



### Curriculum Intent DT 2021/2022

Design and Technology prepares children to deal with tomorrow's rapidly changing world. Opening them to opportunities for future careers in design and enjoyable activities which could improve mental health. At Braeburn Primary Academy we encourage children to become independent, creative problem solvers and thinkers as individuals and as part of a team. It enables them to identify needs and opportunities and to respond to them by developing a range of ideas and by making products and systems.

Through the study of Design and Technology, they combine practical skills with an understanding of aesthetic, social and environmental issues, as well as functions and industry. This allows them to reflect on and evaluate past and present technology, its uses and impacts. Design and Technology helps all children to become astute and informed future consumers and potential innovators.

Good quality Oracy lies at the heart of the DT curriculum which provides opportunities for children to discuss, compare, evaluate and develop concepts and ideas through speaking and listening. These are embedded into the curriculum and a variety of teaching and learning styles will be used in Art and Design & Technology lessons. The principal aim is to ensure a broad and balanced curriculum is delivered by developing children's knowledge, skills and understanding. The curriculum will be differentiated by resources, tasks, responses and outcomes.

## Progression Of Skills

### Non- Negotiables: Year 1/2

#### Unlocking learning through oracy

- Speak clearly and loudly enough to communicate meaningfully.
- Ask questions about matters of interest.
- Express feelings and ideas when talking about matters of interest.
- Start to answer questions with more than one word adding detail to their speech.
- Start to understand how to take turns when speaking.
- Speak in sentences using joining phrases to link ideas
- Using vocabulary appropriately specific to the topic in hand
- Speak in complete sentences after an adult has modelled this.
- Use conjunctions to organise and sequence ideas e.g. firstly, secondly, finally
- Begin to understand how to change language when speaking to different listeners, e.g. peers and adults.
- Take opportunities to try out new language, even if it is not always correctly used
- Talk about topics that are of interest to them or which they enjoy.
- Ask questions to gain information and clarify meaning.
- Begin to develop and explain their ideas.
- Express themselves using complete sentences when required.
- Make more specific vocabulary choices, e.g. technical language.
- Usually listen carefully and respond appropriately.
- Take turns when talking in pairs or small groups.
- Suggest improvements to existing designs
- Discuss the purpose of their design

#### Vocabulary

**Mechanisms** slider, lever, pivot, slot, bridge/guide, card, masking tape, paper fastener, join, pull, push, up, down, straight, curve, forwards, backwards, design, make, evaluate, user, purpose, ideas, design criteria, product, function.

**Food** fruit and vegetable names, names of equipment and utensils, sensory vocabulary, soft, juicy, crunchy, sweet, sticky, smooth, sharp, crisp, sour, hard, flesh, skin, seed, pip, core, slicing, peeling, cutting, squeezing, healthy diet, choosing, ingredients, planning, investigating tasting, arranging, popular, design, evaluate, criteria. Structures cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base, top, underneath

**Structures** cut, fold, join, fix, structure, wall, tower, framework, weak, strong, base, top, underneath, side, edge, surface, thinner, thicker, corner, point, straight, curved, metal, wood, plastic, circle, triangle, square, rectangle, cuboid, cube, cylinder, design, make, evaluate, user, purpose, ideas, design criteria, product, function

**Textiles** names of existing products, joining and finishing techniques, tools, fabrics and components, template, pattern pieces, mark out, join, decorate, finish, features, suitable, quality, mockup, design brief, design criteria, make, evaluate, user, purpose, function. **NEED TO ADD A TEXTILE ELEMENT**

#### Design

•design purposeful, functional, appealing products for themselves and other users based on design criteria generate, develop, model and communicate their ideas through talking, drawing, templates

**Make**

- select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]

**Evaluate**

- explore and evaluate a range of existing products
- evaluate their ideas and products against design criteria

**Technical knowledge**

- build structures, exploring how they can be made stronger, stiffer and more stable
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

**Unlocking learning through oracy**

- Talk and listen confidently in different situations.
- Show they have listened carefully by asking relevant questions.
- Develop and explain their ideas giving reasons.
- Sequence and communicate ideas in an organised and logical way in complete sentences as required.
- Vary the amount of detail – dependent on purpose and audience.
- Participate fully in paired and group discussions.
- Show understanding of the main points in a discussion.
- Talk and listen confidently in a wide range of contexts.
- Ask questions to clarify or develop understanding.
- Give an answer and justify it with evidence.
- Sequence, develop and communicate ideas in an organised and logical way in complete sentences as required.
- Show understanding of the main points and significant details in a discussion.
- Show they have listened carefully through making relevant comments.
- Increasingly able to adapt what they say to meet the needs of the audience/listener.
- Discuss and choose suitable techniques to construct products
- Discuss design and its purpose
- Talk about how products could be refined
- Talk about how products work

**Vocabulary**

Mechanical systems mechanism, lever, linkage, pivot, slot, bridge, guide, system, input, process, output, linear, rotary, oscillating, reciprocating, user, purpose, function, prototype, design criteria, innovative, appealing, design brief.

