Progression of skills and knowledge for DT

DT skills and processes • Designing • Making • Evaluating • Technical knowledge and understanding	The 3 core skills, designing, making and evaluating, should be incorporated into every DT topic. Specific technical language will be taught through topics during the year.

EYFS

The most relevant statements for DT are taken from the following Areas of Learning:

• Personal, Social and Emotional Development
• Physical Development
• Understanding the World
• Expressive Arts and Design

Select and use activities and resources, with help when needed. This helps them to achieve a goal they have chosen or one which is suggested to them.
Use large-muscle movements to paint and make marks.
Choose the right resources to carry out their own plan.
Use one-handed tools and equipment, for example, making snips in paper with scissors.
Make imaginative and complex 'small worlds' with blocks and construction kits.
Explore different materials freely, to develop their ideas about how to use them and what to make.
Develop their own ideas and then decide which materials to use to express them.
Create closed shapes with continuous lines and begin to use these shapes to represent objects.
Develop their small motor skills so that they can use a range of tools competently, safely and confidently.
Explore, use and refine a variety of artistic effects to express their ideas and feelings.
Return to and build on their previous learning, refining ideas and developing their ability to represent them.
Create collaboratively, sharing ideas, resources and skills.

Designing (developing planning and communicating ideas)					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Develop design ideas, communicating these verbally and through pictures. Develop ideas through observing and researching existing products.	Develop design ideas, considering a target group, communicating these through labelled diagrams. Develop ideas through observing and researching existing products. Identify simple design criteria, which they should adhere to.	Develop realistic designs for a specific target group and purpose, communicating these through annotated diagrams. Develop ideas through analysis of existing products. Create a design criterion to adhere to.	Develop designs based on the needs of the user whilst making products fit for purpose, communicating ideas through annotated, cross-sectional diagrams. Develop ideas through analysis of existing products. Create a design criterion and plan out work detailing how and when work will be done.	Develop purposeful, functional, appealing products based on research of the users needs. Generate a design specification taking into consideration time, resources and cost. Plan out work detailing how and when work will be done. Communicate ideas through annotated cross-sectional drawings and prototypes.	Develop purposeful, functional, appealing and innovative products based on research of the users needs. Generate a design specification taking into consideration time, resources and cost. Plan out work detailing how and when work will be done. Communicate ideas through annotated cross-sectional drawings, prototypes and computer aided design.
Making (working with tools, equipment, materials and components to make quality products- including food)					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Make their design using suitable tools, materials and	Begin to independently select tools and materials, using	Independently select materials according	Select and use appropriate specialist tools and techniques	Competently selects appropriate materials, tools and	Competently selects appropriate tools, materials, components

techniques explaining the choices they have made. With help measure, mark, cut and shape a range of materials. Assemble, join and combine materials and components together using a variety of temporary methods. Use simple finishing techniques to improve the appearance of their product. Select and use a range of fruit and vegetables according to their characteristics (colour) and taste. Use simple utensils and techniques safely to peel, chop, cut,	technical vocabulary to name and describe them. Measure, cut and score with some accuracy. Use tools safely and appropriately. Assemble, join and combine materials. Choose appropriate finishing techniques. Follow safe procedures for food safety and hygiene.	to functional properties. Use appropriate tools to measure, mark, cut, score and assemble components with more accuracy. Works safely and accurately. Continually evaluate process and be willing to make changes to improve work. Use finishing techniques which strengthen and improve the appearance of their product. Demonstrate hygienic food preparation and storage. Select and use appropriate utensils and equipment to	for making their product safely. Select materials according to functional properties and aesthetic qualities, and explain their choices. Measure, mark out, cut and shape a range of materials. Join and combine materials and components accurately in temporary and permanent ways. Use finishing techniques which strengthen and improve the appearance of their product. Select from a range of ingredients to make appropriate food	techniques to accurately assemble components. Safely and accurately measure and mark out components. Join and combine materials accurately in temporary and permanent ways. Use finishing and decorative techniques suitable for the product they are designing and making. Weigh and measure ingredients accurately. Apply the rules for basic food hygiene and other safe procedures (e.g. using ovens).	and techniques to accurately and safely assemble and produce reliable, functional products. Construct products using permanent joining techniques. Make modifications to their product during production. Achieve a quality finish on their product. Select and use a range of utensils and equipment to measure and combine ingredients accurately. Make, decorate and present the food product appropriately for the intended purpose and user (e.g. displaying afternoon tea for a party).

