D&T - One Voice

D&T Vision

Design and Technology at CCJS develops children's skills and knowledge in design, structures, mechanisms, electrical control and a range of materials, including food. It encourages children's creativity and encourages them to think about important issues.

Design and Technology gives children the opportunity to develop skills, knowledge and understanding of designing and making functional products. We feel it is vital to nurture creativity and innovation through design, and by exploring the designed and made world in which we all live and work.

National Curriculum

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.

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.

Pedagogy of Design Technology

Key Concept	Explanation
User	Pupils should have a clear idea of who they are designing and making products for, considering their needs, wants, values, interests and preferences. The intended users could be themselves or others, an imaginary/story-based character, a client, a consumer or specific target group.
Purpose	Pupils should be able to clearly communicate the purpose of the products they are designing and making. Each product they create should be designed to perform one or more defined tasks. Pupils' products should be evaluated through use.
Functionality	Pupils should design and make products that work/function effectively to fulfil users' needs, wants and purposes.

Pedagogy of Design Technology

Design Decisions	Pupils need opportunities to make their own design decisions. Making design decisions allows pupils to demonstrate their creative, technical and practical expertise, and draw on learning from other subjects. Through making design decisions pupils will decide how their product will work, how it will perform and who the product will be for.
Innovation	Projects that encourage innovation, lead to a range of design ideas and products being developed and are characterised by engaging open-ended starting points for learning.
Authenticity	Children should design and make products that are believable, real and meaningful to themselves (not replicas or reproductions) which do not provide opportunities for children to make design decisions with clear users and purposes in mind.

DT Projects on a Page

Projects on a page (POAP)

At CCJS we use the DT Association 'Projects on a page as a basis for our long term overviews, adapting them to our curriculum. There is a yearly overview for each work group.

Three main types of D&T activities are:

- Investigative and Evaluative Activities (IEAs) where children learn from a range of existing products and find out about D&T in the wider world;
- Focused Tasks (FTs) where they are taught specific technical knowledge, designing skills and making skills;
- Design, Make and Evaluate Assignment (DMEA) where children create functional products with users and purposes in mind.

Pedagogy: Teaching and Learning Strategy

Our Teaching and Learning Strategy outlines the 7 lenses of our approach to pedagogy. These lenses are present in Art lessons, and are embedded in our Art lessons. These can be found on page 2 of our policy and are **sequencing, modelling, scaffolding, questioning, practice/review/retrieve, DEAL strategies** and **vocabulary.**

Sequencing	Sequencing is shown on our Long Term Plan. Each project is broken down on our Sequencing Documents, which contain previous knowledge from both the juniors and infants school.
Modelling	The children record all stages of designing, making, evaluating in their curriculum books which is supplemented by teachers photo and or video evidence. Children use a variety of recording methods depending on the needs of the projects, for example, sketches, annotations, double page spreads and project booklets. Each class will complete 1 project on a page per term. Children must demonstrate clearly the key skills and vocabulary used.
Scaffolding	Our school uses the Adaptive Teaching model for all subjects. See School Provision Map
Questioning	Questioning is targeted during lessons during whole class input by teachers. Questions are also posed to students in books.
Practice, review and retrieval	To further guide our children to 'Know More, Remember More', we are developing recall documents, serving as a reminder of previous work and a springboard for new.
DEAL strategies	DEAL strategies are used to immerse the children into the historical and cultural context of the project they are learning about.
Vocabulary	Children are provided with a variety of vocabulary in whole class discussions, from which they will choose what they feel is most appropriate and expand upon in their curriculum books.

Long Term Planning

The plan for DT is split into lower and upper key stage

Y3	**Structures** Shell Structures	**Textiles** 2-D shape to 3-D product	**Food** Healthy and varied diet (including cooking and nutrition requirements for KS2)
Y4	**Food** Healthy and varied diet (including cooking and nutrition requirements for KS2)	**Mechanical systems** Pneumatics	**Textiles** 2-D shape to 3-D product

Upper Key Stage 2

Y5	**Food** Celebrating culture and seasonality (including cooking and nutrition requirements for KS2)	**Structures** Frame Structures	**Textiles** Combining different fabric shapes
Y6	**Food** Celebrating culture and seasonality (including cooking and nutrition requirements for KS2)	**Textiles** Combining different fabric shapes (including computer-aided design)	

Measuring Progress

- **Projects on a Page** builds on children's prior knowledge and skills.

