How we teach Design Technology

Godmanchester Bridge Academy
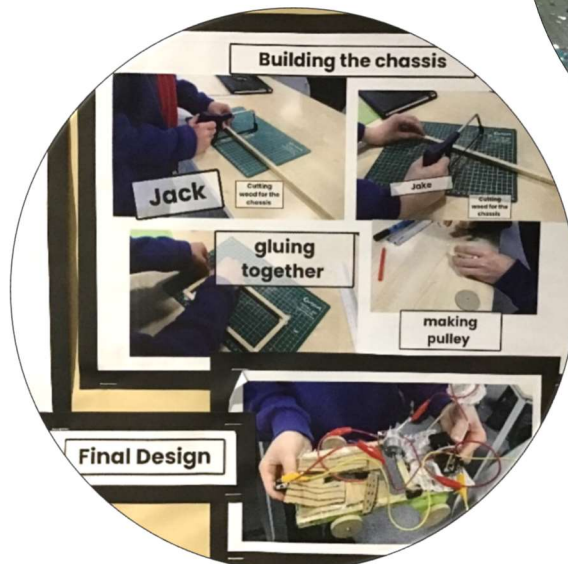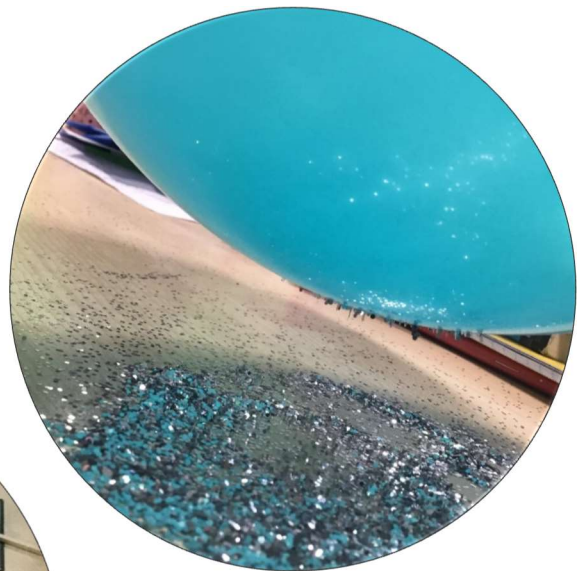
This document outlines: the intent and rationale behind our Design Technology curriculum, how it is delivered it and how we measure pupil progress.

At Godmanchester Bridge Academy, the Deign Technology curriculum is aligned with our school values:

Inspire	Enjoy	Achieve
Children work with a clear purpose, addressing both real and imagined problems. There are opportunities to work both collaboratively and independently.	Children work in a variety of disciplines including textiles, structures, cooking, physical programming and electronics. They are empowered to make their own choices.	Children develop creative and technical skills that enable them to become effective problem-solvers. They can communicate their design solutions in a variety of ways.

At Godmanchester Bridge Academy we follow the Kapow Primary Design and technology scheme of work, which aims to inspire pupils to be innovative and creative thinkers who have an appreciation for the product design cycle through ideation, creation, and evaluation.

We want pupils to develop the confidence to take risks, through drafting design concepts, modelling, and testing and to be reflective learners who evaluate their work and the work of others. Through our scheme of work, we aim to build an awareness of the impact of design and technology on our lives and encourage pupils to become resourceful, enterprising citizens who will have the skills to contribute to future design advancements.

Our Design and technology scheme of work enables pupils to meet the end of key stage attainment targets in the National curriculum and the aims also align with those in the National curriculum. EYFS (Reception) units provide opportunities for pupils' to work towards the Development matters statements and the Early Learning Goals.

Implement

The Design and technology National curriculum outlines the three main stages of the design process: **design, make and evaluate**. Each stage of the design process is underpinned by technical knowledge which encompasses the contextual, historical, and technical understanding required for each strand. Cooking and nutrition has a separate section, with a focus on specific principles, skills and techniques in food, including where food comes from, diet and seasonality.

The National curriculum organises the Design and technology attainment targets under four subheadings:

● Design

● Make

● Evaluate

● Technical knowledge

Our scheme has a clear progression of skills and knowledge within these strands and key areas across each year group.

