



Woodlands Park Primary and Nursery School

Characteristics of an Inventor



Curriculum Intent:

At Woodlands Park, we value design and technology and believe it should be an inspiring and practical subject. It allows children to use their curiosity, imagination and creativity. Children can make links with the wider world in a variety of contexts considering their own needs, wants and values. They are able to use their problem solving skills as well as looking back into the past to see how problems were solved to improve life. Through evaluation of past and present design and technology, they develop an understanding of its impact on daily life and the wider world.

Characteristics of our Design Technology Curriculum:

- Ignite curiosity and creativity through design ideas, linked to the design brief
- Develop and improve skills and techniques needed to bring a design to life from planning to making, including cutting, shaping, joining and finishing.
- Investigate, explore and analyse other products, design ideas and materials to compare effectiveness of own product; developing and improving to meet planned design spec
- Understand technical knowledge needed to make a product successfully including strengthening, stiffening, reinforcing and key technical terms in electrical and mechanical design
- Develop knowledge and expertise in computer aided design and manufacture
- Understand and develop a broad experience of nutrition through exploring food; creating a healthy passion for food.

Learning Opportunities in EYFS

- To develop their small motor skills in order to use a range of tools competently and safely to achieve an effective outcome in their chosen focus. This may include: building, constructing, making,
- For children to work collaboratively, exploring their ideas and those of others.
- To build and construct with loose parts, junk materials, variety of papers (size, shape, colour, texture) and ready made construction materials.

Learning Opportunities in Key Stage One

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an interactive process of designing and making. They should work in a range of relevant contexts, such as the home and school, gardens and playgrounds, the local community, industry and wider environment.

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,

Learning Opportunities in Key Stage Two

Through a variety of creative and practical activities, pupils should be taught the knowledge, understanding and skills needed to engage in an interactive process of designing and making. They should work in a range of relevant contexts, such as the home and school, leisure, culture, enterprise, industry and the environment.

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.
- Generate, develop, model and communicate their ideas through discussion, annotated sketches, cross-sectional and

<ul style="list-style-type: none"> • To build, construct and design with a variety of materials such as glass gems, wooden discs, buttons, nuts and bolts and seasonal objects (acorn cups, conkers, seeds and leaves) • Free access to large loose parts outside to build and work independently and as part of a group: guttering, crates, pipes, planks etc. • Free access to a variety of tools to support exploration – scissors, mark making tools, glue, tapes • Opportunity to use wood working bench, combining materials etc. • Encouragement to create to solve problems – eg designing and making a trolley to transport objects. 	<p>mockups and, where appropriate, information and communication technology</p> <p><u>Make</u></p> <ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing • Select from and use a wide range of materials including construction materials, textiles and ingredients according to their characteristics <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • Explore and evaluate a range of existing products • Evaluate their ideas and products against design criteria <p>Technical Knowledge</p> <ul style="list-style-type: none"> • Build structures, exploring how they can be made stronger, stiffer and more stable • Explore and use mechanisms, such as levers, sliders, wheels and axles <p><u>Cooking and Nutrition</u></p> <ul style="list-style-type: none"> • Use the basics principles of a healthy and varied diet to prepare dishes. • Understand where food comes from – link to school allotment. 	<p>exploded diagrams, prototypes, pattern pieces and computer aided design.</p> <p><u>Make</u></p> <ul style="list-style-type: none"> • Select from and use a range of tools and equipment to perform practical tasks such as cutting, shaping, joining and finishing accurately • Select from and use a wide range of materials including construction materials, textiles and ingredients according to their functional properties and aesthetic qualities <p><u>Evaluate</u></p> <ul style="list-style-type: none"> • Investigate and evaluate a range of existing products • Evaluate their ideas and products against their own design criteria and consider views of others to improve their work. • Understand how key events and individuals in design and technology have helped shape the world. <p>Technical Knowledge</p> <ul style="list-style-type: none"> • Apply their understanding of how to strengthen, stiffen and reinforce more complex structures. • Understand and use mechanical systems in their products, such as gears, pulleys, cams, leavers and linkages • Apply understanding of comparing to programme, monitor and control their products. <p><u>Cooking and Nutrition</u></p> <ul style="list-style-type: none"> • Understand and apply the principles of a healthy and varied diet. • Prepare and cook predominantly savoury dishes using a range of cooking techniques.
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