**Year 2 Design and Technology Curriculum – Summer Term**

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| **Theme: Wheel and axles** | | | | | | | |
| **Curriculum objectives** | | | **Vocabulary** | | | | **Links across the curriculum** |
| **Projects on a page.**  **Investigating**  • Explore and evaluate a range of products with wheels and axles.  **Designing**  • Generate initial ideas and simple design criteria through talking and using own experiences. • Develop and communicate ideas through drawings and mock-ups.  **Making**  • Select from and use a range of tools and equipment to perform practical tasks such as cutting and joining to allow movement and finishing. • Select from and use a range of materials and components such as paper, card, plastic and wood according to their characteristics.  **Evaluating**  • Evaluate their ideas throughout and their products against original criteria.  Technical knowledge and understanding  • Explore and use wheels, axles and axle holders. • Distinguish between fixed and freely moving axles. • Know and use technical vocabulary relevant to the project. | | | **Keyword** | Definition | **Keyword** | Definition | **Science** – use knowledge of everyday materials to select appropriate ones for their products.  **Art and design** – use and develop drawing skills. Use colour, pattern, texture and shape.  **Spoken language** – ask relevant questions to build understanding and their vocabulary.  **Mathematics-** measuring |
| axle | A rod on which one or more wheels can rotate, either freely or be fixed to and turn with the axle. | Evaluate | To judge how a product meets the chosen criteria. |
| Axle holder | The component which the axle fits and rotates |  |  |
| Chassis | The frame or base which the vehicle is built |  |  |
| Dowel | Wooden rods used for the axles to hold wheels |  |  |
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| **Prior knowledge:** *What specifically have pupils learned that is relevant to this unit that they are building upon?* | | | | | **Future knowledge:** *What specifically will pupils learn in the future that is relevant to this unit?* | | |
| . Assembled vehicles with moving wheels using construction kits. • Explored moving vehicles through play. • Gained some experience of designing, making and evaluating products for a specified user and purpose. • Developed some cutting, joining and finishing skills with card (EYFS). | | | | | Look at mechanisms using pneumatics, sliders and levers and cams. | | |
| **Lesson Sequence** | | **Key Knowledge** | | | | **Key Skills** | |
| 1. To investigate wheeled toys | | * Know how the wheels are fixed. Know how wheels and axles are used in real life. | | | | * Investigative skills | |
| 1. To construct a vehicle with a construction kit | | * Know wheels and axles can be assembled in different ways e.g fixed axles or free moving axles. | | | | * Construction skills | |
| 1. To design a wheel and axle product for a specific purpose. | | * Know the design elements for their product. | | | | * Creative thinking. * Drawing and labelling skills | |
| 1. To make a wheel and axle product. | | * To know which equipment and materials are required for the product. | | | | * Cutting, gluing, sawing, measuring | |
| 1. To evaluate their wheel and axle product. | | * How effective was the product, what improvements could be made. | | | | * Evaluation skills. * What went well … Even better if… | |
| **Themes and links** | | | | | | | |
| **Themes** | **Where these are covered:** | | | | | | |
| **Investigate** | * Lesson 1 and 2 | | | | | | |
| **Design** | * Lesson 3 | | | | | | |
| **Make** | * Lesson 4 | | | | | | |
| **Evaluate** | * Lesson 5. How effective is the product? | | | | | | |