At CCJS we promote

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

- Staff assess DT skills and offer opportunities for learners to refer back to prior learning to help them remember more. Formative assessments are used to improve learning during a project and Summative assessments are used to evaluate learning at the end of a project. Teachers consider the children's strengths and areas for improvement, praise their strengths and guide them in mastering their skills. The goal of summative assessment at our school is to provide an accurate and fair evaluation of learning and performance, every child's progress in DT, by the end of the will be added into SIMS as E, M or X.

Challenge, Adaptations and Memory:

Challenge:

- Iterative opportunities (whilst ensuring clarity of design, make and evaluate process' are paramount).

SEND & EAL: Adaptive Teaching

- A practical DT focus enables learning to be adapted to ensure no barriers for children. Children are supported to help them learn and execute skills needed, as well as being guided to make their own decisions and evaluations.

Knowledge and Skills

- To ensure knowledge and skills are embedded in children's long term memory teachers provide regular check ins by recapping previous learning before introducing new learning using DT displays.

DT Learning Process

For each unit, the product, user and purpose for the unit is clearly visible and central to D&T teaching and learning (stage 9 of POAP): Design, make and evaluate a _____ (product) for _____ (user) for _____ (purpose).

- DT booklet- presentation and design, make and evaluate model consistent across school.
- DT class display working wall including key vocabulary for the unit.

Pupil voice Y3:

"I liked making my own decisions and choosing the toppings I wanted" "We had to eat it so we could evaluate it, that was the best bit" "I was pleased with mine, it look like a sandwich from a shop because of my good cutting and slicing" "I enjoyed sketching my design first so I knew what it would look like!" "I learnt the bridge and claw technique"

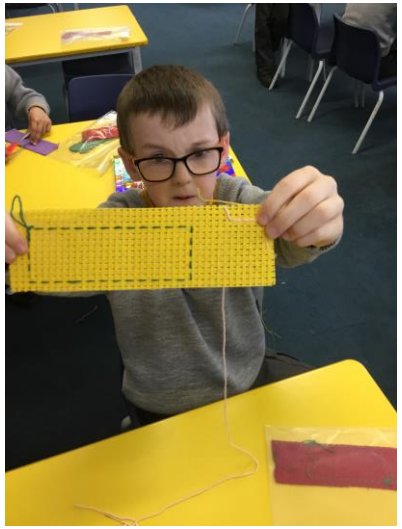
Pupil voice Y3: "I really enjoyed learning how to sew in Y3. First we learnt and practiced different stitches".

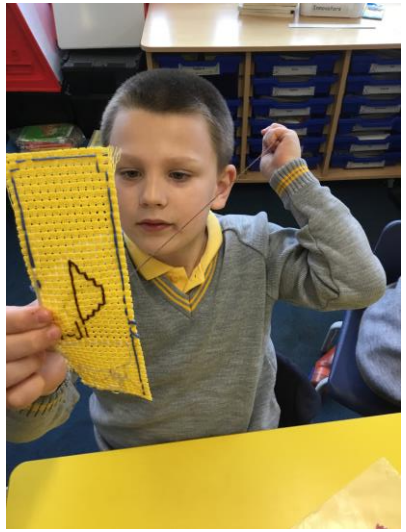
"We had to design, make and evaluate a bookmark".

"We evaluate it at the end to see what we could improve".

"Yes, I like researching and designing and making things".

"I went home and made a phone case cover".



