



# Design Technology on a Page

## WHAT WE TEACH AND WHY – (intent)

### Our school values

The 6 Rs underpin everything we do at RA Butler Academy Schools. In DT the children learn how to be respectful and develop working relationships with their peers around skills based projects. Children are encouraged to be reflective throughout the whole DT learning journey; DT is an iterative process. Being resilient, taking risks and choosing appropriate resources underpins many of the learning processes throughout the school.

### Design, content and sequencing

The DT progression map and long term subject curriculum plan detail the skill and knowledge content taught across the school. DT is split into the following strands: Structures, Mechanisms, Electrical Systems (KS2 only), Textiles and Food Technology. We make sure that within a two year cycle all the 5 aspects are covered to ensure depth of the curriculum and that skills are built upon. Food Technology is taught every year to meet The National Curriculum expectations. Although the skills within Food Technology remain the same for each phase, the planning ensures that the children's skills are developed *e.g. Soft fruit is cut in Year 1, hard vegetables in Year 2.*

Each project follows the same format where children are focusing on the Investigative and Evaluative Activities (IEAs), Focused Tasks (FTs) and Designing, Making, and Evaluating their own product. To ensure this, we use the DT Association planners to support our planning and teaching. Each project across the school is formatted following the same process to create a functional product with a specific user.

Wherever possible we have aligned our DT projects with the wider curriculum topics which often link closely with age appropriate texts. We balance the coverage of DT with Art and Design to ensure the children are equally exposed to both. Further to this, where possible, the projects are linked to the school community and beyond *e.g. Food Technology in Year 2 is taught at the end of KS1 celebration. In KS2 their projects encourage the children to make products for users other than themselves. This can include research of the user's needs e.g. through interviews and surveys and then follow up evaluations with the user of the product. Further to this, some DT topics are linked to the topic hooks and/or exit points, external visitors and school trips e.g. Year 5 Food Technology was linked to History off the page and wartime food.*

DT is taught in blocks across the school to allow children to immerse themselves in the creative process and the DT process lends itself to the blocking approach.

To support children's learning and skill development the children each have their own DT book which travels through the school with them. This enables teachers to see individual achievements and allows each child to refer back and have ownership of their learning and progression as the strands are built upon over the phases. To achieve this, each project starts with a familiar front page which gives the project title, revisits and develops the children's subject specific vocabulary and refers to previous learning.

DT is taught and planned out to ensure that children from EYFS through to Year 6 build, learn, revisit and achieve the relevant skills, knowledge and technical understanding to carry with them through to KS3. This is clearly evident within the **LTP** which highlights the teaching schedule of the different aspects alongside the **progression document** which clearly shows the progression of skills across the primary sector.

### Enrichment

We aim for year groups to have external visitors in, linked closely to a project. Visitors share their real life working situations which are then linked to design briefs as a starting point for projects and how they go about meeting the needs of the user and the purpose of the product. They can provide examples of how their DT journey from brief to completed product evolves. This provides an insight for the children into how DT can be used in real life employment and particular jobs. Visitors include a clothes designer in Year 4, an architect to talk about structures in Year 6 and Hill Street chocolate shop to introduce the DT project in Year 3.

All DT projects start with a similarly formatted front page to provide consistency across the projects themselves and the year groups. This includes a design brief, a project title, previous learning and a vocabulary list. The design briefs provide a real and relevant context for each project that identifies a user within the school, wider family or local community.

Vocabulary is an important literal skill which is encouraged by teachers for the children to use within their DT learning. Vocabulary is revisited across the projects and strands to develop children's fluency and understanding whilst incorporating new project specific vocabulary. It is encouraged to see subject specific language used within the children's evaluating.

### Support

D&T is adaptable and lends itself to individual need (SEND/PPG/GD). Due to the reflective process, children are always evaluating what suits their skills and their product well. This is developed through the FTs that provides opportunities for learners to challenge themselves appropriately. Having a final product allows every child to celebrate a project that they have full ownership of. We are lucky that many members of the school community volunteer to help with DT.

### Integrating literacy fluency

Projects are linked to the topics within each year group which in hand are supported by the literacy spine for each year group. These are subtle links but ensure there is a common theme shared within each term.

### SMSC

**Spiritual** - DT recognises their own creativity and that of others and develops thinking and reasoning skills whilst designing with the needs of others in mind. It is essential that the children display resilience within each unit enabling them to create a unique product filling them with a sense of achievement and pride.

