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| Design and Technology Knowledge Map |
| **KS1 Cycle A** |
| Autumn Term – A castle with a moving drawbridge |
| **Design: Developing, planning and communicating ideas*** I can design a castle based on my work in history and English
* I can say how my drawbridge will work.
* I can use my knowledge from making other products to help me create my own ideas.
* I can use simple design criteria to help develop my ideas as I am making my drawbridge.
* I can develop my design ideas through discussion, observation, drawing and modelling.
* I can model my ideas by exploring materials and components and by making templates and mock-ups.

**Make*** I can use a range of tools safely and with some accuracy. (scissors/hole punch)
* I can measure, mark out, cut and shape a range of materials
* I can assemble, join and combine materials using glue and masking tape

**Evaluate*** I can talk about my design ideas and what I am making with other children and adults
* I can evaluate my product against my design criteria.
* I can see suggest how my castle and drawbridge could be improved

**Technical Knowledge** * I can explore the use of levers, sliders and winding mechanisms to lift the drawbridge
* I know how freestanding structures can be made stronger, stiffer and more stable
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| **Vocabulary:** product, model, design, measure, tools, materials, assemble, evaluate, strengths, improve |
| Spring Term – Boats |
| **Design: Developing planning and communicating ideas*** I can design a boat based on the story ‘Lost and Found’
* I can use design criteria to develop my ideas
* I can describe what my boat is used for
* I can model ideas by exploring different materials and components and by making templates and mock-ups
* I can develop my design ideas through discussion, observation, drawing and modelling

**Make*** I know how to use a range of tools safely and with some accuracy (scissors/hole punch)
* I can measure, mark out, cut and shape a range of materials
* I can assemble, join and combine materials in order to make my boat
* I can choose finishing techniques based on my own ideas

**Evaluate** * I can evaluate my boat against my design criteria
* I can make changes to my product to improve it
* I can talk about my evaluation with other children and adults

**Technical Knowledge*** I can explore the use of mechanisms to power my boat such as winding mechanisms or wind power
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| **Vocabulary:** boat, mast, sail, engine, wind power, winding mechanism, float, load, design, measure, tools, materials, assemble, evaluate, strengths, improve |
| Summer Term – Fruit salad |
| **Cooking and Nutrition*** I know that I should eat at least 5 portions of fruit and vegetables every day.
* I can cut, peel and chop fruit safely
* I can prepare simple dishes safely and hygienically without using a heat source.

**Design*** I can design a fruit salad for a target group
* I can say how my fruit salad will be suitable for the target group
* I can generate ideas based on my own experience
* I can use my knowledge of existing products to help come up with ideas
* I can develop and communicate my ideas through talking and drawing

**Make*** I can use tools and equipment safely to prepare fruit
* I can follow procedures for safety

**Evaluate*** I can talk about my design ideas and what I am making
* I can make simple judgements about my fruit salad against design criteria
* I can suggest how my fruit salad could be improved
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| **Vocabulary:** fruit, vegetables, portions, cut, peel, chop, knife, peeler, chopping board, hygiene |
| **Cycle B** |
| Autumn Term – Cooking: Apple related |
| **Cooking and Nutrition*** I know that all food comes from plants or animals
* I know that food has to be farmed, grown elsewhere (e.g. at home) or caught
* I can name and sort food into the groups on the Eatwell plate
* I know that everyone should eat at least 5 portions of fruit or vegetables every day
* I can prepare simple dishes safely and hygienically, without using a heat source
* I can cut, peel, chop and grate foods

**Design*** I can generate ideas based on my own experiences
* I can develop and communicate my ideas by talking and drawing

**Make*** I can use equipment safely
* I can follow procedures for safety

**Evaluate*** I can suggest how my product could be improved.
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| **Vocabulary:** food, farming, food groups,Eatwell plate, portions, prepare, cut, peel, chop, grate, hygiene |
| Spring Term – Wheels and axles: Making a vehicle  |
| **Design: Developing, planning and communicating ideas*** I can design a fire engine inspired by our work in history and by visitors from the fire service
* I can describe how my fire engine will move
* I can use knowledge of toy cars to help generate my ideas
* I can explore wheels and axles using construction kits and different components
* I can explore different ways to attach my axle and wheels to my vehicle
* I can develop and communicate my ideas through talking and drawing

**Make*** I can plan using a sequence of pictures in order to show what I will do
* I can use a range of tools safely to cut different materials and with some accuracy
* I can follow procedures for safety (e.g. use of saw to cut, glue gun)
* I can measure, mark out, cut and shape materials and components
* I can use finishing techniques to add detail to my fire engine, e.g. lights, hose

**Evaluate*** I can talk about my ideas and suggest improvements as I work

**Technical Knowledge** * I can explore wheels and axles to make my vehicle move
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| **Vocabulary:** vehicle, wheels, axle, chassis, fire-engine, lights, hose, features, dowel, hacksaw, cut, stick, glue gun |
| Summer Term – Hand puppets |
| **Design: Developing, planning and communicating ideas*** I can base my puppet on imaginary and story based contexts
* I can say who my target audience is and whether it is for myself or others
* I can generate ideas drawing on my own experience
* I can use existing puppets to help come up with ideas
* I can develop and communicate my ideas though talking and drawing

**Make*** I can use a range of tools safely to cut, shape and join fabrics and materials
* I can measure, mark out, cut and shape materials
* I can use finishing techniques to add detail to my puppet, e.g. eyes, hair

**Evaluate*** I can suggest how my puppet can be improved

**Technical Knowledge** * I can explore different ways of joining fabrics, e.g. use fabric glue, sewing
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| **Vocabulary:** puppet, hand, pop-up, string, fabric, glue, stitch, needle, thread, sew |