Knowing More. Remembering More. Applying More!

Assessment in Foundation Subjects – Design Technology (Year 3)

Teachers to assess how well children have learned the required knowledge at the end of each term.

Working Towards (WTS) Expected (EXS) Greater Depth (GDS)

	Autumn Term- Torches	Spring Term – Making Roman shields	Summer Term – Lower school crest award
Prior skills	Make their design using appropriate techniques (year 1)	Develop their design ideas applying findings from their earlier research (year 1)	Generate ideas by drawing on their own and other people's experiences (year 2)
Substantive Key Knowledge and how it is applied	• Know that materials have both functional properties and aesthetic qualities • Think about the simple working characteristics of materials and components • Links to science curriculum	• Know that materials have both functional properties and aesthetic qualities • Understand how freestanding structures can be made stronger, stiffer and more stable • Links to topic curriculum	• Describe the purpose of their products • Indicate the design features of their products that will appeal to intended users • Explain how particular parts of their products work
Disciplinary knowledge	• use a wider range of materials and components than KS1, including construction materials and kits, mechanical components and electrical components • measure, mark out, cut and shape materials and components with some accuracy	• use a wider range of materials and components than KS1, including construction materials and kits, mechanical components and electrical components • Measure, mark out, cut and shape materials and components with some accuracy	• Generate realistic ideas, focusing on the needs of the user • Make design decisions that take account of the availability of resources
Key vocabulary	Purpose Plan Design Skills Evaluate Product Circuits Switch Bulb Wires Cell	Purpose Plan Design Skills Evaluate Product Fixing Strength Support Aesthetics	Purpose Plan Design Skills Evaluate Product Discussion Objective Teamwork Cooperation Pitch
Future learning	Construct a product using an electronic circuit and mechanic components (year 5)	Design free standing structures to support a weight (year 4)	Work within a range of contexts to overcome problems in different contexts (year 6)
Influential inventor	**Alexander Graham Bell-** I know that he was born in 1847 I know that Alexander Graham Bell invented the first telephone I know the first telephone call was in 1876 I know he died in 1922		

Did You Know...?

In the first ever phone call, Bell said,

"Mr Watson, come here. I want to see you!"

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Assessment in Foundation Subjects – Design Technology (Year 4)

Teachers to assess how well children have learned the required knowledge at the end of each term.

Working Towards (WTS) Expected (EXS) Greater Depth (GDS)

	Autumn Term- Polar sleeping bag	**Spring Term – bridges**	**Summer Term – Viking purse**
Prior skills	Use joining methods to decorate a product (year 1)	Selecting materials due to their function (year 2)	Evaluate their own and others work based on aesthetic properties. (year 3)
Substantive Key Knowledge and how it is applied	• Understand that materials have both functional properties and aesthetic qualities • Know that a 3-D textiles product can be assembled from two identical fabric shapes • Links to topic curriculum	• Understand that materials have both functional properties and aesthetic qualities • Know how freestanding structures can be made stronger, stiffer and more stable	• Understand that materials have both functional properties and aesthetic qualities • Know that a 3-D textiles product can be assembled from two identical fabric shapes • Links to topic curriculum
Disciplinary knowledge	• Measure, mark out, cut and shape materials and components with some accuracy • Assemble, join and combine materials and components with some accuracy	• Use a wider range of materials and components than KS1, including construction materials • Mark , measure cut and use components with growing accuracy	• Measure, mark out, cut and shape materials and components with some accuracy • Assemble, join and combine materials and components with some accuracy
Key vocabulary	Purpose Plan Design Skills Evaluate Product Insulation Conditions Practical Needle Thread Material Cutting Joining Sewing Measure	Purpose Plan Design Skills Evaluate Product Strength Support Structure Brace	Purpose Plan Design Skills Evaluate Product Needle Thread Material Cutting Joining Sewing Measure Fasten Aesthetics
Future learning	Accurately, cut join and combine material for a specific purpose (year 6)	Understand methods on stiffening and strengthening structures (year 5)	Make and design decorations understanding cultural and independent choices (year 6)
Influential Inventor	**Steve Jobbs-** I know Steve Jobbs was born in the united states of America I know that Steve Jobbs began making computers in 1976 I know that Steve Jobbs set up the company 'Apple' I know Apple product such as Iphones and Ipads are sold globally		

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Assessment in Foundation Subjects – Design Technology (Year 5)

