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| Design Technology Curriculum Overview |
| Rationale | For all children to have:- understanding of the design process and how to refine quality of outcomes at each stage- a balance of skills in all the strands of DT: textiles, structures, mechanisms, electrical systems, computing- Cooking and nutrition build on knowledge and understanding in science, geography and history and deve3 lop cooking skills progressively |
| Approach | * Start with a relevant and appropriate problem to solve
* Use a clear design process for all units is followed with clear progression in skills of: planning, exploring, communicating, making. modelling, reviewing, evaluating
* Links to wider curriculum are made where appropriate
* Three planned DT units per year
 |
| Nursery  | **Structures, Mechanisms and Textiles** | **Cooking and Nutrition** |
|  | Structures, Mechanisms and Textiles is covered throughout the year through half termly themes taken from the interests of the children. Weekly enhanced provision is planned to ensure the children have the opportunity to explore these areas through holistic and discrete teaching of the EYFS curriculum.* Build with a variety of materials e.g. wooden blocks, Duplo, stickle bricks
* Join materials
* Construct dens using A frames
* Weaving / lacing boards/ sticking/ cutting
 | **Stripy Salad pots** |
| Reception  | **Textiles** | **Mechanisms** | **Computing** |
| Problem |  **Decorate a card for someone you care about** |  **Make a puppet move** | **Share a memory** |
|  | * **Link**: PSHE
* Mother’s Day/ Birthday/ Easter/ Thank You/ Friendship cards
* Stitching on binka
* Understand that different media can be combined to create new effects
 | * **Link**: dinosaurs or characters from books e.g. Supertato
* Puppets with hinges
* Joining
 | * **Link**: Sharing learning they are proud of
* Children select appropriate applications How best to make a record of a special event in their lives, such as a trip to the zoo
* Use basic PowerPoint software or similar
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| **Cooking and Nutrition** |
| Cooking and nutrition is covered throughout the year through half termly themes taken from the interests of the children. Weekly enhanced provision is planned to ensure the children have the opportunity to explore cooking and nutrition through holistic and discrete teaching of the EYFS curriculum. |
| Y1 | **Structures** | **Mechanisms** | **Cooking and Nutrition**  |
| Problem | **Make the tallest beanstalk to support the giant’s castle** | **Create a pop-up book for Nursery** | **Triple-Decker Sandwich** |
|  | * **Link**; Jack and the Beanstalk
* Reinforcement: folding, tripod/triangles
* foundations and columns
 | * **Link**: any text they are using e.g. Traction Man
* Children use lever and sliders
 | * **Link:** Tiger who came to tea ‘party’
* Interview people and tally preferences
* **English**: Write down how to make a sandwich
* **Computing:** Make a film about how to make the sandwich
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| Y2 | **Mechanisms** | **Computing** | **Textiles** |
| Problem | **Create a go carts – “On Sudden Hill”** | **Create an interactive e-Book to compare schools** | **Do a puppet show for Reception : create a puppet**  |
|  | * **Link**: On Sudden Hill book
* Create Go-Carts with wheels and axels
 | * Geography: What is life like in different school in Trust in London?
* School life here: create photos, videos and sounds that are embedded in e-book. School life contrasting school: links to websites, documents, film
 | * **Link** - Alternative traditional tales
* Design and create their own puppet for purpose.
* Use puppets to create own puppet show Teachers can make into show for an audience / create a stage etc.
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| Y3 | **Mechanisms** | **Structures** | **Cooking and Nutrition** |
| Problem | **How can you move heavy objects/water – Egyptians** | **Create a mini greenhouse** | **Pizza** |
|  | * **Link**: History: Egyptians
* Moving - heavy weights - pulleys and levers
* Shaduf: A hand operated device for lifting water
 | * **Link**- Science plants unit
* Strengthen and reinforce
* Use of specific joins/ diagonals
* Hinges
 | * **Link**: Geography - Seasonality of food-
* Growing/plants – Science
* Trip to pizza restaurant included
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| Y4 | Textiles  | Computing | Electrical |
| Problem | **Recycling a garment** | **Designing and Coding a Prototype Toy** | **Create your own speaker** |
|  | * **Link**: Geography - climate change and English - Shackleton’s journey
* Re-use and repurpose an old garment using a given pattern or brief.
* Being given a pattern – create a bag for the journey
* Fraying/ using blanket stitch to stop fraying
* Using back stitch and turning inside out
* Pupils to add their own design element
 | * **Link**: Computing – scratch coding to select, use and combine software and content to accomplish given goals; using input devices such as sensors.
* Design and code an interactive toy (input and output) using Scratch.
* Use a Crumble controller to make working models of parts of your toy, including lights, sensors and alarms.
 | * **Link:** Sound topic in Science.
* Electrical system in a product
* Using switches or sensors to affect use. (Variable resistor to create volume control, infrared to create alarm, light sensor to create musical night light.
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| Y5 | **Mechanisms** | **Structures** | **Cooking and Nutrition** |
| Problem | **How do I show how the Earth revolves around the sun?**  | **Building Bridges** |  |
|  | * **Link:** Science- Sun, Earth and Moon
* Understanding of different types of cams and how they move (e.g. eccentric, round, snail cams).
* Create an Earth to move around the Sun
 | * **Link**: Geography - /building a bridge between NI and Scotland/bridge across the Thames.
* Strengthening - buttresses, arches, use of triangles, strongest materials, how to make a specific material stronger by manipulating its form e.g. paper by folding and rolling.
* Considering different forces that act on a bridge (tension and compression)
* Construction – cutting materials making good connections/reinforcing
 | * **Link:**
* Select appropriate ingredients and use a wide range of techniques to combine them
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| Y6 | **Textiles** | **Cooking and Nutrition** | **Electrical** |
| Problem | **Make Do and Mend** | **Masterchef: Create a menu** | **Create an interactive game for the summer fair** |
|  | * **Link**: History- WW2
* Creating a new garment from old ones referring to the WW2 slogan – Make Do and Mend.
* Creating own pattern and deign
 | * **Link**: Geography - Who are the British?
* Apply Cooking and Nutrition skills
* Design a healthy meal based on with all of the different cultures who migrated to Britain.
 | * **Link**: Financial independence/ entrepreneur/ careers week
* Children apply all knowledge of electrical DT to design their own game with sound/ buzzer for the summer fair
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