SSCA DT Knowledge and Skills Mapping

Knowledge Organisers for the priority subject for each concept to be issued before the learning block is taught. **Metacognition**: Metacognition can take many forms; it includes knowledge about when and how to use particular strategies for learning or problem-solving.			
	Term	**Term**	**Term**
EYFS	**Autumn**	**Spring**	**Summer**
Knowledge	• Model with construction kits • Junk Modelling – joining with tape/glue and embellish	• Weaving with paper • Junk Modelling – flanges and hinges	• Sewing – bookmarks • Junk Modelling – moving parts
Skill Progression	*Use wooden blocks and duplo in construction.* **Physical Development:** • Use a range of tools including big paint brushes and crinkly scissors. **Expressive Arts and Design:** • Safely use a variety of materials to experiment with colour and design. • Use glue, tape, paint and a range of embellishments in junk modelling.	*Use stickle bricks and train track for construction.* **Physical Development:** • Use a range of small tools, including scissors and paintbrushes. **Expressive Arts and Design:** • Safely use a variety of materials to experiment with colour, design and *texture*. • Use glue, tape, paint and a range of embellishments in junk modelling. • To use cardboard to make flanges and hinges.	*Use lego and Kapla bricks for construction.* **Physical Development:** • Use a range of small tools – including needles for sewing. **Expressive Arts and Design:** • Safely use a variety of materials to experiment with colour, design, texture, *form and function*. • To use cardboard/paper and split pins to make movable parts.
Metacognition/	**Classroom discussion**	**Cognitive task analysis**	**Jigsaw method**
Year 1	**Autumn**	**Spring**	**Summer**
Knowledge	**Construction/mechanisms** • To know about the simple working characteristics of materials and components • To know about movement of simple mechanisms such as levers, sliders, wheels and axels.	**Textiles** • To know how to join fabrics with **glue**. • To understand the properties of different fabrics.	**Food technology** • To know how to use different kitchen equipment safely. • To know that all food comes from plants or animals • To know that everyone should eat at least five portions of fruit and vegetables every day.

<table>
<tr><td>Skill Progression</td><td colspan="3">Generating Ideas
Think of own ideas for design.
Use pictures and words to plan.
Design a product for myself, following design criteria.</td></tr>
<tr><td></td><td colspan="3">Making
Explain what is being made and why.
Select appropriate tools and equipment for the purpose.</td></tr>
<tr><td></td><td colspan="3">Evaluating
Talk about pre-existing products, saying what is good or bad about them.
Say whether their product does what it is meant to (fits the design brief) and how it could be improved.</td></tr>
<tr><td></td><td>Construction/mechanisms
Use sheet materials and construction tools with appropriate supervision – various junk modelling equipment, scissors and glue/tape.</td><td>Textiles
Cut, and then join textiles using glue.
Decorate using a range of items (buttons, sequins, beads, ribbons etc), using glue.</td><td>Food technology
Know how to peel, cut, grate, mix and mould foods (with close supervision).</td></tr>
<tr><td>Metacognition</td><td>Classroom discussion</td><td>Cognitive task analysis</td><td>Jigsaw method</td></tr>
<tr><td>Year 2</td><td>Autumn</td><td>Spring</td><td>Summer</td></tr>
<tr><td>Knowledge</td><td>Construction/mechanisms
To know about the movement of simple mechanisms such as levers, sliders, wheels and axles
To know how freestanding structures can be made stronger, stiffer and more stable</td><td>Food technology
To know that food ingredients should be combined according to their sensory characteristics
To know that food has to be farmed, grown elsewhere (e.g. home) or caught.
To how to name and sort foods into the five groups in The Eatwell Plate.</td><td>Textiles
To know that a 3-D textiles product can be assembled from two identical fabric shapes
To know how to complete a simple running stitch or over sewing.</td></tr>
<tr><td>Skill Progression</td><td colspan="3">Generating Ideas
Think of own ideas and pan what to do next.
Describe designs using pictures, diagrams, models, mock-ups, words and ICT.
Design a product for myself and others, following design criteria.</td></tr>
<tr><td></td><td colspan="3">Making
Explain what is being made and why the audience will like it.
Choose appropriate tools and equipment, describing and explaining why they ate being used.</td></tr>
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	Evaluating • Describe how their own and pre-existing products work, evaluating what went well and what could be done differently. • Suggest what went well and what would be done differently when evaluating their own product.		
	Construction/mechanisms • Use sheet materials and construction tools with appropriate supervision - **cardboard**, scissors and glue/tape.	**Food Technology** • Know how to peel, cut, grate, mix and mould foods (with supervision).	**Textiles** • Cut, then join textiles using a **simple running stitch or over sewing.** • Decorate using a range of items (buttons, sequins, beads, ribbons etc).
Metacognition	**Classroom discussion**	**Cognitive task analysis**	**Jigsaw method**
Year 3	**Autumn**	**Spring**	**Summer**
Knowledge	**Food technology** • To know how to handle hot foods and equipment (**toasters/microwaves**) safely. • To know that a healthy diet is made up from a variety and balance of different food and drink, as depicted in The Eatwell Plate. • To know that food is grown (such as tomatoes, wheat and potatoes), reared (such as pigs, chickens and cattle) and caught (such as fish) in the UK, Europe and the wider world	**Construction/mechanisms** • To know about movement of simple mechanisms such as levers and linkages. • To know how to use **saws** safely.	**Textiles** • To know what a seam allowance is. • To know how to complete a **running stitch, over sewing and back stitching or how to use various fastenings (buttons etc).**
Skill Progression	**Generating Ideas** • Create a design that meets a range of requirements. • Consider the equipment and tools needed when planning • Describe a design using an accurately labelled diagram, and in words.		
	Making • Use a range of tools and equipment accurately. • Measure, mark out, assemble and join materials and components with accuracy.		
	Evaluating • Evaluate own and pre-existing products. • Suggest what could be changed to improve a design, beginning to link this to the design brief.		
	Food Technology	**Construction/mechanisms**	**Textiles**

