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| Design and Technology Knowledge Map |
| **LKS2 Year B**Points to think about:Excellent knowledge maps showing great skill development from KS1 but do you need to design, make and evaluate every topic? We need to do this only once per year. These cover all NC objectives in two years so could be spread out between you both between the 4 years? Just thinking about lessening the load for you but if you can manage this then great!!Could we use the DT subheading for the I know/can statements e.g. design, make, evaluate, technical knowledge so we can cross reference easierAll I know/can statements should match skills progression document.Great range of DT experiences for the children! |
| Autumn Term – Money Containers (Textiles) |
| **Design****Make****Evaluate** **Technical Knowledge*** I know that textile money containers are designed for different users and purposes.
* I know that the purpose of a product is what the product will be used for.
* I know that fabrics have different characteristics such as being woven, stretchy, fraying/ nonfraying, bonded and knitted.
* I know how to ‘mock up’ my initial design ideas using paper, pins and masking tape.
* I know how to create a simple template to cut out my textile container.

**Make*** I know that a seam is a line where two pieces of fabric are sewn together to make a join.
* I know that a seam allowance is the amount of ‘spare’ material between the stitching line and the edge of the fabric that I am joining.
* I know that a hem neatly finishes an edge of fabric. To make a hem, I fold and sew or stick down the edge of the fabric.
* I can use a press clasp, button, toggle or Velcro as fasteners for textiles.
* I know how to start and finish my sewing stitches securely.
* I know how to sew running stitch and back stitch to join two pieces of material together and which stitch makes the strongest seam.
* I know that some materials come in different weaves and weight and some are more durable than others. Do chn need to know this?
* I know that I have to add a seam allowance to my textile template.

**Vocabulary**User, purpose, mock up, pins, masking tape, template, press clasp, button, toggle, Velcro, seam allowance, seam, hem, running stitch, back stich, woven, stretchy, fraying/ nonfraying, bonded, knitted.**Technical Knowledge** I know of purses, wallets, and money belts in a range of different materials, both lined and unlined/ reinforced with a variety of fastenings.* I know that materials can be combined and mixed to create more useful characteristics
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| Spring Term – Moving Animals |
| **Design*** I know that a design brief is a series of instructions that you must follow to create a product.Not essenntial.
* lid.

I know how to research animals to decide which parts of their body would be most suitable as a moving part, e.g. moving wings or an opening and closing mouth* I know how to plan my project with my team by asking questions such as ‘What do we need? Who will do what? What will we do first?’.
* I know that I need to draw and label a series of diagrams to show my design decisions.

Make* I can make a moving part with components such as a pneumatic system plus a lever attached to cardboard hinge or as a pneumatic system plus a small box with a hinged lid.

Evaluate* I know that by demonstrating my product to my user, I can receive feedback on what works well and what can be improved.
* I know that when I evaluate my moving animal, I should check my design brief to see how well I completed the instructions.

Technical Knowledge* I know that some products need air to work
* I know that a simple pneumatic system can be made with a squeezy bottle, tubing and a balloon, or two syringes plus tubing.

**Vocabulary**Design brief, air, pneumatic system, movement/ moving part, components, air source, inflatable object, lever, hinge, box (with hinge lid), research, brainstorm, labelled diagram, plan, make, demonstrate, evaluate.**Examples**Examples of products that use airAn example of a ready-made animal with a moving part |
| Summer Term – Torches |
| **Design*** I know that battery powered lights can be used as a light source by different users for different purposes and in different circumstances, e.g. miners’ head lamps or a rear bicycle light.
* I know that designers must think about different hand or head sizes when making the handheld torches or head lamps.
* I know that a survey means to collect information.
* I know that I can use results from a survey to help my design be more appropriate for the user..
* I know that a variety of materials can be used as a torch casing, e.g. reclaimed cardboard tubes.
* I know that the activity the light is used for will affect the size and shape of the casing.

**Make*** I can use a range of finishing techniques to make it more appealing to my user.

**Evaluate*** I can ask questions about the products safety and reliability, e.g. ‘What could go wrong? How could you make it safer? Are there different ways of making this? Which would give the best results?’
* I know that when I evaluate my torch, I must check that it meets the needs of the user I was designing it for.