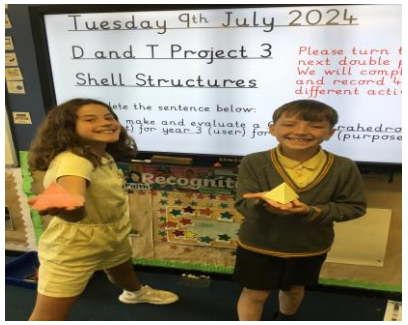


Pupil voice Y3: " I liked the whole process, the way we drew sketches first, then made a net of a tetrahedron before we built the ones with sticks"
"I really enjoyed building the tetrahedron, I liked watching it grow from one small one to a giant one!"

"We had to work on our own, then small groups then with the other year 3 classes, I love team work".

"I didn't think we could it using only sticks and elastic bands, it looked amazing".

"I liked using my hands, creating and building, I'd like to build something again in school".



Pupil voice Y4:

"We had to design, make and evaluate a purse or wallet".

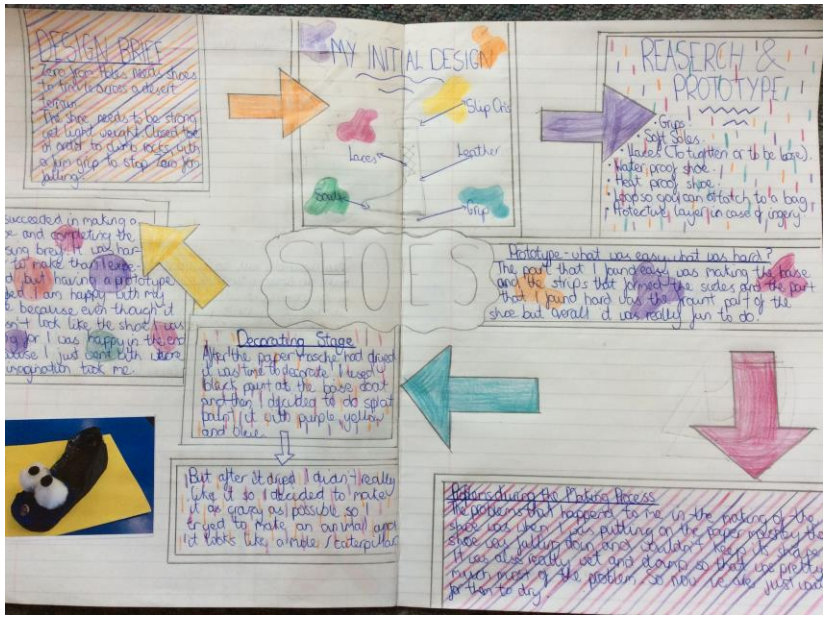
"We researched and chose different fabrics"

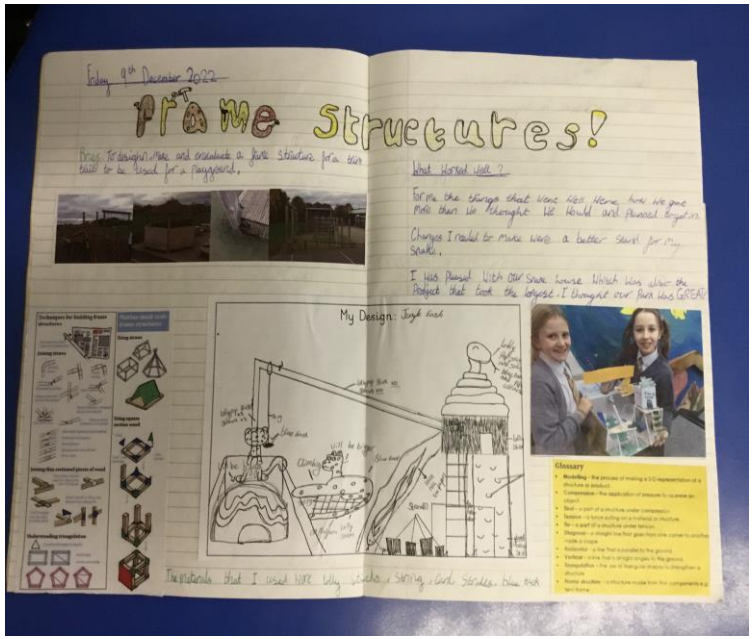
"We learnt different ways to make a seam"

