

DESIGN & TECHNOLOGY



Bishop Chadwick
Catholic Education Trust

Spotlight on Assessment



WHY DESIGN AND TECHNOLOGY?

Design is everywhere, now more than ever. The study of design and technology enables pupils to use their creativity and imagination to design and make products that solve real and relevant problems.

Equipping pupils with creative skills and self efficacy, advantages them in careers involving engineering, fashion and product design.

Makers, inventors and problem solvers all need foundations to set them on their way.

We aim for our pupils to learn how:

- to build and apply a repertoire of knowledge, understanding and skills needed to perform everyday tasks confidently and to participate successfully in a technological world.
- critique, evaluate and test their ideas and products and the work of others
- to understand and apply the principles of nutrition and learn how to cook.



"Teaching design and technology to children equips them with essential problem-solving skills, encourages out-of-the-box thinking, and prepares them for a future full of exciting possibilities."

CURRICULUM DESIGN

The design and technology curriculum is designed to assess what children know and remember over time, as well as assessing the development of skills and pupils' understanding of how we communicate through art.

Establish prior learning to ensure that new learning links with and builds upon current knowledge of pupils. Drawing units are built upon each year, with painting and sculpture units being developed across each phase.

Concise rationale for learning that has been prioritised and how does this learning prepare pupils for the next stages of their learning in Art

Clearly defined sequential components to learning.

Vocabulary rich, subject-specific terminology to develop understanding of media, processes, techniques and artists.

Cultural influences identified to deepen pupil learning

Design & Technology
Cooking & Nutrition
Year 6: Vegetable Curry

Rationale/Curriculum links...
Pupils will build on their knowledge of cultural influences on the Great British Menu and eating seasonally. Adapting recipes to change the appearance, taste, texture and aroma. Using their previous knowledge of numeracy for measurement and irreversible change linked to science, eating well and staying healthy in PSHE.

Design	Seasons may affect the food available. Food contain different substances – nutrients, water and fibre.
Make	Adapting recipes to change the appearance, taste, texture and aroma. Food is processed into ingredients that can be eaten or used in cooking.
Evaluate	Taste and evaluate the product
Technical Knowledge	Peel, chop, measure, boil, simmer,

Step One: Research packaging design and evaluate their ingredients. Discuss preferences.

Step Two: Examine the ingredients list and identify any potential allergy or intolerances. *Testing

Step Three: Review a selection of three basic recipes, discuss ingredients. Highlight food hygiene rules

Step Four: Recap food hygiene rules, then prepare ingredients. Then prepare ingredients using accurate measurement to make the curry.

Step Five: Taste and evaluate the curry. Pupils to make suggestions for future improvement.

Step Six: Side Tasks: Costing, Packaging, Advertising, provenance of ingredients.

Key vocabulary: Packaging: Audience, Clarity, Nutrition, Colour, Layout, Image, Text/Font, Advertise. Making the Curry: Peel, Chop, Slice, Dice, Blend, Combine, Heat, Simmer. Evaluation: Appealing, Attractive, Eye-catching, luxurious, Delicious, Flavour, Spicy, Bland, Salty, Sweet, Sour.

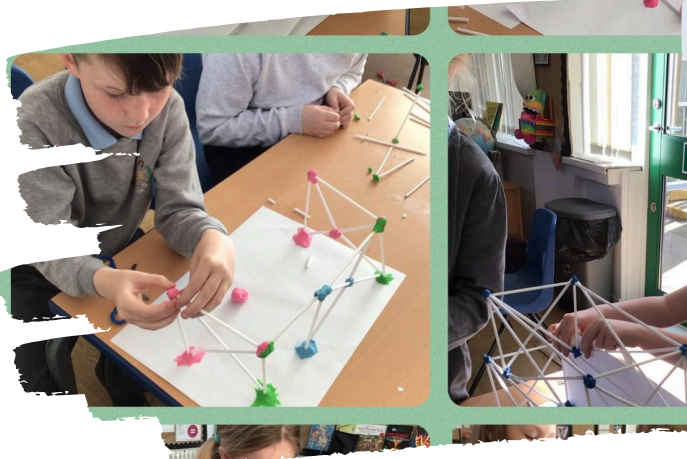
Key influencers: Madhur Jaffrey. She revolutionised how westerners viewed Indian cuisine when she published her first book in 1973.