**Moral** – A key element within DT is considering and meeting the needs of the user. It is imperative that the children learn how to use tools and equipment safely. Within food units, this include food hygiene.

**Social** – Through the evaluative process the children learn how to both give and receive reflective criticism in order to improve their products. GD statements within UKS2 provide opportunities for an understanding of the environmental impacts and some children begin to look at cost implications.

**Cultural** – DT projects research cultural, historical changes and technological advances encouraging children to understand how these changes have influenced design, *e.g. make do and mend, seasonality.*



## HOW IT'S TAUGHT – (implementation)

Strategies are used routinely by teachers to enable the children to embed their learning into their long term memory. These strategies are based on a range of techniques connected to retrieval practice including the use in lessons of the project front pages, low stakes quizzing, interleaving and annotated visual representations of information.

We use active learning techniques which teachers employ in the classroom to complement learning and give all children the opportunity to become actively engaged and articulate their understanding with a strong oracy focus.

We aim to keep the learning pace of all children at the highest level and ensure there is no 'glass ceiling' for any learner. We have a school wide focus on developing the children's knowledge and use of tier 2 and 3 vocabulary.

DT is an inherently practical subject that encourages children to continuously evaluate and reflect on products and their skills. Each aspect builds on prior learning from previous projects. For example, Textiles is taught in Years 2, 4 and 5. There is clear progression across the year groups in skills such as pattern making, stitching and finishes. The prior learning is clear on the planning so teachers are aware of where the learning has come from and what the previous outcomes were. To support this, each child's DT book travels through school with them providing the child and the teacher to recall previous learning and challenges.

A D&T project has 3 specific elements, Investigative and Evaluative Activities (IEAs), Focused Tasks (FTs) and Design, Make and Evaluate Assignment (DMEA). Through the IEAs the children evaluate existing products to understand what a good example looks like. The FTs enable children to learn the different skills needed to make the product. FTs are always demonstrated and children are then able to explore the different methods. It is through their self-evaluations that determines which skills they will use in their final product. The DMEA is an opportunity for the children to apply their new skills in their own product following a set design criteria. The expectation across DT is that all children make an individual/group product following the design criteria suited to the user's needs.

As DT is an iterative process the children are continuously evaluating and reflecting upon products, their skills and their own ability throughout the DT journey. FTs allow all children to experience all skills related to the project. From this, learners actively evaluate what suits their aptitude and their product. The final evaluation gives the opportunity for children to reflect on the project as a whole.

The children are taught to take risks and show resilience when FTs are not as straight forward as desired. For example, Year 2 learn how to attach wheels and their axels. One way is extremely straight forward (making an axle with a straw to allow wheels to rotate) and the other is by making triangular card frames to hold the axel rod. The children consistently articulate their ideas and challenges at times and are resourceful by choosing which equipment/skill best meets their need for their product. Across D&T children work in teams to support each other displaying respectful relationships. In upper KS2 the children have to allocate jobs within their steps of making for example, the frame structures project in Year 6.

Through IEAs DT requires children to research and evaluate existing products capturing their awareness of the variety and breadth of previous designs and their relevance to their own project. This is developed further in KS2 by encouraging the children to investigate designers and how they influenced and innovated products. For example when children evaluate the products in the textile unit in Year 4, they look at a variety of styles of bags and discuss their purpose.

## WHAT WE SEE AS A RESULT – (impact)

### **Progress and outcomes**

The prior learning and the skills taught are clear in the planner and the progression map and the outcome is a product that applies the children's skills and knowledge taught within each project.

### **Child perception and opinion**

The children evaluate their products against the design criteria.

DT monitoring through pupil voice and pupil book study has enabled children to share their learning across the school and it is clear that they have ownership over their designs and products. Passion and enjoyment has been displayed for this subject and we are encouraging children to share the successes and feel pride in their products.

### **Monitoring and Evaluation**

Each term involves a book look with feedback given to ensure planners and progression map are followed. Any changes are updated and the governor is kept informed.

### **Summary of effectiveness of units of work / learning**

Overall, D&T is taught effectively throughout the school. There is clear progression, all aspects are taught and CPD is ongoing.

Teacher assessment outcomes and data are recorded on Sonar. Subject extender statements are clear within the planning document ensuring a mastery approach to teaching encouraging children to challenge their potential and achieve greater depth.