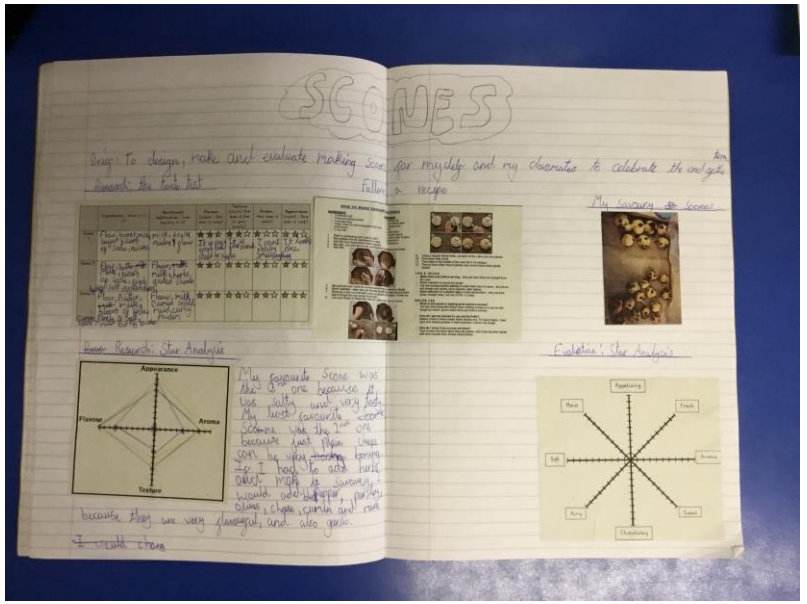
Pupil Voice/ Book Look: Y5

"D&T is about understanding the process of how to make stuff".

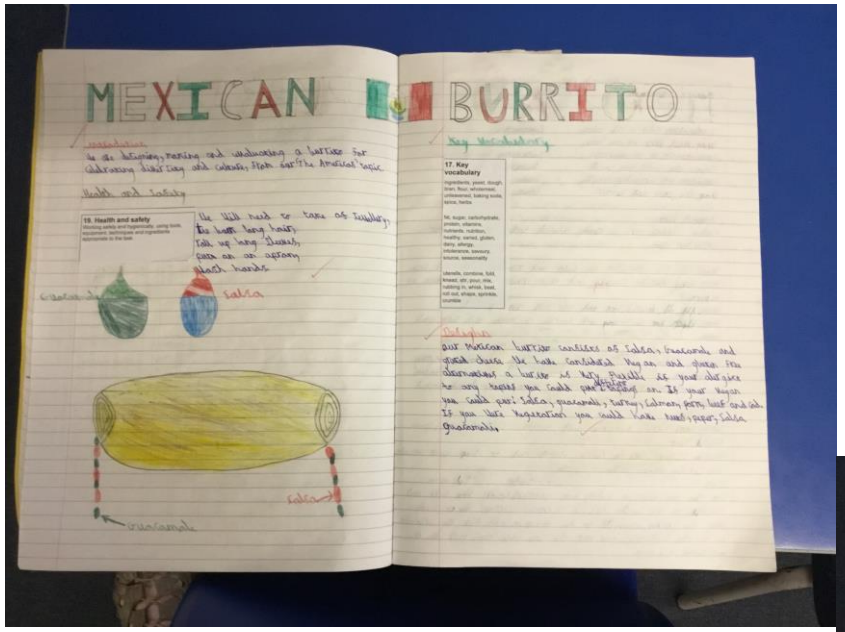
"We first looked at our design brief, researched what the product is usually made of and then made a prototype".

