Crich Carr CofE Primary School

Subject Specific Curriculum Intent – Design and Technology

What is Design and Technology?: It is the designing and making of products that meet a need.

Design and Technology relates to our 'creativity', 'independence' and 'perseverance and resilience' core abilities. It also provides a chance for children to think critically when evaluating products.

What is the curriculum INTENT for this area of the curriculum?	Rationale – Why is this what you want our children to know?
1. To be able to **design** a wide range of products which solve problems within a variety of contexts. 2. To use of a range of tools, techniques and materials to **make** a range of products. 3. To **evaluate** existing products, as well as their own, against their own design criteria. 4. To develop and apply their growing **technical knowledge** when designing and making products. 5. To learn how to **cook** and apply the principles of nutrition and healthy eating.	1. The design process allows the children to develop their imagination and ***creativity (core ability).*** Jobs in engineering will require this skill set. 2. This will enable children to develop practical skills to lead an independent life ***(independence – core ability).*** They will develop reasoning and problem-solving skills. 3. Children will be able to learn from failures and successes. This will also develop ***resilience (core ability).*** 4. Children will learn to apply their knowledge learnt in other subjects in a practical, real-life context. 5. Children will have the knowledge to lead healthy, independent lives.

	EYFS	KS1	LKS2	UKS2
1. To be able to **design** a wide range of products which solve problems within a variety of contexts.	Work as a class to discuss existing products and create a whole class, simple design criteria. **Develop their own ideas (designs) and then decide which materials to use to express them.** **Return to and build on their previous learning, refining ideas and developing their ability to represent them.** **Create collaboratively, sharing ideas, resources and skills.** *Through talking, drawing and simple labelling.*	To explore a range of existing products to inform an agreed list of design criteria. To make two simple designs before making so they can decide which one is best. To begin to consider how they will make their designs into reality. *Annotated drawings.*	To begin to explore and evaluate existing designs to create their own design criteria. To create clear plans and methods to inform their final piece. Plans include multiple options for children to select from. *Annotated sketches and clear plans. Build prototypes.*	To be able to use existing designs to devise detailed design criteria. Develop their own design criteria and use this to generate ideas and create detailed plans, which include materials, tools and techniques that will be used. *Cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided designs.*
2. To use of a range of tools, techniques and materials to **make** a range of products.	**Explore different materials freely, to develop their ideas about how to use them and what to make.** **Develop their small motor skills so that they can use a range of tools competently, safely and confidently** They follow clear guidance from the adults and can explain how they are using tools. Tools could include: scissors, hole punch, cups, spoons, (fork and knife with supervision). Explore using/holding a saw and hammer.	Children select from and use a small range of tools and materials to make their product. They can explain why this would be a good tool or material for the purpose. Tools could include: ruler, needle, peeler, grater (as well as building on previous classes tools and less supervision required).	Select from a wider range of tools and materials. Perform practical tasks with increasing accuracy. Children can justify their choice of material based on functionality and aesthetic qualities. Tools could include: tape measure/ruler, tape measure/ruler/ loppers / rope /saw / wheels. previous classes tools).	Children select appropriate tools and materials to suit the task. They use tools with increasing precision leading to high quality outcomes. They independently change the way they are working as needed. Tools could include: glue gun with close supervision, craft knife, cutting mat and safety ruler with close supervision, ICT, timers/stop watches, weighing scales for dry ingredients as well as measuring jugs and cylinders for liquids (as well as building on previous classes tools).
3. To **evaluate** existing products, as well as their own, against their own design criteria.	To explore and evaluate a small range of simple existing products. To evaluate their ideas and products against whole class, simple design criteria (list discussed and produced as a class).	To explore and evaluate a wider range of existing products. To evaluate their ideas and products against an agreed list of design criteria (ideas list discussed as a class and recorded).	Investigate and analyse a range of existing products. Evaluate their ideas and products against a list of design criteria or their own design criteria. Research key events and individuals in DT who have helped shape the world (include a list of famous inventors/chefs/ designers/engineers/ manufacturers linked to products when decided on topics).	Complete in-depth investigation and analysis of a range of existing products. Evaluate their ideas and products against their own design criteria and consider the views of others. Research key events and individuals in DT who have helped shape the world (include a list of famous inventors/chefs/ designers/engineers/ manufacturers linked to products when decided on topics).

4. To develop and apply their growing **technical knowledge** when designing and making products.	To build structures, exploring how they can be made stronger, stiffer and more stable. **Join different materials and explore different textures.** *Folding, cutting, joining.*	To make structures which allow them to explore and use mechanisms in the products. *Levers, sliders, wheels, axles.*	To apply their developing understanding to suggest ways to build structures and make them stronger and more stable. To make structures which allow them to explore and use mechanisms in the product. To use electrical systems in their products (link to KS2 Science Electricity). *Series circuits incorporating switches, bulbs, buzzers and motors.*	To apply their developing understanding to strengthen more complex structures. To use mechanical and electrical systems in their products. Use computing. *Gears, pulleys, cams, levers and linkages.*
5. To learn how to **cook** and apply the principles of **nutrition** and healthy eating.	To use the basic principles of a healthy and varied diet. To prepare a cold food snack. To begin to understand where food comes from. *Chopping and preparing cold foods (e.g. sandwiches and fruit salads/skewers)*	To use the principles of a healthy and varied diet. To prepare and bake a food product. To understand where food comes from (e.g. fruit, vegetables, meat). *Weighing, kneading, mixing ingredients (e.g. pizza or bread & dip)*	To use knowledge of the seasons and ingredients in dishes made (e.g. grown, reared and caught). Begin to use their knowledge to make mainly savoury dishes using a range of cooking techniques. *Blending and whisking (e.g. soups, omelettes, smoothies)*	To apply their developing understanding of a varied and healthy diet. Use this knowledge to make mainly savoury dishes using a range of cooking techniques. To explore and compare the nutritional information in processed and fresh foods. *Cutting, grating, mashing, frying, boiling, slow cooking*
Breadth of study	• Junk modelling • Sliding pictures • Cooking and nutrition	• Construction (woodwork), • Materials – cards / display boards • Cooking and nutrition • Textiles	• Construction (woodwork) • Electrical build, • Cooking and nutrition, • Materials – folding – such as nets for packaging. • Construction – recycling project. • Textiles	• Technical - gears & pulleys and electrical build, • Textiles, • Cooking and nutrition, • Woodwork

Implementation

- Units are taught on a rolling programme.
- The design process follows these steps:
    1. Evaluation of existing products – linked to a designer (vocab acquisition)
    2. Generate design criteria (vocab acquisition)
    3. Develop technical knowledge – skills specific (vocab acquisition)
    4. Designing / generating ideas
    5. Making
    6. Evaluation of finished product.
- We will use the Kapow Primary Design & Technology Scheme of Work to support planning.
- At the start of a unit, we will look at some successful examples of work and explore work of successful designers in this field. This will influence the children's designs.
- Knowledge organisers will be used to focus key learning.
- Assessment – each teacher to identify an 'average child' as representative of a group and highlight the appropriate assessment grid to show their understanding.