

## WITHINFIELDS PRIMARY SCHOOL

### DESIGN TECHNOLOGY CURRICULUM – KS2

Throughout DT teaching in KS2, teachers will provide opportunities for children to:

- Develop creative, technical and practical skills, understanding and knowledge to carry out everyday tasks confidently
- Apply these to design and make products that solve real and relevant problems
- Develop the skills to evaluate their work and the work of others

	Y3	Y4	Y5	Y6
Designing	<p><u>All Topics</u>                      Be able to prove that a design meets a set design criteria                      Be able to design a product where relevant and explain the design                      Be able to choose materials for both suitability and appearance</p>	<p><u>All Topics</u>                      Be able to use ideas from other people when designing and relate them to the design criteria                      Be able to design a product considering aesthetic quality where relevant and explain the design                      Be able to persevere and adapt work when original ideas do not work                      Be able to communicate designs in a range of ways including by sketches and drawings which are annotated</p>	<p><u>All Topics</u>                      Be able to describe a range of innovative ideas after collecting information from different sources including research                      Be able to produce a step-by-step plan                      Be able to explain how a product will appeal to a specific audience                      Be able to design a product that meets design criteria</p>	<p><u>All Topics</u>                      Be able to use market research to inform plans and ideas                      Be able to develop detailed design specifications to guide their thinking and planning                      Use annotated sketches, cross-sectional drawings and exploded diagrams to develop and communicate ideas                      Be able to make design decisions that take account of the availability of resources                      Be able to follow and refine original plans                      Be able to justify planning in a convincing way                      Be able to show that culture and society is considered in plans and designs</p>
Making	<p><u>Pulleys/Cams</u>                      Be able to follow a step-by-step plan, choosing the right equipment and materials                      Be able to make a product that relies on a pulley/cam                      Be able to work accurately when measuring, cutting,</p>	<p><u>Gears/Lighting it up</u>                      Know which tools to use for a particular task and show knowledge of handling the tool                      Know which material is likely to give the best outcome                      Measure accurately and cut, form</p>	<p><u>Shell Structures/ Linkages and Levers</u>                      Be able to use a range of tools and equipment competently                      Know the importance of making a prototype before making a final version</p>	<p><u>All Topics</u>                      Know how to use any tool correctly and safely                      Know what each tool is used for                      Be able to explain why a specific tool is best for a specific action                      Be able to produce appropriate lists of</p>

	making shapes and cutting holes	shapes and cut holes safely <u>Gears</u> Be able to make a product which uses mechanical components (gears) <u>Lighting it up</u> Be able to make a product which uses electrical component (circuit)	Be able to make a product which meets the design criteria Use resourcefulness when tackling practical problems	tools, equipment and materials that they will need
Evaluating	<u>All Topics</u> Be able to explain how to improve a finished product Know why a model has, or has not, been successful Be able to record the extent to which a product meets the design criteria	<u>All Topics</u> Be able to evaluate and suggest improvements for design Know that evaluation can be in relation to the purpose and the appearance of the product depending on the design criteria Be able to explain how the original design has been improved or adapted	<u>All Topics</u> Be able to suggest alternative plans by considering positive features and drawbacks Be able to evaluate appearance and function against original criteria	<u>All Topics</u> Know how to test and evaluate designed products Explain how products should be stored and give reasons Be able to evaluate appearance and function against original criteria explaining how the design has been changed and why

<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Technical Knowledge</p>	<p><u>Pulleys</u> Be able to link scientific knowledge to design by using pulleys Know that pulleys make it easier to lift an object</p> <p><u>Cams</u> Be able to link knowledge to design by using cams Know that a cam mechanism needs a cam and a follower</p>	<p><u>Gears</u> Be able to link scientific knowledge to design by using gears Know that gears create movement</p> <p><u>Lighting it up</u> Be able to link scientific knowledge by using lights and switches Use electrical systems to enhance the quality of the product</p>	<p><u>Pizza</u> Know that consideration needs to be given to functional and aesthetic qualities and apply this to their own product</p> <p><u>Shell Structures</u> Recognise that materials can be combined and mixed to create more useful products Know how to strengthen, stiffen and reinforce a 3D framework</p> <p><u>Linkages and Levers</u> Know that mechanical systems such as linkages and levers create movement Be able to link scientific knowledge to design using linkages and levers</p>	<p><u>All Topics</u> Be able to use learning from Maths and other subjects and sources to help design, make and evaluate products that work Be able to understand that materials and ingredients have functional and aesthetic qualities and apply this thinking successfully to their own products</p> <p><u>Mobile Phone Cases</u> Know that a single fabric shape can be used to make a 3D textile product</p>
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Food Technology	<p><u>Bread</u> Describe how food ingredients come together Be able to weigh out ingredients and follow a given recipe to create bread Be able to describe food that is healthy and food which is not Be able to mould and shape dough</p>	<p><u>Biscuits</u> Know how to prepare and cook a sweet dish safely and hygienically, including the use of a heat source Know how to mix, roll, cut, bake to create biscuits Be able to identify appropriate additional ingredients to add to the recipe</p>	<p><u>Pizza</u> Know which season various foods are available for harvesting Know how to prepare a meal by collecting the ingredients first Be able to independently behave hygienically and safely while cooking and preparing food Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing, spreading, kneading and baking</p>	<p><u>Seasonal Pasta</u> Know a wide range of fresh, pre-cooked and processed foods Be able to recreate and adapt existing and new recipes by adding or substituting a range of ingredients Know that recipes can be adapted to change the taste, texture, aroma and appearance Know that food is farmed, reared, grown elsewhere, exported, imported or caught Know that seasons and weather affect food availability Know how food is processed into ingredients that can be eaten or used in cooking Know how to prepare and cook a savoury dish safely and hygienically, including the use of a heat source Know how to use a wide range of techniques such as peeling, chopping, slicing, grating, mixing independently Know that a healthy diet is made up of a variety and balance of different foods and drinks, as depicted on 'The Eat well Plate'</p>
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