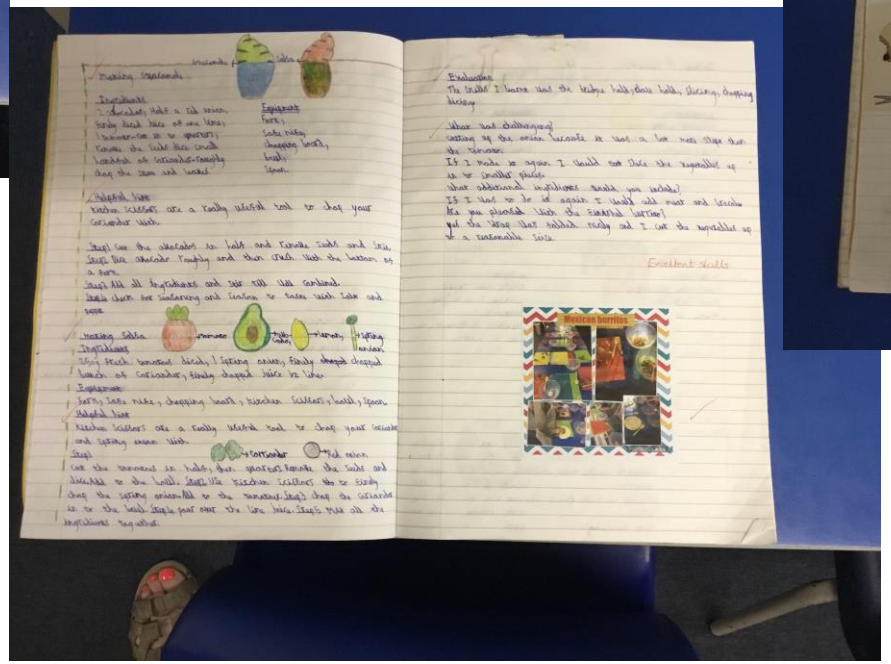


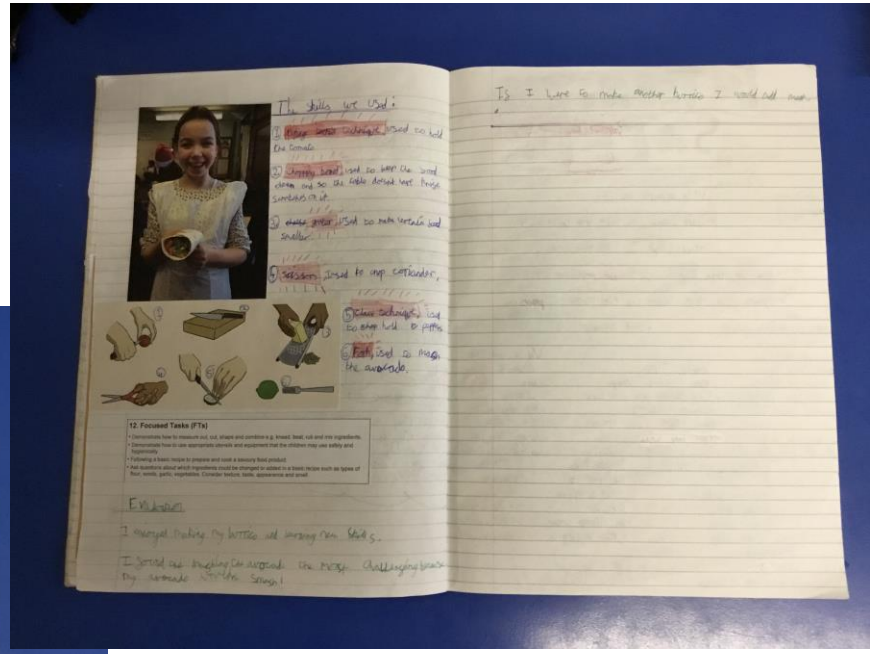




Book Look: Y6 - Making Mexican Burritos







Strengths

- Projects on a Page: Clear coverage and progression across each unit and year.
- Engaging lessons driven by quality sequence documents and high-quality teaching and learning.
- Teachers passion for the subject
- Emphasis on iterative processes

Next steps:

- 2024 Monitoring: pupil voice, lesson observations and book flicks.
- Develop Knowledge organisers, Assessment and DT booklets: monitor and support in developing.
- DT classroom displays: WAGOLL and Vocabulary displays.
- CPD to upskill and enhance the confidence of teaching staff