

# Bomere and the XI Towns Federation Knowledge Organiser—DT

Topic: Mechanisms Wheels and Axles

Class/Year Groups: R/Y1 Pimhill

Term: Spring 2024

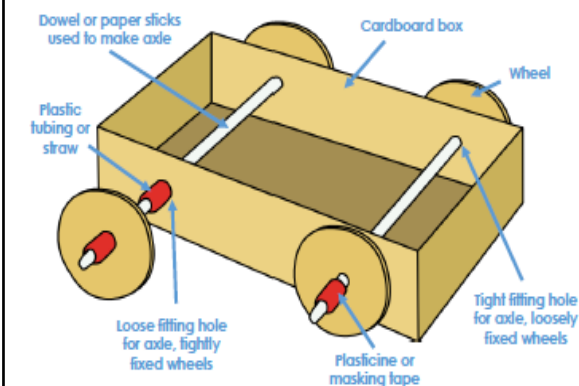
## What you already know?

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.



## What you will learn:

### 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

• Explore and evaluate a range of products with wheels and axles. • 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.

## 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

## Glossary

- **Axle** – a rod on which one or more wheels can rotate, either freely or be fixed to and turn with the axle.
- **Axle holder** – the component through which an axle fits and rotates.
- **Chassis** – the frame or base on which a vehicle is built.
- **Friction** – resistance which is encountered when two things rub together.
- **Dowel** – wooden rods used for making axles to hold wheels.



## National Curriculum Objectives:

- design purposeful, functional, appealing products for themselves and other users based on design criteria
- 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
- explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products.