Teachers to assess how well children have learned the required knowledge at the end of each term.
Working Towards (WTS) Expected (EXS) Greater Depth (GDS)

	Autumn Term-Electronic buggies	**Spring Term – Roller coasters**	**Summer Term – Bird box**
Prior learning	Using a wide range of materials and equipment safely (year 2)	Manipulating materials to create different effects by cutting, creasing and folding. (Year 4)	Making a model based on a chosen design (year 3)
Substantive Key Knowledge and how it is applied	• Know how mechanical systems such as cams or pulleys or gears create movement. • Know how more complex electrical circuits and components can be used to create functional products • Understand that mechanical and electrical systems have an input, process and output • Links between science curriculum	• Understand that mechanical and electrical systems have an input, process and output • Know how freestanding structures can be made stronger, stiffer • Realise that materials have both functional properties and aesthetic qualities	• Know that materials have both functional properties and aesthetic qualities • Understand how to reinforce and strengthen a 3D framework • know how to make strong, stiff shell structures • Understand that materials can be combined and mixed to create more useful characteristics
Disciplinary knowledge	• accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques,	• accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques,	• accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques,
Key vocabulary	Circuits Switch Cell Motor Thrust Drag Acceleration Aerodynamics Forces Wheel axle gears chassis	Purpose Plan Design Skills Evaluate Product Structure Support Brace Card Prism Gravity	Purpose Plan Design Skills Evaluate Product Strength Support Stability Structure Aesthetics Practical Cutting Joining Fixing Brace Hand saw Jig Glue Drill Wood
Future learning	Using electronics to design and make a game (KS3)	Understand how materials can be combined to make structures stronger and stable (year 6)	Use a range of materials to reinforce structures and improve design (KS3)
Influential Inventor	**Thomas Edison-** I know Thomas Edison was born in 1847. I know Thomas Edison made his first invention (phonograph) in 1877. I know Thomas Edison invented the first electric lightbulb. I know Thomas Edison died in 1931.		

Knowing More. Remembering More. Applying More!

Assessment in Foundation Subjects – Design Technology (Year 6)

Teachers to assess how well children have learned the required knowledge at the end of each term.

Working Towards (WTS) Expected (EXS) Greater Depth (GDS)

	Autumn Term- Shelters	**Spring Term – Tudor rose**	**Summer Term – UKS2 Crest award**
Prior learning	Building frame structures to support weight (year 4)	Designing and make a template from an existing item applying individual design. (year 3)	Learning that products evolve and change over time to meet requirements (Year 3)
Substantive Key Knowledge and how it is applied	• Know how to make strong, stiff shell structures • Understand that materials can be combined and mixed to create more useful characteristics • Realise how freestanding structures can be made stronger, stiffer and more stable	• Understand that a 3D textiles product can be made from a combination of fabric shapes • Know how to reinforce and strengthen a 3D framework • Links to Topic curriculum	• work confidently within a range of contexts, such as the home, school, leisure, culture,enterprise, industry and the wider environment • describe the purpose of their products • identify the needs, wants, preferences and values of particular individuals and groups
Disciplinary knowledge	• select materials and components suitable for the task • explain their choice of materials and components according to functional properties and • aesthetic qualities • accurately measure, mark out, cut and shape materials and components	• accurately measure, mark out, cut and shape materials and components • accurately assemble, join and combine materials and components • accurately apply a range of finishing techniques,	• carry out research, using surveys, interviews, questionnaires and web-based resources • generate innovative ideas, drawing on research • make design decisions, taking account of constraints such as time, resources and cost • demonstrate resourcefulness when tackling practical problems
Key vocabulary	Purpose Plan Design Skills Evaluate Product Strength support Stability structure Fix Brace	Purpose Plan Design Skills Evaluate Product Needle Thread Material Cutting Joining Sewing Measure Fasten	Purpose Plan Design Skills Evaluate Product Discussion Objective Teamwork Cooperation Pitch Review Dilemma International Epidemic
Future learning	Using a larger variety of tools, mechanical and manual, to achieve a desired task (KS3)	Sewing a variety of strong sewing stiches, including a running stitch to ensure clean edges. (ks3)	Understand a range of problem solving situations and methods to overcome them (KS3)
Influential Inventor	**Alan Turing-** I know Alan Turing was born in 1912. I know that he worked at Bletchley Park and was influential in allied forces winning the war. I know Alan Turing developed 'the bombe' code breaking machine, which was based on the Enigma machine. I know Alan Turing received an OBE for his work in the war.