



Design and Technology



Red - 3 - 4 Years Development Matters Statements; Blue - Reception Development Matters Statements Green - Early Learning Goal Statements

Early Years

Designing:

- Increasingly follow the rules, understanding why they are important (3-4 years)
- Collaborate with others to manage large items, such as carrying or moving equipment (3-4 years)
- Choose the right resources to carry out their own plan (3-4 years)
- Explore different textures (3-4 years)
- Explore materials freely to develop their own ideas about how to use them and what to make (3-4 years)
- Develop your own ideas and then decide which materials to use to express them (3-4 years)
- Draw with increasing complexity such as representing a face with a circle and details (3-4 years)
- Create collaboratively, sharing ideas, resources and skills (Reception)
- Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form and function (ELG)
- Begin to show accuracy and care when drawing (ELG)

Evaluating:

- Be able to express a viewpoint and debate when they disagree using words (3-4 years)
- Start a conversation with an adults or a friend and continue it taking turns (3 -4 years)
- Talk about what they see; the changes in materials and what they notice (3-4 years)
- Ask questions to find out more and check their understanding (Reception)
- Articulate their ideas in well-formed sentences (Reception)
- Return to and build on previous learning, refining ideas and developing their ability to represent them (Reception)
- Share their creations explaining the processes they have used (ELG)
- Make comments about what they have seen and ask questions to clarify understanding (ELG)
- Participate in discussions offering their own ideas and using recently introduced vocabulary (ELG)

Making:

- Use a comfortable grip with good control when holding pens and pencils (3-4 years)
- Use one-handed tools such as making snips in paper with scissors (3-4years)
- Join different materials (3-4 years)
- Develop their small motor skills so that they can use a range of tools - knives, forks, spoons, scissors - competently, safely and confidently (Reception) Work collaboratively and take turns with others (ELG)
- Explain the reasons for rules, know right from wrong and try to behave accordingly (ELG)
- Use a range of small tools, including scissors, paintbrushes and cutlery (ELG)

Technical Knowledge:

- Remember & recall rules without needing adult to remind them (3-4 years)
- Show a preference or a dominant hand (3-4 years)
- Show me how to use a one-handed tools such as making snips in paper with scissors (3-4years)
- Show me how to use a comfortable grip with good control when holding pens and pencils (3-4 years)
- Show me how to use a knife, fork, spoon or scissors competently, safely and confidently (Reception)
- Show me how you make use of the props and materials when role playing characters in narratives and stories (ELG)
- Show me your creation and explain the process you have used (ELG)
- Show me how to use a range of small tools, including scissors, paintbrushes and cutlery (ELG)

Cooking & Nutrition:

- Manage your own basic hygiene and personal needs including understanding the importance of healthy food choices (ELG)
- Make healthy food choices about food, drink, activities (3-4 years)
- Know and talk about the different factors that support overall health and well-being - healthy eating (Reception)



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Key Stage One

Designing:

- To work in a range of different places
- To be able to say what you are making
- To say who your product is for
- To describe what your product is for
- To say how your product will work
- To say how your product is meant to be used
- To you design criteria to develop your ideas.
- To generate ideas
- To use your existing knowledge
- To communicate your ideas through taking and drawing
- To model your ideas
- To use information technology

Evaluating:

- To talk about your design and what you have made
- To make judgements about your product against the design criteria
- To suggest how your product could be improved.
- To explore:
 - What products are
 - 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 you like and dislike about a product

Making:

- To be able to say what to do next
- To select a range of tools ad equipment and explain why
- To use materials and components for their characteristics
- To follow safety procedures
- To follow hygiene procedures
- To measure, mark out, cut and shape materials
- To assemble, join and combine materials
- To use finishing techniques.

Technical Knowledge:

- Do you know about the workings of different materials?
- Do you know about the workings of different components?
- Do you know about the simple movement of levers, sliders, wheels and axles?
- Do you know how free standing structures can be made stronger?
- Do you know that a 3D textile product can be made from two identical fabric shapes?
- Do you know that food should be combined by sensory characteristics?
- Do you know the correct vocabulary for the project you are undertaking?

Cooking & Nutrition:

- Do you know that all food comes for plants and animals?
- Do you know that food has to be farmed, grown or caught?
- Do you know how to sort food in to five food groups?
- Do you know you need to eat 5 portions of fruit/vegetables each day?
- Do you know how to prepare simple dishes safely?
- Do you know how to peel, grate and cut?



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Lower Key Stage Two

Designing:

- To work confidently in a range of different environments
- To describe the purpose of your product
- To indicate the design features of your product
- To explain how the parts of your product work
- LKS2: To gather information about the needs and wants of an individual or group
- LKS2: To develop your own design criteria and use it to inform your ideas.
- To clarify ideas through discussion
- To model ideas with prototypes
- To use annotated sketches, cross section drawings and exploded diagrams to communicate ideas
- To use CAD to develop and communicate ideas.
- LKS2: to generate realistic ideas
- LKS2: To make design decisions taking into account the availability of resources.