Food Utensils, ingredients, texture, taste, sweet, sour, hot, spicy, appearance, smell, preference, greasy, moist, cook, fresh, savoury, hygienic, edible, healthy/varied diet, planning, design criteria, purpose, user, sensory evaluations.

Structures

Shell structure, three dimensional (3-D) shape, net, cube, cuboid, prism, vertex, edge, face, length, width, breadth, capacity, marking out, scoring, shaping, tabs, adhesives, joining, assemble, accuracy, material, stiff, strong, reduce, reuse, recycle, corrugating, ribbing, laminating, font, lettering, text, graphics, decision, evaluating, design brief, design criteria, inn

**Design**

•use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups

**Make**

•select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing] accurately

▪select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

### **Evaluate**

▪ investigate and analyse a range of existing products Picture book with movement mechanisms evaluate their ideas and products against their own design criteria and consider the views of others to improve their work understand how key events and individuals in design and technology have helped shape the world

**Technical knowledge**▪apply their understanding of how to strengthen, stiffen and reinforce more complex structures

Unlocking learning through oracy

- Talk and listen confidently in a wide range of contexts including some that are formal.
- Engage the interest of the listener by varying their expression and vocabulary.
- Adapt spoken language to the audience, purpose and context.
- Explain the effect of using different language for different purposes.
- Develop ideas and opinions with relevant detail.
- Express ideas and options justifying a point of view.
- Show understanding of the main points, significant details and implied meanings in a discussion.
- Listen carefully in discussions, make contributions and ask questions that are responsive to others' ideas and views.
- Confidently, vary the use and choice of vocabulary (including technical language) dependent on the purpose and audience. Listen carefully and adapt talk to the demands of different contexts, purposes and audiences with increasing confidence.
- Ask questions to develop ideas and make contributions that take account of others' views.
- Use evidence to support ideas and opinions.
- Explain ideas and opinions – elaborating to make meaning explicit.
- Take an active part in discussions, taking different roles.
- Use hypothetical speculative language to express possibilities.
- Use Standard English fluently in formal situations.
- Debate an issue maintaining a focused point of view.
- Discuss, create and refine recipes
- Give reasons for design specifications
- Suggest improvements to products and designs

Vocabulary

Mechanical systems pulley, drive belt, gear, rotation, spindle, driver, follower, ratio, transmit, axle, motor, circuit, switch, circuit diagram, annotated drawings, exploded diagrams, mechanical system, electrical system, input, process, output, design decisions, functionality, innovation, authentic, user, purpose, design specification, design brief

Food ingredients, yeast, dough, bran, flour, wholemeal, unleavened, baking soda, spice, herbs, fat, sugar, carbohydrate, protein, vitamins, nutrients, nutrition, healthy, varied, gluten, dairy, allergy, intolerance, savoury, source, seasonality, utensils, combine, fold, knead, stir, pour, mix, rubbing in, whisk, beat, roll out, shape, sprinkle, crumble, design specification, innovative, research, evaluate, design brief.

Structures frame structure, stiffen, strengthen, reinforce, triangulation, stability, shape, join, temporary, permanent, design brief, design specification, prototype, annotated sketch, purpose, user, innovation, research, functional.

Textiles seam, seam allowance, wadding, reinforce, hem, template, pattern pieces, name of textiles and fastenings used, pins, needles, thread, pinking shears, fastenings, iron transfer paper, design criteria, annotate, design decisions, functionality, innovation, authentic, user, purpose, evaluate, mock-up NEED A TEXTILE ELEMENT,

- use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups
- generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and exploded diagrams, prototypes, pattern pieces and computer-aided design

### **Make**

- select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately
- select from and use a wider range of materials and components, including construction materials, textiles and ingredients, according to their functional properties and aesthetic qualities

### **Evaluate**

- investigate and analyse a range of existing products
- evaluate their ideas and products against their own design criteria and consider the views of others to improve their work Model solar system
- understand how key events and individuals in design and technology have helped shape the world

### **Technical knowledge**

- apply their understanding of how to strengthen, stiffen and reinforce more complex structures
- understand and use mechanical systems in their products [for example, gears, pulleys, cams, levers and linkages]
- understand and use electrical systems in their products [for example, series circuits incorporating switches, bulbs, buzzers and motors]
- apply their understanding of computing to program, monitor and control their products