DESIGN & TECHNOLOGY CURRICULUM: ANCHORS AND LANDING POINTS **PARBOLD DOUGLAS CE ACADEMY**

Supporting teachers to plan for progression.

CURRICULUM ANCHORS:

DESIGNING	MAKING	EVALUATING	TECHNICAL KNOWLEDGE	COOKING & NUTRITION

CURRICULUM 'KEY PRINCIPLES' (D&T ESSENTIALS):

Six, interrelated principles have been agreed by the National Curriculum Expert Group for D&T. They describe the features of a genuine D&T experience from the pupils' perspective and can be applied to all material areas and aspects of the subject. Each principle should be evident to a greater or lesser degree in each project that pupils undertake.

- **User** – children should have a clear idea of who they are designing and making products for, considering their needs, wants, interests or preferences. The user could be themselves, an imaginary character, another person, client, consumer or a specific target audience.
- **Purpose** – children should know what the products they design and make are for. Each product should perform a clearly defined task that can be evaluated in use.
- **Functionality** – children should design and make products that function in some way to be successful. Products often combine aesthetic qualities with functional characteristics. In D&T, it is insufficient for children to design and make products which are purely aesthetic.
- **Design Decisions** – when designing and making, children need opportunities to make informed decisions such as selecting materials, components and techniques and deciding what form the products will take, how they will work, what task they will perform and who they are for.
- **Innovation** – when designing and making, children need some scope to be original with their thinking. Projects that encourage innovation lead to a range of design ideas and products being developed, characterised by engaging, open-ended starting points for children's learning.
- **Authenticity** – children should design and make products that are believable, real and meaningful to themselves i.e. not replicas or reproductions or models which do not provide opportunities for children to make design decisions with clear users and purposes in mind.

These are interwoven throughout our 'curriculum anchors and landing points' progression framework.

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CURRICULUM ANCHORS AND LANDING POINTS:

CURRICULUM ANCHOR	RECEPTION FOUNDATIONS	LANDING POINT 1 (YEAR 1 & 2)	LANDING POINT 2 (YEAR 3 & 4)	LANDING POINT 3 (YEAR 5 & 6)
DESIGNING Understanding contexts, **users** and **purposes**	Within EYFS pupils should: ▪ Talk about their ideas. ▪ Choose resources, tools, and techniques with a **purpose** in mind. For example, to use in their play/role play/when acting out stories/taking on different story characters. ▪ Say whether their products are for **themselves** or other **users.**	Across KS1 pupils should: ▪ work confidently within a range of contexts, such as imaginary, story-based, home, school, gardens, playgrounds, local community, industry and the wider environment ▪ state what products they are designing and making ▪ say whether their products are for **themselves** or other **users** ▪ describe what their products are for ▪ say how their products will work ▪ say how they will make their products suitable for their **intended users** ▪ use simple **design** criteria to help develop their ideas	Across KS2 pupils should: ▪ work confidently within a range of contexts, such as the home, school, leisure, culture, enterprise, industry and the wider environment ▪ describe the **purpose** of their products ▪ indicate the design features of their products that will appeal to **intended users** ▪ explain how particular parts of their products work In early KS2 pupils should also: ▪ gather information about the needs and wants of particular individuals and groups ▪ develop their own **design** criteria and use these to inform their ideas	In late KS2 pupils should also: • carry out research, using surveys, interviews, questionnaires and web-based resources • identify the needs, wants, preferences and values of particular individuals and groups • *develop a simple **design** specification to guide their thinking*
DESIGNING **Generating**, developing, modelling and communicating ideas	Across EYFS pupils should: ▪ Talk about and **generate ideas** through discussion. ▪ Explore and look at previous ideas. What do they like or dislike?	Across KS1 pupils should: ▪ **generate ideas** by drawing on their own experiences ▪ use knowledge of existing products to help **come up with ideas** ▪ develop and communicate ideas by talking and drawing	Across KS2 pupils should: ▪ share and clarify ideas through discussion ▪ model their ideas using prototypes and pattern pieces ▪ use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate their ideas ▪ use computer-aided design to develop and communicate their ideas In early KS2 pupils should also:	In late KS2 pupils should also:

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<table>
<tr><td></td><td></td><td>▪ model ideas by exploring materials, components and construction kits and by making templates and mock-ups
▪ use information and communication technology, where appropriate, to develop and communicate their ideas</td><td>▪ generate realistic ideas, focusing on the needs of the user
▪ make design decisions that take account of the availability of resources</td><td>▪ generate innovative ideas, drawing on research
▪ make design decisions, taking account of constraints such as time, resources and cost</td></tr>
<tr><td rowspan="2">MAKING
Planning</td><td rowspan="2">Across EYFS pupils should:
▪ Plan models and props selecting from a range of different construction materials.
▪ Experiment with different ways to build, construct and join resources.</td><td rowspan="2">Across KS1 pupils should:
▪ plan by suggesting what to do next
▪ select from a range of tools and equipment, explaining their choices
▪ select from a range of materials and components according to their characteristics</td><td colspan="2">Across KS2 pupils should:
▪ select tools and equipment suitable for the task
▪ explain their choice of tools and equipment in relation to the skills and techniques they will be using
▪ select materials and components suitable for the task
▪ explain their choice of materials and components according to functional properties and aesthetic qualities</td></tr>
<tr><td>In early KS2 pupils should also:
▪ order the main stages of making</td><td>In late KS2 pupils should also:
▪ produce appropriate lists of tools, equipment and materials that they need
▪ formulate step-by-step plans as a guide to making</td></tr>
<tr><td rowspan="2">MAKING
Practical skills and techniques</td><td rowspan="2">Across EYFS pupils should:
▪ Handle and use equipment appropriately and safely.
▪ Use a range of materials including construction</td><td rowspan="2">Across KS1 pupils should:
▪ follow procedures for safety and hygiene
▪ use a range of materials and components, including construction materials and kits, textiles, food ingredients and mechanical components</td><td colspan="2">Across KS2 pupils should:
▪ follow procedures for safety and hygiene
▪ use a wider range of materials and components than KS1, including construction materials and kits, textiles, food ingredients, mechanical components and electrical components</td></tr>
<tr><td>In early KS2 pupils should also:</td><td>In late KS2 pupils should also:</td></tr>
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	materials and reclaimed materials. ▪ Join and combine materials and components using different techniques suited to the **purpose.**	▪ measure, mark out, cut and shape materials and components ▪ assemble, join and combine materials and components ▪ use finishing techniques, including those from art and design	▪ measure, mark out, cut and shape materials and components with some accuracy ▪ assemble, join and combine materials and components with some accuracy ▪ apply a range of finishing techniques, including those from art and design, with some accuracy	▪ accurately measure, mark out, cut and shape materials and components ▪ accurately assemble, join and combine materials and components ▪ accurately apply a range of finishing techniques, including those from art and design ▪ *use techniques that involve a number of steps* ▪ demonstrate resourcefulness when tackling practical problems
EVALUATING Own ideas and products	Across EYFS pupils should: ▪ Talk about what they like/dislike about their models and **design.** ▪ Say why and how they would change their **design.** ▪ Discuss whether their model/ **design** has achieved the **purpose.** If not, what could be changed to achieve this?	Across KS1 pupils should: ▪ talk about their **design** ideas and what they are making ▪ make simple judgements about their products and ideas against **design** criteria ▪ *suggest how their products could be improved*	Across KS2 pupils should: ▪ identify the strengths and areas for development in their ideas and products ▪ consider the views of others, including intended **users**, to improve their work In early KS2 pupils should also: ▪ refer to their **design** criteria as they design and make ▪ use their **design** criteria to evaluate their completed products	In late KS2 pupils should also: ▪ critically evaluate the quality of the **design**, manufacture and fitness for **purpose** of their products as they design and make ▪ *evaluate their ideas and products against their original **design** specification*
EVALUATING Existing products	Across EYFS pupils should:	Across KS1 pupils should explore: ▪ what products are	Across KS2 pupils should investigate and analyse: ▪ how well products have been **designed**	