Cooking and nutrition is given a particular focus in the National curriculum and we have made this one of our six key areas that pupils revisit throughout their time at Godmanchester Bridge Academy:

● Cooking and nutrition   ● Textiles

● Mechanisms/ Mechanical systems   ● Electrical systems (KS2 only)

● Structures   ● Digital world (KS2 only)

Through our Design and technology scheme, pupils respond to design briefs and scenarios that require consideration of the needs of others, developing their skills in the six key areas. Each of our key areas follows the design process (design, make and evaluate) and has a particular theme and focus from the technical knowledge or cooking and nutrition section of the curriculum. The scheme is a spiral curriculum, with key areas revisited again and again with increasing complexity, allowing pupils to revisit and build on their previous learning.

Lessons incorporate a range of teaching strategies from independent tasks, paired and group work including practical hands-on, computer-based and inventive tasks. This variety means that lessons are engaging and appeal to those with a variety of learning styles. Differentiated guidance is available for every lesson to ensure that lessons can be accessed by all pupils and opportunities to stretch pupils' learning are available when required. Knowledge organisers for each unit support pupils in building a foundation of factual knowledge by encouraging recall of key facts and vocabulary.

All Pupils:

- access an adapted curriculum that is appropriate for all but is also meaningful, challenging & ambitious.
- are provided a range of activities to engage them and allow them to effectively communicate their understanding.
- are closely monitored and supported pastorally to ensure their emotional wellbeing is prioritised.
- named on seating plan so that pupils are known to staff and we foster a feeling of each pupil having their own place in the community.
- record work in a variety of ways, allowing access to the curriculum through multi-sensory learning.
- are supported with their behaviour choices in a positive environment, school use restorative consequences so that pupils can reflect and be supported to meet the community's behaviour expectations.
- receive feedback in lessons that results in further progress across the curriculum.

Some Pupils Need:

- use of concrete and pictorial representations during teaching and when working independently to aid their understanding.
- clear vocabulary explanations and/or introductory vocabulary work to prepare for a task.
- one-to-one interaction and targeted intervention by the teacher.
- a specific seat in lessons to meet a sensory or a learning need.
- differentiated lesson structure, e.g. more paired/ discussion work or increased mini-plenaries.
- targeted interventions to fill gaps in understanding.
- extra support in a lesson from an additional adult so that the pupils needs, academic or pastoral are effectively met.
- specialist vocabulary sheets with phonetic breakdowns

Specific Pupils Need:

- personalised long-term learning outcomes with carefully planned incremental targets to achieving their outcomes.
- access to a quiet space to ensure they can be supported to meet their potential.
- additional support in lessons from an adult who is attuned to their individual pastoral and learning needs.
- bespoke timetables taking in to account their needs to ensure that they are taught in an environment that best supports their needs.
- curriculum adaptations to allow for engagement through pupil interests (project focus or word problem context).
- Additional adult support in practical lessons to comply with H & S guidelines

Implement

The impact of our Design Technology scheme can be constantly monitored through both formative and summative assessment opportunities. Each lesson includes assessing pupils against the learning objectives. Furthermore, each unit has a unit quiz and knowledge catcher which is used at the start and/ or end of the unit.

After the implementation of the Design Technology curriculum, pupils should leave Godmanchester Bridge Academy equipped with a range of skills to enable them to succeed in their secondary education and be innovative and resourceful members of society. The expected impact of following the Design Technology scheme of work is that children will:

➔ Understand the functional and aesthetic properties of a range of materials and resources.

➔ Understand how to use and combine tools to carry out different processes for shaping, decorating, and manufacturing products.

➔ Build and apply a repertoire of skills, knowledge and understanding to produce high quality, innovative outcomes, including models, prototypes, CAD, and products to fulfil the needs of users, clients, and scenarios.

➔ Understand and apply the principles of healthy eating, diets, and recipes, including key processes, food groups and cooking equipment.

➔ Have an appreciation for key individuals, inventions, and events in history and of today that impact our world.

➔ Recognise where our decisions can impact the wider world in terms of community, social and environmental issues.

➔ Self-evaluate and reflect on learning at different stages and identify areas to improve.

➔ Meet the end of key stage expectations outlined in the National curriculum for Design and technology.

Subject Map

Year	Unit 1	Unit 2	Unit 3
R	Cooking	Planting beans Making beanstalks	Planning and making flips flops
1	Structures: Constructing a windmill	Textiles: Puppets	Food: Fruit and Vegetables
2	Structures: Baby bear's chair	Mechanisms: Fairground wheel	Mechanisms: Making a moving monster
3	Food: eating seasonally	Digital world: Electronic charm	Structures: Constructing a castle
4	Structure: Pavilions	Mechanical systems: making a slingshot	Electrical systems: Torches
5	Electrical Systems: Doodlers	Mechanical Systems	Food: What could be healthier?
6	Textiles	Structures: Playgrounds	Digital World