**Technical Knowledge** * I know that a battery powered light has a bulb, reflector, battery, switch and casing
* know that a simple toggle switch can be made from a paperclip so that the electrical circuit can be broken or completed, and the bulb switched on and off.
* I know that the casing of a battery powered light covers the working parts

**Vocabulary**Battery powered light, user, purpose, circumstances, survey, bulb, reflector, battery, switch, casing, toggle switch, electrical circuit, materials, safety, reliability, evaluate.**Examples**A variety of battery powered light for a range of user, purposes and circumstance. |
| **LKS2 Year A** |
| Autumn Term – Cold Drinks |
| **Cooking and Nutrition*** I know that target market means a group of people that manufacturers aim their products at, often through advertisements.
* I know that market research means to gather information about your target audience.
* I know that a consumer is someone who purchases a product.
* I know that consumer preference is a consumer's likes and dislikes about a product.
* I know how to conduct a questionnaire to find out consumer preferences.
* I know the difference between unhealthy cold drink ingredients and healthy cold drink ingredients.
* I know how to check the nutritional values and ingredients of a cold drink to find out how much sugar the drink contains and how many calories.
* I know that cold drinks can be based around different liquid ingredients, e.g. water, milk, yoghurt and fruit juice.
* I know what chopping, pureeing, mashing, squeezing and slicing mean when I prepare fruit for ingredients with knives, sieves and graters. I can?
* I know that taste (e.g. sweet) and texture (e.g. fizzy/ thick) are important when evaluating cold drinks.
* I know that drinks can be sweetened, e.g. with sugar, honey or fruit.
* I know that drinks can be made thicker, e.g. by adding mashed fruit or ice cream.
* I know that I can use fruit, other foods and ‘props’ (e.g. straws and umbrellas) to make my drink more appealing to the consumer.
* I know how to evaluate my drink with a consumer questionnaire.

 **Vocabulary**Product, target market, market research, advertisements, healthy, unhealthy, ingredients, nutritional value, sugar content, (liquid/ solid) ingredients, chop, puree, mash, slice, sweeten, taste, texture, colder, thicker, fizzy, consumer (preference/appeal), evaluate.**Examples**A range of commercially available cold drinks. |
| Spring Term – Games |
| **Design** * I know that a design brief is a series of instructions that you must follow to create your product.
* I know that design decisions are the decisions that I make when I ask questions such as, ‘Who is my game for? What sort of game it will be? How will the game work? What will the game will look like?’
* I know that when I design, I must ensure my product is safe to use.
* I know how to research games so that I understand what their characteristics are, e.g. hand eye skills, thinking skills, chance, rules.
* I know that if I create a game for an individual it is important to research their personal preferences.

**Make*** I know that I need to create a template for the base of my game.
* **I know that I will need to use a hack saw and sawing board to saw my wooden dowel.** I can?
* **I know that a glue gun is a quick and secure method of joining two hard surfaces.** I can?
* I know that I have to cut diagonally across two pieces of dowel to create a right angle.
* I know that by innovating strips of dowel and paper/card, I can try out different structures for my game and try joining those structures together.
* I know that structures can be rigid, curved or flexible.
* I know that holes and creases in my structure could increase how interesting my game is.

**Evaluate*** I know that when I evaluate my game, I should check my design brief to see how well I completed the instructions.

Technical Knowledge* I know that a complete frame around a square or rectangle is the most rigid structure for my game

**Vocabulary**Design brief, design decisions, budget, safe, convenient, practical, cost, effectiveness, , characteristics of games (hand eye skill, thinking skills, chance, rules), template, square, right angle, sawing board, cutting mat, hacksaw, glue gun, frame, strip, structures, holes, crease, joins, innovation, research, personal preferences, evaluation.**Examples**A selection of non-electronic, non-computer games that have different rules and characteristic such as hand/eye skills, thinking skills and games of chance. |
| Summer Term – Story Books with moving parts |
| **Design*** I know that effort is the force we use to make an object move.
* I know that a lever is a long rigid body with a fulcrum.
* I know that a fulcrum is a point at which a lever pivots.
* I know that pivot means the point where a lever turns
* I know that modelling my ideas is important and that they can be built from paper, glue and masking tape.
* I know that accurate measuring helps my mechanisms to work more efficiently.
* I know that different fonts, graphics or collage can be used to make my designs more interesting for my user.
* I know how to brainstorm my product and ask design questions, e.g. ‘Who will use it? What will be the storyline, cover, and number of pagers? Why will moving parts be useful in the story? What type of mechanisms may be included?
* I know how to plan my project with my team by asking questions such as ‘What do we need? Who will do what? What will we do first?’.
* I know it is important to produce an outline plan that identifies the main stages in making my book, and list the tools and materials needed.
* I know that when I evaluate my book I should talk about strengths and discuss improvements that could be made.

**Technical Knowledge*** I know that a pop-up mechanism causes a part of product to rise and unfold when a page is opened.
* I know that a linkage is a collection of parts joined together to help movement.
* I know that a lever is a basic mechanism that helps us to lift an object with less effort.
* I know that different pop ups, levers and linkages are used to create movement in products

**Vocabulary**Pop up, mechanism, linkage, effort, lever, fulcrum, pivot, model, (accurate) measuring, fonts, graphics, collage, brainstorm, outline plan, evaluate.**Examples**BA variety of books and greetings cards with pop up and moving parts. Other items with linkages such as a squeezy mop or toys. |