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<tr><td></td><td>▪ Talk about what existing products they like or dislike.
▪ Talk about the properties and functions of different construction materials, what do they like and dislike?</td><td>▪ who products are for
▪ what products are for
▪ how products work
▪ how products are used
▪ where products might be used
▪ what materials products are made from
▪ what they like and dislike about products</td><td colspan="2">▪ how well products have been made
▪ why materials have been chosen
▪ what methods of construction have been used
▪ how well products work
▪ how well products achieve their purposes
▪ how well products meet user needs and wants</td></tr>
<tr><td></td><td></td><td></td><td>In early KS2 pupils should also investigate and analyse:
▪ who designed and made the products
▪ where products were designed and made
▪ when products were designed and made
▪ whether products can be recycled or reused</td><td>In late KS2 pupils should also investigate and analyse:
▪ how much products cost to make
▪ how innovative products are
▪ how sustainable the materials in products are
▪ what impact products have beyond their intended purpose</td></tr>
<tr><td>EVALUATING
Key events and individuals</td><td>Not a requirement in EYFS</td><td>Not a requirement in KS1</td><td colspan="2">Across KS2 pupils should know:
▪ about inventors, designers, engineers, chefs and manufacturers who have developed ground-breaking products</td></tr>
<tr><td>TECHNICAL KNOWLEDGE
Making products work</td><td>Across EYFS pupils should:
▪ Talk about the characteristics of some materials and how this can support them in designing and creating models. For example, choosing a suitable material when designing a model that has a main purpose of floating.</td><td>Across KS1 pupils should know:
▪ about the simple working characteristics of materials and components
▪ about the movement of simple mechanisms such as levers, sliders, wheels and axles
▪ how freestanding structures can be made stronger, stiffer and more stable</td><td colspan="2">Across KS2 pupils should know:
▪ how to use learning from science to help design and make products that work
▪ how to use learning from mathematics to help design and make products that work
▪ that materials have both functional properties and aesthetic qualities
▪ that materials can be combined and mixed to create more useful characteristics
▪ that mechanical and electrical systems have an input, process and output</td></tr>
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<tr><td rowspan="2"></td><td rowspan="2"></td><td rowspan="2">▪ that a 3-D textiles product can be assembled from two identical fabric shapes
▪ that food ingredients should be combined according to their sensory characteristics
▪ the correct technical vocabulary for the projects they are undertaking</td><td colspan="2">▪ the correct technical vocabulary for the projects they are undertaking</td></tr>
<tr><td>In early KS2 pupils should also know:
▪ how mechanical systems such as levers and linkages or pneumatic systems create movement
▪ how simple electrical circuits and components can be used to create functional products
▪ how to program a computer to control their products
▪ how to make strong, stiff shell structures
▪ that a single fabric shape can be used to make a 3D textiles product
▪ that food ingredients can be fresh, pre-cooked and processed</td><td>In late KS2 pupils should also know:
▪ how mechanical systems such as cams or pulleys or gears create movement
▪ how more complex electrical circuits and components can be used to create functional products
▪ how to program a computer to monitor changes in the environment and control their products
▪ how to reinforce and strengthen a 3D framework
▪ that a 3D textiles product can be made from a combination of fabric shapes
▪ that a recipe can be adapted by adding or substituting one or more ingredients</td></tr>
<tr><td rowspan="2">COOKING & NUTRITION
Where food comes from</td><td rowspan="2">Across EYFS pupils should:
▪ Talk about and explore where food comes from.</td><td rowspan="2">Across KS1 pupils should know:
▪ that all food comes from plants or animals
▪ that food has to be farmed, grown elsewhere (e.g. home) or caught</td><td colspan="2">Across KS2 pupils should know:
▪ that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world</td></tr>
<tr><td></td><td>In late KS2 pupils should also know:
▪ that seasons may affect the food available</td></tr>
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<tr><td></td><td></td><td></td><td></td><td>▪ how food is processed into ingredients that can be eaten or used in cooking</td></tr>
<tr><td rowspan="2">COOKING & NUTRITION
Food preparation, cooking and nutrition</td><td rowspan="2">Across EYFS pupils should:
▪ Handle and use equipment appropriately and safely.
▪ Understand the importance of hygiene when preparing and dealing with food.</td><td rowspan="2">Across KS1 pupils should know:
▪ how to name and sort foods into the five groups in The Eatwell Plate
▪ that everyone should eat at least five portions of fruit and vegetables every day
▪ how to prepare simple dishes safely and hygienically, without using a heat source
▪ how to use techniques such as cutting, peeling and grating</td><td colspan="2">Across KS2 pupils should know:
▪ how to prepare and cook a variety of predominantly savoury dishes safely and hygienically including, where appropriate, the use of a heat source
▪ how to use a range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</td></tr>
<tr><td>In early KS2 pupils should also know:
▪ that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate
▪ that to be active and healthy, food and drink are needed to provide energy for the body</td><td>In late KS2 pupils should also know:
▪ that recipes can be adapted to change the appearance, taste, texture and aroma
▪ that different food and drink contain different substances – nutrients, water and fibre – that are needed for health</td></tr>
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