Cultural Influence and History of Dish: Curry originated in the Indian subcontinent and the word comes from the Indian Tamil word "Kari" meaning a sauce or soup to be eaten with rice. It consists of a mix of spices of which coriander, turmeric, cumin, and red chilli constant. Curries are mainly Asian cuisine. The British introduced to English cuisine in the 17th century, added to plain boiled and rice first served in coffee houses it has been increasingly popular major jumps in the 1940s and 1950s. Such is the popularity of curry it has frequently been called "dish".

What allergens are present within the group for the possibility of taste testing taking place?
• Ensure that hands are washed before touching

Recipe Card:
Chopping: Do you have a clear space to chop? Do you have a steady surface to chop on? Are you standing still and concentrating? Do you have a sharp knife? Do you know the Bridge and Claw techniques?
Peeling: Do you know how to hold the peeler safely? Do you know to peel away from your hand? Have you removed all skin/peel from the vegetables?
Recipe: Carrot, Potato, Chick peas, Spinach, mixed beans and spices. Quantities decided upon by pupil to taste and preference.
Additional ingredients options: Carrot, Potato, Chick peas, Spinach, mixed beans and spices. Quantities decided upon by pupil to taste and preference.
Equipment: 1 Peeler, 1 Serrated knife, 1 Chopping board, 1 Tablespoon, 1 Teaspoon, 1 Measuring Jug, 1 Wooden Spoon, 1 Large pan, 1 Scale, 1 Tin opener, Small dishes and spoons to taste.
Method: 1. Peel and chop chosen vegetables (approximately the same size to ensure they cook through evenly). 2. Turn on the hob and add the onion to the pan and allow to soften with a table spoon of water. 3. Add 500ml of water to the pan along with the crumbled stock cube, curry powder and tomato puree and mix thoroughly. 4. Add prepared vegetables to the pan and simmer for 15-20 mins or until vegetables are cooked through. 5. Allow to cool and serve.

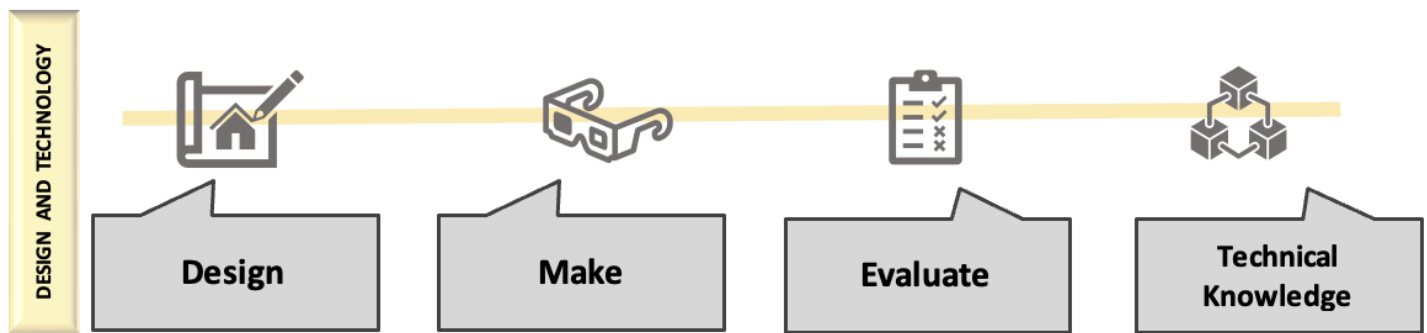
The learning process is broken into small and interconnected steps. Opportunities to assess learning and offer feedback, as learners move towards clearly defined end points, have been considered as part of the curriculum design for each unit. Using a range of ongoing assessment approaches will most likely ensure that assessment captures the range of knowledge that pupils need. It will also address the various purposes of assessment in design and technology.



