Design and Technology: Substantive and Disciplinary Knowledge Progression

Based on the Kapow Primary Design and Technology Scheme of Work

Acomb First School

Curriculum Intent

Through Design and Technology, pupils develop the knowledge, understanding and skills needed to design, make and evaluate products that solve real and relevant problems. The curriculum develops creativity, resilience, technical knowledge and practical expertise through food technology, structures, mechanisms, textiles and digital design. Pupils learn to think and work as designers, engineers, inventors and evaluators.

Substantive and Disciplinary Knowledge

Substantive Knowledge: The factual knowledge pupils learn about materials, structures, mechanisms, food, textiles, design and technology.

Disciplinary Knowledge: The processes, skills and approaches used when designing, making, evaluating and improving products.

Phase	Substantive Knowledge	Design & Evaluation	Making & Technical Skills
EYFS	Materials, joining, construction, healthy food, simple mechanisms	Talk about ideas and evaluate creations	Cut, join, shape and construct using simple tools
KS1	Structures, mechanisms, food preparation, textiles	Design for a purpose and evaluate products	Use tools safely and build simple products
LKS2	Mechanical systems, healthy diets, shell structures, textiles	Generate ideas and improve designs	Apply accurate making techniques
UKS2	Electrical systems, frame structures, complex mechanisms, innovation	Evaluate products against criteria and user needs	Select and apply appropriate technical skills independently

Progression of Substantive Knowledge

EYFS

- Exploring materials and their properties
- Building and constructing

- Using simple joining techniques
- Healthy food choices
- Simple mechanisms and moving parts

KS1

- Structures and stability
- Wheels and axles
- Sliders and levers
- Preparing fruit and vegetables
- Textiles and joining fabrics

LKS2

- Mechanical systems and pneumatics
- Shell structures
- Healthy and varied diets
- Textile techniques including stitching
- Design criteria and user needs

UKS2

- Electrical systems
- Frame structures
- Complex mechanisms and cams
- Innovation and sustainability
- Understanding how products are developed and improved

Progression of Disciplinary Knowledge

Stage	Design	Make	Evaluate
EYFS	Share ideas through talk and drawings	Create models and products	Talk about what works well
KS1	Design for a purpose	Select tools and materials	Evaluate against simple criteria
LKS2	Develop and refine ideas	Use accurate techniques	Identify strengths and improvements
UKS2	Design for specific users and purposes	Select techniques independently	Evaluate effectiveness and innovate

Golden Threads

- Design
- Innovation
- Problem Solving
- Creativity
- Evaluation

- Technical Knowledge
- User Needs
- Sustainability
- Making
- Improvement

End of Phase Expectations

EYFS: Explore, design and make using a range of materials and simple tools.

KS1: Design, make and evaluate products for a purpose using basic technical knowledge.

LKS2: Apply technical knowledge to create increasingly complex products and improve designs.

UKS2: Design and make innovative products, applying technical understanding and evaluating effectiveness.