Evaluating:

- To identify the strengths and areas of development in their ideas and products
- To consider the views of others to improve their work
- LKS2: To refer to your design criteria as you make
- LKS2: To use your design criteria to evaluate your product

Investigate and Analyse:

- How well have your products been designed?
- How well have your products been made?
- Why have you chosen your materials?
- How well does your product work?
- How well does your product achieve its purpose?
- How well do products meet the users' needs and wants?
- LKS2: Who designed and made the product?
- LKS2: Where were products made and designed?
- LKS2: When were products made and designed?
- LKS2: Whether products can be recycled or reused?

Making:

- To be able to select tools suitable for the task
- To be able to explain your choice of tools and techniques
- To be able to select materials and components according to their function, properties and aesthetic appearance (look)
- LKS2: To be able to order the main stages of making
- To follow procedures for safety and hygiene
- To use a wider range of materials than KS1 - construction kits, textiles, food ingredients, mechanical components, electrical components.
- LKS2: To be able to measure, mark out, cut and shape materials
- LKS2: To be able to assemble, join, and combine materials/components
- LKS2: To apply a range of finishing techniques with accuracy.

Technical Knowledge: Do you know...

- about people who have developed ground breaking products?
- how to use science/maths to help you design and make products?
- that your materials are both functional / aesthetic and can be combined and mixed?
- that mechanical and electrical systems have an input, process and an output?
- the correct vocabulary for the project you are undertaking?
- LKS2: about mechanical systems - levers, linkages and pneumatic systems
- LKS2: about simple electrical circuits?
- LKS2: how to programme a computer to control products?
- LKS2: how to make string, stiff shell structures?
- LKS2: that a simple fabric shape can make a 3D textile product
- LKS2: that food ingredients can be fresh, pre-cooked and processed.

Cooking & Nutrition:

- Do you know that food is grown, reared and caught in the UK, Europe and the wider world?
- Do you know how to prepare and cook a variety of savoury dishes safely using a heat source?
- Do you know how to use range of techniques - peeling, chopping, slicing, grating, mixing, spreading, kneading, baking
- LKS2: To know what a healthy diet is - The Eatwell Guide & to be active and healthy, food and drink are needed to provide energy for the body.



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Upper Key Stage Two

Designing:

- To work confidently in a range of different environments
- To describe the purpose of your product
- To indicate the design features of your product
- To explain how the parts of your product work
- UKS2: To carry out research: surveys, questionnaires, interviews
- UKS2: To develop a simple design specification to guide your thinking
- To clarify ideas through discussion
- To model ideas with prototypes
- To use annotated sketches, cross section drawings and exploded diagrams to communicate ideas
- To use CAD to develop and communicate ideas.
- UKS2: To generate innovative ideas, drawing on research
- UKS2: To make design decisions taking account constraints such as time, resources and cost.

Evaluating:

- To identify the strengths and areas of development in their ideas and products
- To consider the views of others to improve their work
- UKS2: To critically evaluate the quality of your design, manufacture and fitness for purpose
- UKS2: To evaluate your ideas and products against your design criteria.

Investigate and Analyse:

- How well have your products been designed?
- How well have your products been made?
- Why have you chosen your materials?
- How well does your product work?
- How well does your product achieve its purpose?
- How well do products meet the users' needs and wants?
- UKS2: How much do products cost?
- UKS2: How innovative are your products?
- UKS2: How sustainable are the materials in your product?
- UKS2: What impact does your product have?

Making:

- To be able to select tools suitable for the task
- To be able to explain your choice of tools and techniques
- To be able to select materials and components according to their function, properties and aesthetic appearance (look)
- UKS2: To produce appropriate lists of tools, equipment and materials required
- UKS2: To formulate a step by step plan.
- To follow procedures for safety and hygiene
- To use a wider range of materials than KS1 - construction kits, textiles, food ingredients, mechanical components, electrical components.
- UKS2: To accurately measure, mark out, cut and shape materials
- UKS2: To accurately assemble, join, and combine materials/components
- UKS2: To accurately apply a range of finishing techniques with accuracy.
- UKS2: To demonstrate resourcefulness.

Technical Knowledge: Do you know...

- about people who have developed ground breaking products?
- how to use science/maths to help you design and make products?
- that your materials are both functional / aesthetic and can be combined and mixed?
- that mechanical and electrical systems have an input, process and an output?
- the correct vocabulary for the project you are undertaking?
- UKS2: about mechanical systems - cams, pulleys, and gears
- UKS2: how more complex electrical circuits can be used?
- UKS2: how to program a computer to monitor changes in the environment and control their products
- UKS2: how to reinforce and strengthen a 3D framework
- UKS2: that a 3D texture product can be made from a combination of fabric shapes
- UKS2: that a recipe can be adapted by adding or substituting ingredients.

Cooking & Nutrition:

- Do you know that food is grown, reared and caught in the UK, Europe and the wider world?
- Do you know that seasons may affect the food available?
- Do you know how food is processed into ingredients that can be eaten or used in cooking?
- Do you know how to prepare and cook a variety of savoury dishes safely using a heat source?

- Do you know how to use range of techniques - peeling, chopping, slicing, grating, mixing, spreading, kneading, baking
- UKS2: Do you know that recipes can be adapted to change appearance, taste, texture and aroma
- UKS2: Do you know that different food and drink contains different substances - nutrients, water and fibre.