"D&T brings learning to life. It is a motivating context for discovering literacy, mathematics, science, art, PSHE, and ICT. Children have to think, decide and plan, as well as go and create."

A THRESHOLD CURRICULUM

Threshold Concepts are carefully interleaved within the curriculum from EYFS to KS5 so that they are revisited and reinforced with different content and context attached to the concept over time.



The threshold concepts relate to all domains of knowledge in design and technology. Through carefully constructed sequences of learning, they are taught about the world we live in and develop a wide range of skills embedded through the threshold concepts of designing, making, evaluating and problem solving – they are exposed to an abundance of technical knowledge in each and every lesson.



- using research and exploration to identify and understand user needs.
- identifying and solving design problems
- developing specifications to inform the design of innovative, functional and appealing products.
- using a variety of approaches to generate creative ideas.
- developing and communicating design ideas in a variety of formats.



- selecting and using specialist tools, techniques, processes, equipment and machinery.
- selecting and using a wide and complex range of materials, components and ingredients - considering their properties.
- preparing and cooking a variety of dishes using a range of cooking techniques.



- analysing the work of past and present professionals.
- investigating new and emerging technologies.
- using design specification and user feedback to test, evaluate and refine ideas.
- exploring the impact of design and technology on society and the environment.



- understanding and using materials based on their properties and structural performance.
- understanding how mechanical systems are used in products to change movement and force.
- understanding how electrical and electronic systems are used and can be powered within products.
- Applying computing and programmable computers to embed intelligence into products.
- understanding the principles of healthy and varied diet.
- understanding seasonality and food sources.

Our curriculum is separated into two key strands: Design and Make, Cooking and Nutrition. Both strands are underpinned with adherence to these threshold concepts.

Accurately identifying pupil progress

Pupils make progress in design and technology by developing:

- technical knowledge necessary for when they make and design products. This allows pupils to make choices based on what they know about the limits and possibilities of materials and their structural capacity.
- knowledge about the cultural and contextual content about designers and their work as well as cultural influences relating to food and diet.
- knowledge about design history, an understanding of: meaning and interpretations; materials and processes; journeys and connections through time.



Video support is provided for teachers to ensure consistency of delivery and accurate subject knowledge is shared.

Assessment 'embedded' within the design

Opportunities to know where pupils are with their learning and to identify and address any gaps.

Each lesson allows for new knowledge to be placed in the context of previous learning, as well as providing an opportunity to highlight any learning still to come. Allowing time to explain this to pupils will enable them to see the purpose of their learning in the 'bigger picture' of the design or make process being studied.



The design and technology curriculum uses effective assessment through various forms of information and provides feedback to pupils, in the moment, in order to evaluate and assess pupil progress.

Assessment within design and technology is heavily based around dialogue and feedback between teachers and pupils, which is particularly beneficial when pupils learn practical knowledge. Within each lesson, live marking and feedback focuses on improvement in the immediate task. Through this approach, ways in which pupils can modify and refine the way they are applying component knowledge can be improved. This formative assessment, within lessons, is achieved through effective dialogue between teachers and pupils in a timely, frequent and bite-size manner. Assessment in this way, ensures that knowledge of specific components is checked and allows teachers to identify and address specific misconceptions or knowledge gaps in a purposeful way.

The design of the curriculum and sequential components in design and technology, build up to a final piece or outcome, which can be assessed in a summative way to identify how well the pupils have remembered, and put into practice, the knowledge that is being applied in the piece. These tasks provide rich opportunities for assessment of pupils' disciplinary knowledge. **End of key stage** expectations set out clear objectives for knowledge built up over time.