slice, squeeze and grate.		prepare and combine ingredients.	products, thinking about sensory characteristics.		
Evaluating (processes and products)					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
Evaluate their product, identifying strengths and possible changes they might make.	Evaluate against their design criteria, identifying strengths and improvements as well as how well it worked.	Test and evaluate their final product against design criteria and intended purpose, as well as identifying strengths and areas for improvement.	Evaluate their work during and at the end of the project against the design criteria and intended purpose. Carry out appropriate tests, identifying strengths and areas for improvement. Take into consideration others views when evaluating.	Critically evaluate a product (design and manufacture) against the design specification. Evaluate it personally and seek evaluation from others to improve their work.	Critically evaluate their product continually through the process. Modifying features to match the design criteria. Evaluate it personally and seek evaluation from others to improve their work.
Technical Knowledge					
Year 1	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**

Textiles	Textiles	Textiles	Textiles	Textiles	Textiles
Understand how simple 3-D textile products are made, using a template to create two identical shapes. Know and use simple technical vocabulary relevant to the project.	Understand how simple 3-D textile products are made, using a template to create two identical shapes. Understand how to join fabrics using different techniques. Know and use technical vocabulary relevant to the project more accurately.	N/A	Know how to strengthen, stiffen and reinforce existing fabrics. Understand how to securely join two pieces of fabric together. Understand the need for patterns and seam allowances. Know and use technical vocabulary relevant to the project accurately when discussing their product and writing about it.	Understand how to join two different pieces of fabric together and add detail and fabric shapes. To know how fabrics can be strengthened, stiffened and reinforced where appropriate. Know and use technical vocabulary relevant to the project in written work accurately.	Understand how to join two different pieces of fabric together and add detail and fabric shapes. To know how fabrics can be strengthened, stiffened and reinforced where appropriate. Know and use technical vocabulary relevant to the project in written work accurately.

Structures	Structures	Structures	Structures	Structures	Structures
Know how to make freestanding structures stronger, stiffer and more stable. Know and use simple technical vocabulary relevant to the project.	Know how to make freestanding structures stronger, stiffer and more stable. Know and use technical vocabulary relevant to the project more accurately.	Develop and use knowledge of how to construct strong, stiff shell structures. Know and use technical vocabulary relevant to the project accurately. Develop and use knowledge of nets of cubes and cuboids and, where appropriate, more complex 3D shapes. Know and use technical vocabulary relevant to the project accurately.	Develop and use knowledge of how to construct strong, stiff 3D structures and how to use finishing techniques to strengthen and stiffen structures. Know and use technical vocabulary relevant to the project accurately when discussing their product and writing about it.	Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project in written work accurately.	Understand how to strengthen, stiffen and reinforce 3-D frameworks. Know and use technical vocabulary relevant to the project in written work accurately.

Mechanisms Understand that different mechanisms produce different types of movement (levers and sliders). Know and use simple technical vocabulary relevant to the project.	**Mechanisms** Explore and use wheels, axles and axle holders, distinguishing between fixed and freely moving axles. Know and use technical vocabulary relevant to the project more accurately.	**Mechanisms** Understand and use lever and linkage mechanisms. Distinguish between fixed and loose pivots. Know and use technical vocabulary relevant to the project accurately.	**Mechanisms** N/A	**Mechanisms** N/A	**Mechanisms** Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement. Know and use technical vocabulary relevant to the project in written work accurately.
Electrical Control N/A	**Electrical Control** N/A	**Electrical Control** Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. Apply their understanding of computing to program and control their products. Know and use technical vocabulary	**Electrical Control** Understand and use electrical systems in their products, such as series circuits incorporating switches, bulbs and buzzers. Apply their understanding of computing to program and control their products. Know and use technical vocabulary	**Electrical Control** Understand that mechanical and electrical systems have an input, process and an output. Know and use technical vocabulary relevant to the project in written work accurately.	**Electrical Control** Understand and use electrical systems in their products. Apply their understanding of computing to program, monitor and control their products. Understand how gears and pulleys can be used to speed up, slow down or change the direction of movement.

		relevant to the project accurately.	relevant to the project accurately when discussing their product and writing about it.		Understand that mechanical and electrical systems have an input, process and an output. Know and use technical vocabulary relevant to the project in written work accurately.