criteria web and adjusted if needed.



The pupils will be expected to work in an iterative way to encourage creative any cyclical thinking at every stage.

The Design Technology planning sheets will be used as a starting point for each project. The process will be followed but the purpose changed so that even if a planning sheet is used twice within the cycle of learning at their time at school, the projects will not be repeated.

Recording

Every pupil has a design technology book in Key Stage One and Key Stage Two where the projects they carry out are recorded for a clear map of their progress and experience in the subject at their time at our school.

The books are passed up through the school and are used for formative and summative assessment.

Each project should show the required ITAs, FTs and DMEAs. These could take the form of project planning, photographs, printed work, transcripts and evaluations.

Assessment

The assessment sheets using skills progression from the Design Technology Association are annotated throughout the pupils' time in Key Stages One and Two. A copy of the assessment sheet is stuck into the front of each pupil's DT book to ensure assessments and notes are made after every DT lesson to inform next steps, planning and areas for subject development.

During Key Stage One, the following is assessed:

Strand		Skills
Designing	Understanding contexts, users and purposes	gather information about user needs; develop their own design criteria; describe the user, purpose and design features of their products and explain how they will work.
	Generating, developing, modelling and communicating ideas	generate realistic ideas based on user needs; use a range of drawing skills, discussion, prototypes, pattern pieces and computer-aided design.
Making	Planning	order the main stages of making; select suitable tools, equipment, materials and components and explain their choices.
	Practical skills and techniques	follow procedures for safety and hygiene; use a wider range of materials and components; measure, mark out, cut, shape, assemble, join, combine and finish with some accuracy.
Evaluating	Own ideas and products	evaluate their ideas and products against their design criteria.
	Existing products	investigate how well products have been designed and made, whether they are fit for purpose and meet user needs; why materials have been chosen, the methods of construction used and how well they work.
	Key events and individuals	know about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products.
Technical Knowledge	Making products work	know that materials have functional and aesthetic qualities; that systems have an input, process and output; how to program a computer to control their products; how to make strong, stiff shell structures; use the correct technical vocabulary.
Cooking and nutrition	Where food is from	know that food is grown, reared and caught in the UK, Europe and the wider world.
	Food preparation, cooking and nutrition	know how to prepare a variety of dishes safely and hygienically; that a healthy diet is made from a variety and balance of different food and drink; that food and drink are needed to provide energy for the body.

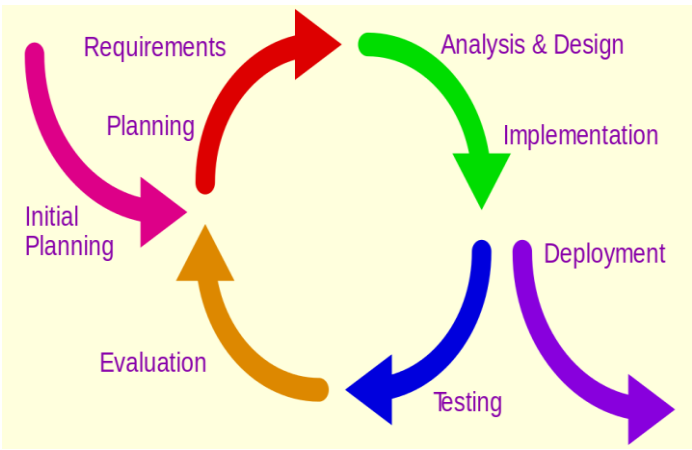
and during Key Stage 2:

Strand		Skills
Designing	Understanding contexts, users and purposes	use simple design criteria; state what their products are, who and what they are for and how they will work.
	Generating, developing, modelling and communicating ideas	generate ideas using their own experiences and existing products; use talk, drawing, templates, mock-ups and, where appropriate, computers.
Making	Planning	plan by suggesting what to do next; select from a range of tools, equipment, materials and components.
	Practical skills and techniques	follow procedures for safety and hygiene; measure, mark out, cut, shape, assemble, join, combine and finish a range of materials and components.
Evaluating	Own ideas and products	make simple judgements about their products and ideas against design criteria.
	Existing products	explore who and what products are for, how they work and are used, what materials they are made from and what they like and dislike about them.
Technical Knowledge	Making products work	know about the simple working characteristics of materials and components, the movement of simple mechanisms, how freestanding structures can be made stronger, stiffer and more stable; use the correct technical vocabulary.
Cooking and nutrition	Where food is from	know that food comes from plants or animals and that it is farmed or caught
	Food preparation, cooking and nutrition	know how to prepare simple dishes safely and hygienically without a heat source, name and sort foods into groups; know that everyone should eat at least five portions of fruit and vegetables a day.

Marking and feedback

The school marking and feedback policy will be used in the teaching of DT. This will include live marking and feedback. Children will also be given time to self-review their work, and will be given time to respond to particular 'challenge' questions or advice. Please see our separate Marking and Feedback policy for more information.

The children will always evaluate their work in an iterative way:



Differentiation and Special Educational Needs:

All children are taught the DT curriculum. We recognise the fact that we have children of differing ability in all our classes, and so we provide suitable learning opportunities for all children by matching the challenge of the task to the ability of the child. We achieve this through a range of strategies which are differentiated by task, expected outcome, the grouping of the children, resources provided and/or support from peers or adults. We ensure a pupil's needs to do not form a barrier to success in a curriculum area. For example; computer generated images may be made available to children with difficulties creating an image by hand in order to assess their knowledge and understanding of how to make an image move using mechanisms rather than an assessment being judged on their drawing skills.

By teaching the skills required to access the full curriculum through our curriculum maps, the children have equal access to the use of resources. For example, children are able to cut and join in a variety of ways before they leave our Early Years Foundation Stage. These experiences enable the children to apply skills learnt into Key Stage One. Where children have not met the expected standards at the end of a Key Stage, activities and support will be put into place to enable the child to catch up and keep up.

All reasonable adjustments will be made to enable access to all experiences and resources in the subject. For example, table heights can be adjusted to enable access and the cooking facilities are located in an accessible space.

As we do across the curriculum, careful planning and preparation is used to ensure all children can follow the same curriculum and reasonable adjustments will be put in place whenever they are needed.