



Year 2–Mechanisms – Wheels and Axles

Topic Overview – Lesson Objectives

Lesson 1	Explore a range of wheeled products, considering such things as ‘How do you think the wheels move?’ and ‘Why do you think the wheels are round?’ Draw an example of a wheeled product, stating the user and purpose, and labelling the key parts, e.g., axles.
Lesson 2	Discuss what could be made and develop ideas through talking, using own experiences and exploring with construction kits. Assemble wheels and axles by fixed or free axles.
Lesson 3	Design what to make and suggest what to do next. Identify a user and purpose for the product. SJV – Design a Tram, Open Top Bus or Rollercoaster Carriage.
Lesson 4	Make a wheel and axle product using the design ideas.
Lesson 5	Complete the product ensuring you use simple finishing techniques suitable for the product being created.
Lesson 6	Evaluate your product by discussing how well it works in relation to the purpose and the user and whether it meets the original design criteria.

Assessment – National Curriculum

NC Statement	Maths/Literacy opportunity	Child led enquiry
<p>Design</p> <ul style="list-style-type: none"> *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. <p>Make</p> <ul style="list-style-type: none"> *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 according to their characteristic. <p>Evaluate</p> <ul style="list-style-type: none"> *Explore and evaluate a range of existing products. *Evaluate their ideas and products against design criteria. <p>Technical Knowledge</p> <ul style="list-style-type: none"> *Explore and use mechanisms (for example, wheels and axles) in their products. 	<p>Number of wheels, more than, less than, equal, measuring lengths using non-standard and standard units.</p> <p>Traditional Tales Fairy Tales</p> <p>Transport related Nursery Rhymes Spoken language-Give well-structured descriptions and explanations. Develop speaking and listening skills. Learn relevant technical vocabulary.</p>	<p>Which sized wheels are suitable for which vehicles? Why?</p>

Topic Vocabulary

vehicle, wheel, **axle**, **axle holder**, **chassis**, body, cab, assembling, cutting, joining, shaping, finishing, fixed, free, moving, mechanism, names of tools, equipment and materials used, design, make, evaluate, purpose, user, criteria, functional

(Tier 3 words in bold.)