**HEATHFIELD DT END POINTS**

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| **First Steps** | **Nursery** | **Reception** |
| I show an interest in making marks, controlling the tools and equipment needed to manipulate marks on the paper.  I can make snips in paper with scissors. | I can use scissors more accurately i.e. to cut strips.  I can select and use a variety of resources freely based on personal choices.  I can use joining materials effectively when creating. | Use a range of small tools, including scissors, paint brushes and cutlery.  Safely use and explore a variety of materials, tools and techniques, experimenting with colour, design, texture, form, and function.  Share their creations, explaining the process they have used. |

**HEATHFIELD DT KNOWLEDGE END POINTS**

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| **Year 1** | **YEAR 2** | **End of KS1** |
| **Mechanisms**  Explore and use mechanisms-wheels and axles- in their products  I know that wheels need to be round to rotate and move.  I know that to move, a wheel must be attached to a rotating axle.  I know that an axle moves within an axle holder which is foxed to the vehicle or toy.  I know that the body of the vehicle (chassis) needs to be balanced.  I know how to fix things and make them sturdy with glue and tape.  **Textiles-change to structure**  I can join materials together using tape or masking tape.  I can identify and join materials together using different joins:  **L brace,** **and flange.**  I know and can make a structure stable by using a wider base.  **Food**  Know where fruit comes from.  Know how to chop fruits: Chopping using a vegetable knife for harder fruits-chop in half using bridge grip and for long thin fruits, claw grip.  Chopping using a table knife for softer foods.  Using a fork to steady the fruits while dicing and slicing.  Juicing an orange/lemon/lime for the fruit salad.  Know how to combine ingredients to create a dressing | **Textiles**  I can cut out a template of my shape.  I can join materials together using a running stitch.  I can add applique decoration using fabric glue.  **Food**  Know where fruit comes from-fruits, vegetables and cheeses  Know what foods might be included in a healthy balanced diet.  Know how to chop vegetables in half using the bridge grip and slice foods using a claw grip  I can chop and slice using a vegetable knife.  Grating and slicing cheeses.  Folding a wrap around the filling  **Mechanisms**  Explore and use mechanism-levers and sliders.  **Sliders and Levers** are mechanisms that make things move.  **Sliders** help to move things from side to side and up and down.  **Levers** use a fulcrum (a fixed point around which the lever can pivot) to make things move in arc (curve). | In KS1, children will:  **DESIGN:**  Design purposeful, functional, appealing products for themselves and other users based on design criteria.  Generate, develop, model and communicate their ideas through talking, drawing, templates, mock-ups and, where appropriate, information and communication technology.  **MAKE:**  Select from and use a range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing]  Select from and use a wide range of materials and components, including construction materials, textiles and ingredients, according to their characteristics.  **EVALUATE**  Explore and evaluate a range of existing products  Evaluate their ideas and products against design criteria  **TECHNICAL KNOWLEDGE**  Build structures, exploring how they can be made stronger, stiffer and more stable  Explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products. |

