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| **Design and Technology Curriculum Milestone 1** | | | | | | |
| **Area** | **Key Vocabulary** | **Sticky Knowledge** | | | **Essential Skills to be covered** | |
| **Food:**  Fruit smoothies  **Out of Africa** | **Hygienic**  **Cutting**  **Peeling**  **Chopping**  **De-coring**  **Tinned**  **Frozen**  **Dried**  **Sweet**  **Sour**  **Bitter**  **Texture**  **Smooth** | * There is a wide variety of fruits that can be eaten; either fresh, tinned or dried. * Different fruits have different sensory qualities such as colour, texture and taste. * We need to eat 5 portions of fruit and veg a day for a healthy and balanced diet. * We need to wash our hands before handling food to stop the spread of bacteria. | | | * **Design and make a vegetable / fruit smoothie using Handa’s fruit.** * Cut, peel or grate ingredients safely and hygienically; wash hands and surfaces. * Assemble or cook ingredients. * Measure or weigh using measuring cups or electronic scales. * Understand where the fruit and vegetables come from. * Understand basic principles of a balanced and varied diet. * Think of interesting ways of decorating their smoothie. | |
| **Control:**  Moving Vehicles  **Superheroes** | **Joining**  **Combining**  **Connecting**  **Punching**  **Axle**  **Vehicle**  **Chassis**  **Doweling**  **Axle holding** | * A moving vehicle needs an axle with wheels. * Movement can be made by fixing the wheels to the axle and allowing the axle to spin (using straws, plastic tubing, clothes pegs and card traingles). * Movement can also be achieved by fastening the axle to chassis and allowing the wheel to spin (secure with foam seals). | | | * **Design and Make a vehicle for their superhero** * Use materials to practise drilling, gluing and securing materials to make products. * Make sensible choices on which materials and tools to use to make a vehicle with moving wheels. * Make simple plans before building through drawings and arranging materials for construction. * Cut wooden dowelling safely using tools provided. * Measure and mark out to the nearest cm when cutting wood / card / plastic tubing. * Create moving vehicle where either the axle spins or the wheel spins on the axle. * Demonstrate a range of joining techniques to allow movement of the wheels in their product. | |
| **Textiles:**  Make Punch and Judy Puppets  **Ahoy There** | **Template**  **Sewing**  **Fabric**  **Needle**  **Running stitch**  **Seam**  **Stitch**  **Thread**  **Marking out** | * There are many different types of puppets: finger, cone, paddle, hand, shadow or string * Sewing is the stitching together of material using a needle and thread. | | | * **Design and make a puppet for a Punch and Judy style show (either finger, cone, paddle or hand)** * Shape textiles using templates. * Cut out materials neatly and accurately with scissors * Join textiles to make a puppet using running stitch. * Colour and decorate textiles using a number of techniques (such as dyeing, adding sequins or printing). | |
| **Mechanism**  Moving Habitat picture  **Pole to Pole** | Hole punch  Paper fastener  Handle  Lever  Pivot  Slider  Slot  Linkage  Bridge  Fulcrum | * Where a lever is “floppy” it can be strengthened with pipe cleaners, straws or lollipop sticks. * Scissors and a seesaw are simple examples of a lever. * A ley part to a lever is the **fulcrum**. This is a fixed point that allows the lever to rotate around it. * The fulcrum can be in the centre (seesaw) or at one end (hinge on a door). | | | * **Make a moving picture for a chosen habitat using levers or a wheeled mechanism.** * Use materials to practise cutting, gluing and securing materials to make products. * Make a moving picture using prepared images. * Make a lever or wheeled mechanism to create movement. * Cut the card accurately using scissors. * Measure and mark out to the nearest cm when cutting card. * Develop their ideas from an initial design and consider how they could strengthen their construction to improve the movement. | |
| **Mechanism**  Winding mechanism to put out fire  **Fire Fire** | Punching  Connecting  Axle  Winding  Mechanism  Stable  Handle  Fixed  Turning  Cotton reel  Doweling  Parallel | * Packing can be used to “fasten” a cotton reel onto an axle. * Where use a bigger “drum” it will wind up faster. * Can give axle additional support through rubber seals, plastic tubing, or additional cotton reels on the side of the box. | | | * **Make a winding mechanism to pull up bucket to put out flames in Tudor buildings on fire.** * Use materials to practise drilling, gluing and securing materials to make products. * Make sensible choices on which materials to use to make winding mechanism. * Cut the card / box accurately using scissors. * Cut wooden dowelling safely using tools provided. * Measure and mark out to the nearest cm when cutting wood / card / plastic tubing. * Create products using an axle to make an effective winding mechanism. * Identify weak points and suggest how to strengthen. * Demonstrate a range of joining techniques to allow movement in their product. | |
| **Structure**  Victorian Toy or Jack in the Box  **Once Upon a Time…**  <https://www.youtube.com/watch?v=HF9boFySxBw> | Net  Jack in box  Cube  Spring  Slit  Fastening | * The spring must be compressed in the box and released when the lid opens. * A 3D shape (cube) has 6 squares in its net so that it has a lid. | | | * **Make a surprise Jack in the Box linked to a traditional character** * Make a structure using a range of materials. * Measure and mark out to the nearest centimetre. * Demonstrate a range of cutting and shaping techniques (such as tearing, cutting, folding and curling). * Demonstrate a range of joining techniques (such as gluing, hinges or combining materials to strengthen). | |
| **Design Technology Project Skills** | | | | | | |
| **Developing, Planning and Communicating Ideas** | | | **Working with tools, materials and equipment to make products** | **Evaluate and improve processes and products** | | **Inspiration from design in history** |
| * Think of own ideas and explain what they want to do. * Use pictures, diagrams, models and words to plan. * Design purposeful, functional and appealing products for a particular user and based on design criteria. * Choose best materials to use and give reasons why. | | | * Explain what they are making * Know which tools they must use and use safely. * Join and combine things in different ways. * Select from and choose a range of materials based on their characteristics. | * Describe how something works * Talk about their own work to others. * Describe what went well with their work. * If did again, how would they improve? * Evaluate their work against an agreed design criteria. | | * Explore objects and designs to identify likes and dislikes of the designs. * Suggest improvements to existing designs. * Explore how products have been created. |