# Design and Technology Progression Map – Woburn Lower School 2023-2024

This is a reference point when planning and teaching units of work, drawing on later or earlier skills to support and extend children

## DESIGN

| Reception | Year 1 | Year 2 | Year 3 | Year 4 |
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| *talk about products already made and what they like/dislike about a product<br>*think carefully about purpose/colour/ shape appropriate for a task.<br>*begin to draw simple designs of products they would like to create. | * have own ideas<br>* explain what I want to do<br>*explain what my product is for, and how it will work<br>* use pictures and words to plan, begin to use models<br>* design a product for myself following design criteria<br>*research similar existing products | * have own ideas and plan what to do next<br>* explain what I want to do and describe how I may do it<br>* explain purpose of product, how it will work and how it will be suitable for the user<br>* describe design using pictures, words, models, diagrams, begin to use ICT<br>* design products for myself and others following design criteria<br>* choose best tools and materials, and explain choices<br>* use knowledge of existing products to produce ideas | *begin to research others' needs<br>* show design meets a range of requirements<br>* describe purpose of product<br>* follow a given design criteria<br>* have at least one idea about how to create product<br>* create a plan which shows order, equipment and tools<br>*describe design using an accurately labelled sketch and words<br>* make design decisions<br>*explain how product will work<br>* make a prototype<br>* begin to use computers to show design | * use research for design ideas<br>* show design meets a range of requirements and is fit for purpose<br>*begin to create own design criteria<br>*have at least one idea about how to create product and suggest improvements for design.<br>* produce a plan and explain it to others<br>*say how realistic plan is.<br>*include an annotated sketch<br>*make and explain design decisions considering availability of resources<br>*explain how product will work<br>* make a prototype *begin to use computers to show design. |

# MAKE

| Reception | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|
| *begin to talk about what they are making and their plans<br>*with support, select tools needed to cut/join/draw<br>*with support, think about how to work safely when making a product<br>*talk about what is working/ is not working and why | *explain what I'm making and why<br>*consider what I need to do next<br>*select tools/equipment to cut, shape, join, finish and explain choices<br>*measure, mark out, cut and shape, with support<br>*choose suitable materials and explain choices<br>*try to use finishing techniques to make product look good<br>*work in a safe and hygienic manner | *explain what I am making and why it fits the purpose<br>*make suggestions as to what I need to do next.<br>*join materials/components together in different ways<br>*measure, mark out, cut and shape materials and components, with support.<br>*describe which tools I'm using and why<br>*choose suitable materials and explain choices depending on characteristics.<br>*use finishing techniques to make product look good<br>*work safely and hygienically | *select suitable tools/equipment, explain choices; begin to use them accurately<br>* select appropriate materials, fit for purpose.<br>* work through plan in order<br>*consider how good product will be<br>* begin to measure, mark out, cut and shape materials/components with some accuracy<br>* begin to assemble, join and combine materials and components with some accuracy<br>* begin to apply a range of finishing techniques with some accuracy | * use research for design ideas * show design meets a range of requirements and is fit for purpose<br>*begin to create own design criteria *have at least one idea about how to create product and suggest improvements for design.<br>* produce a plan and explain it to others<br>*say how realistic plan is.<br>*include an annotated sketch<br>*make and explain design decisions considering availability of resources<br>*explain how product will work<br>* make a prototype<br>*begin to use computers to show design |

# EVALUATE

| Reception | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|
| *talk about how I made my product<br>*tell someone what I liked about my product<br>*talk about what I might change to make my product even better | *talk about my work, linking it to what I was asked to do<br>* talk about existing products considering: use, materials, how they work, audience, where they might be used<br>*talk about existing products, and say what is and isn't good<br>* talk about things that other people have made.<br>*begin to talk about what could make product better | * describe what went well, thinking about design criteria<br>* talk about existing products considering: use, materials, how they work, audience, where they might be used; express personal opinion<br>*evaluate how good existing products are<br>*talk about what I would do differently if I were to do it again and why | * look at design criteria while designing and making<br>*use design criteria to evaluate finished product<br>* say what I would change to make design better<br>*begin to evaluate existing products, considering: how well they have been made, materials, whether they work, how they have been made, fit for purpose<br>* begin to understand by whom, when and where products were designed<br>* learn about some inventors/designers/ | *refer to design criteria while designing and making *use criteria to evaluate product<br>* begin to explain how I could improve original design<br>*evaluate existing products, considering: how well they've been made, materials, whether they work, how they have been made, fit for purpose<br>* discuss by whom, when and where products were designed<br>* research whether products can be recycled or reused<br>* know about some inventors/designers/ |

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|---|---|---|---|---|
| | | | engineers/chefs/ manufacturers of ground-breaking products | engineers/chefs/manufacturers of ground-breaking products |