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| **Year 3** | **YEAR 4** | **End of LKS2** |
| **Mechanisms**  Explore and use mechanism-pneumatic systems  **Pneumatic devices** are mechanisms that make things move.  **Pneumatic devices** use the power of compressed air to make something move.  Generate, develop and model their ideas through **exploded diagrams****(design)**  Select from and use a wider range of materials and components to perform practical tasks accurately-*cutting, joining and finishing* (**make)**  **Food**  Understand seasonality-different foods that grow better at different times of year.  Dicing, chopping, slicing using the bridge and claw grip. (bridge and claw grip retrieval from KS1)  Frying, blending, simmering food.  Combining ingredients  Adding additional ingredients to add flavour.  Learn about the work of Peter Durand.    **Structure using CAD**  Shell structures:  **Shell structure**- a structure with a sold outer surface and a hollow inner area.  A shell structure can be strengthened through **corrugation and layering**  Join together card to create a shell structure.  Design a shape using CAD-word | **Textiles**  Apply their understanding of how to strengthen, stiffen and reinforce more complex structures.  Create a **pattern piece** for the size and shape of the hand warmer.  I can add a seam allowance to my pattern piece.  I can use back stitch to join the two pieces of material, following the seam allowance line.  **FOOD**  Understand how some food us grown or caught and how that food is processed-Fish and wheat  Prepare and cook a savoury dish using a range of cooking techniques: Grating, kneading, mixing, baking, proving  Combining ingredients through missing.  **Computer Programming-Crumble**  To control a simple circuit connected to a micro controller.  I can programme a microcontroller to make an LED switch light up.  Create a 3D shell structure. | **DESIGN:**  Use research and develop design criteria to inform the design of innovative, functional, appealing products that are fit for purpose, aimed at particular individuals or groups.  **MAKE:**  Select from and use a wider range of tools and equipment to perform practical tasks [for example, cutting, shaping, joining and finishing], accurately.  Select from and use a wider range of materials and components, including ~~construction materials,~~ textiles and ingredients, according to their functional properties and aesthetic qualities.  **EVALUATE:**  Investigate and analyse a range of existing products  Evaluate their ideas and products against their own design criteria and consider the views of others to improve their work  Understand how key events and individuals in design and technology have helped shape the world. |

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| **Year 5** | **YEAR 6** | **End of UKS2** |
| **Mechanisms**  Generate, develop, model and communicate their ideas through discussion and **an annotated sketch** AND **cross sectional diagram.**  Select from and use a wider range of materials and components to perform practical tasks accurately-***cutting, joining and finishing***  Explore and use mechanisms-cam systems  Know that a cammechanism is a simple mechanism that converts rotary motion (movement that goes round in a circle) into linear motion (movement in a straight line)  Know the types of cams: **Circular, snail shape, pear shape, eccentric.**  Know and can create a cam mechanism that has different components that work to create the motion- cam, cam follower, axle, handle.  **Food**  Dice and cut food into evenly sized pieces  Chop, slice, grate, peel and mix with increasing control and skill.  Measure ingredients using scales to the nearest gram accurately.  Follow simple recipe and identify how to make changes to improve it.  Heat food using a hob, oven or microwave.  **Computer Programming**  To control a micro:bit using MakeCode or Python editor.  To programme a micro:bit to control a simple game. | **Mechanical and Electrical systems:**  Generate, develop, model and communicate their ideas through discussion and **an annotated sketch.**  Understand and use electrical systems in their products-switches and motors.  Understand and use mechanical systems in their products-pulley    **Textiles**  Generate, develop and communicate their ideas through discussion, annotated sketches and **pattern pieces**  Select from and use a wide range of tools and equipment to perform practical tasks-cutting, joining through stitching  I can use a range of practical stitches: running, back stitch **(retrieval)** and blanket stitch **(new year 6)**  I can explore decorative techniques:  **Applique**-adding a piece of material on top of anther and securing it with stitching-cross Stitch and chain stitch.  **Food**  I can demonstrate an understanding of how ingredients are grown, caught, reared and processed.  I can demonstrate an understanding of seasonality  I grate, thinly slice, whisk and fry a range of ingredients to produce a Spanish Tortilla.  I can combining ingredients with egg  I can explore Jamie Oliver and the impact he has had on healthy school meals. | In UPKS2 children will:   * leave Heathfield with secure knowledge and understanding of the process of designing and making.      * confidently apply their knowledge and skills when explaining how key events and individuals in design and technology have helped shape the world. * make meaningful connections from previous studies (EYFS – Year 6) and make links with a range of design and technology concepts and prior knowledge. * use this to evaluate and improve their work.      * have a secure understanding of a range of genuine and robust character traits through studies of key events and individuals, allowing them to apply these traits to secondary education and becoming lifelong learners. |