	• Know how to peel, cut, grate, mix, mould and begin to cook foods (**using toasters and microwaves** with supervision).	• Use sheet materials and construction tools with appropriate supervision – **wood**, **saws**, glue/tape.	• Cut, then join textiles using **a running stitch, over sewing, back stitch or fastenings**.
Metacognition	**Classroom discussion**	**Cognitive task analysis**	**Jigsaw method**
Year 4	**Autumn**	**Spring**	**Summer**
Knowledge	**Construction/mechanisms** • To know about movement of simple mechanisms such as levers and linkages. • To know how to use a **glue gun** safely. • To know how to make strong, stiff shell structures. •	**Textiles** • To know that a single fabric shape can be used to make a 3D textiles product • To understand about different decoration techniques (e.g. applique).	**Food technology** • To know that food ingredients can be fresh, pre-cooked and processed • To know that to be active and healthy, food and drink are needed to provide energy for the body.
Skill Progression	**Generating Ideas** • Generate more than one idea for how to create a product. • Gather information to help design a successful product (e.g. asking others' views). • Produce a detailed plan with labelled diagrams, a written explanation and a step-by-step guide. • Suggest improvements to develop and refine a planned idea.		
	Making • Use a range of tools and equipment with accuracy. • Measure, mark out, join, assemble materials and components with accuracy.		
	Evaluating • Evaluate the appearance and usability of own and pre-existing products. • Explain how the original design could be improved, considering the appearance and usability and linking this to the design brief.		
	Food Technology • Know how to peel, cut, grate, mix, mould and begin to cook foods (**using toasters and microwaves** with supervision).	**Textiles** • Cut, then join textiles using a **running stitch, over sewing, back stitch or fastenings.** • To create simple patterns and appropriate decoration techniques (e.g. applique).	**Construction/mechanisms** • Use sheet materials and construction tools with appropriate supervision – wood, **saws, glue** (inc **glue guns** with support)/**tape**.
Metacognition	**Classroom discussion**	**Cognitive task analysis**	**Jigsaw method**
Year 5	**Autumn**	**Spring**	**Summer**
Knowledge	**Textiles** • To know how to use a fabric pattern.	**Construction/mechanisms**	**Food technology** • To know how to use an **oven** safely.

	• To understand the importance of pinning and tacking fabrics.	• To know how mechanical system such as cams, pulleys or gears create movement. • To know how to use **hammers and nails** safely. • To know how to reinforce and strengthen a 3D framework.	• To know that seasons may affect the food available. • To know that different food and drink contain different substances – nutrients, water and fibre – that are needed for health
Skill Progression	**Generating Ideas** • Generate a range of ideas after collating relevant information • Produce a detailed plan with step-by-step instructions, cross sectional diagrams and prototypes. • Suggest alternative plans, considering the positive aspects and drawbacks of each.		
	Making • Use a range of tools and equipment expertly. • Consider the aesthetic qualities and functionality of my work when making.		
	Evaluating • Evaluate the appearance and function of a product (own and pre-existing) against the original criteria, saying whether it is fit for purpose. • Suggest improvements that could be made, considering materials and methods that have been used.		
	Textiles • Pin and tack fabrics, use patterns and seam allowances and join fabrics to make products.	**Construction/mechanisms** • Use sheet materials and construction tools with appropriate supervision – wood, **saws, nails, hammers.**	**Food Technology** • Cut, mix, mould and use **ovens** to heat food, with appropriate supervision.
Metacognition	**Classroom discussion**	**Cognitive task analysis**	**Jigsaw method**
Year 6	**Autumn**	**Spring**	**Summer**
Knowledge	**Textiles** • To know that a 3D textiles product can be made from a combination of fabric shapes.	**Construction/mechanisms** • To know how mechanical system such as cams, pulleys or gears create movement. • To know that mechanical and electrical systems have an input, process and output. • To know how simple electrical circuits and components can be used to create functional products. • To know how to use **saws, hammers, drills, nails and screw**s safely.	**Food technology** • To know how to use a **hob** safely. • To know that a recipe can be adapted by adding or substituting one or more ingredients. • To know how food is processed into ingredients that can be eaten or used in cooking. • To know that recipes can be adapted to change the appearance, taste, texture and aroma.
Skill Progression	**Generating Ideas**		

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- Use a range of information to inform design (e.g. market research using surveys, interviews, questionnaires or web-based resources).
- Produce a detailed plan, with cross-sectional diagrams and computer generated designs.
- Work within constraints, refining and justifying plans as necessary.

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Making

- Use a range of tools and equipment precisely.
- Consider the aesthetic qualities and functionality of my product as making it, refining details as necessary.

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Evaluating

- Evaluate the appearance and test the function of a product (own and pre-existing) against the original criteria, saying whether it is fit for purpose.
- Suggest improvements that could be made, considering materials, methods, sustainability of the product and how much a product costs to make.

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Textiles

- Pin and tack fabrics, use patterns and seam allowances and join fabrics to make quality products.

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Construction/mechanisms

- Use sheet materials and construction tools with appropriate supervision – wood, **saws, hammers, drills, nails and screw**s.
- To use simple electrical circuits and components in the product.

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Food Technology

- Cut, mix, mould and use **hobs** to heat food, developing independence with this as appropriate.

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