## TECHNICAL KNOWLEDGE – CONSTRUCTION

**(Including materials, structures, mechanisms and electrical systems)**

| Reception | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|
| *know that objects are made of different materials and begin to describe them<br>*have my own ideas about how to join parts of products | *begin to measure and join materials, with some support *describe differences in materials<br>*suggest ways to make material/product stronger<br>*begin to use levers or slides | *measure materials<br>*describe some different characteristics of materials<br>*join materials in different ways<br>*use joining, rolling or folding to make it stronger<br>*use own ideas to try to make product stronger<br>*use levers or slides<br>*begin to understand how to use wheels and axles | *use appropriate materials<br>*work accurately to make cuts and holes<br>* join materials *begin to make strong structures<br>*select appropriate tools / techniques<br>*alter product after checking, to make it better<br>*begin to try new/different ideas<br>*use simple lever and linkages to create movement<br>*use simple circuit in product | *measure carefully to avoid mistakes<br>*attempt to make product strong<br>*continue working on product even if original didn't work<br>*make a strong, stiff structure<br>*select most appropriate tools / techniques<br>*explain alterations to product after checking it<br>*grow in confidence about trying new / different ideas.<br>*use levers and linkages to create movement |

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| | | | *learn about how to program a computer to control product | *use pneumatics to create movement<br>*use number of components in circuit<br>*program a computer to control product |

## TECHNICAL KNOWLEDGE - TEXTILES

| Reception | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|
| *begin to talk about the different textures of textiles.<br>*talk about colour and shape when thinking about which textiles could be used | *measure, cut and join textiles to make a product, with some support<br>*choose suitable textiles | *measure textiles<br>*join textiles together to make a product, and explain how I did it<br>*carefully cut textiles to produce accurate pieces<br>*explain choices of textile<br>*understand that a 3D textile structure can be made from two identical fabric shapes. | *join different textiles in different ways<br>*choose textiles considering appearance and functionality<br>*begin to understand that a simple fabric shape can be used to make a 3D textiles project | *think about user when choosing textiles<br>*think about how to make product strong<br>* begin to devise a template<br>*explain how to join things in a different way<br>*understand that a simple fabric shape can be used to make a 3D textiles project |

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## TECHNICAL KNOWLEDGE

## FOOD, DRINK AND NUTRITION

| Reception | Year 1 | Year 2 | Year 3 | Year 4 |
|---|---|---|---|---|
| *have own likes/dislikes when it comes to foods.<br>*begin to understand healthy and unhealthy foods and the need for a balanced diet<br>*know that it's important to have clean hands before touching food<br>*begin to cut and prepare fruits with support | *describe textures<br>*wash hands & clean surfaces<br>*think of interesting ways to decorate food<br>*say where some foods come from, (i.e. plant or animal)<br>*describe differences between some food groups (i.e. sweet, vegetable etc.) | *explain hygiene and keep a hygienic kitchen<br>*describe properties of ingredients and importance of varied diet<br>*say where food comes from (animal, underground etc.)<br>*describe how food is farmed, home-grown, caught | *carefully select ingredients<br>*use equipment safely<br>*make product look attractive<br>*think about how to grow plants to use in cooking<br>*begin to understand food comes from UK and wider world<br>*describe how healthy diet= variety/balance of food/drinks | *explain how to be safe/hygienic<br>*think about presenting product in interesting/ attractive ways<br>*understand ingredients can be fresh, pre-cooked or processed<br>*begin to understand about food being grown, reared or caught in the UK or wider world |

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| | *discuss how fruit and vegetables are healthy<br>*cut, peel and grate safely, with support | *draw eat well plate; explain there are groups of food<br>*describe “five a day”<br>*cut, peel and grate with increasing confidence | *explain how food and drink are needed for active/healthy bodies.<br>*prepare hot drinks safely and hygienically<br>*grow in confidence understanding branding of food and drink products | *describe eat well plate and how a healthy diet=variety / balance of food and drinks<br>*explain importance of food and drink for active, healthy bodies<br>*prepare and cook some dishes safely and hygienically<br>*use some of the following techniques: peeling, chopping, slicing, grating, mixing, spreading and baking |

## What does greater depth look like at Woburn Lower School?

Creating the opportunity for greater depth in Design and Technology involves allowing pupils the independence to apply their learning at a deeper level. They are the pupils who take an idea or a new skill and adapt it or develop it further independently.

This means that pupils working at Greater Depth will:

- GD pupils will work independently
- GD pupils will demonstrate a creative response to the problem
- GD pupils will stick tightly to the brief and consider the end user’s need and preferences throughout the process

- GD pupils will think critically about and comment on other products and their own product
- GD pupils will likely amend their product to improve its outcome
- GD pupils will display high quality presentation and precision throughout the process of design and make

"**Design is not just what it looks like and feels like. Design is how it works.**"

**(Steve Jobs, co-founder of Apple, Inc.)**