



Knowledge Organiser



(Egton CE, St Hedda's RC, Danby CE, Oakridge and Goathland)

DT- 'Beneath Our Feet' - Mechanisms

What should I already know? (Y1):

ELG's:

Spoken language - use spoken language to develop understanding through imagining and exploring ideas.

- **Art and Design** - use a range of media and materials creatively to design and make products.
- **Computing** - use technology purposefully to create and manipulate digital content.
- **Mathematics** - measurement using non-standard and standard units.

Key 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

What should I already know? (Y2):

- 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.

My skills and Knowledge that I may use from other subjects:

Investigative and Evaluative Activities:

Science - working scientifically: ask simple questions and observe closely. Explore use of everyday materials.

- **Mathematics** - number of wheels, more than, less than, equal.
- **Spoken Language** - use of technical vocabulary. Ask relevant questions to extend understanding and build vocabulary and knowledge.

Focused Tasks:

Spoken language - give well-structured descriptions and explanations. Develop speaking and listening skills. Learn relevant technical vocabulary.

- **Mathematics** - measuring length using non-standard and standard units.

Design, Make and Evaluate Activities:

Spoken language - use spoken language to develop understanding through imagining and exploring ideas.

- **Art and Design** - use a range of media and materials creatively to design and make products.
- **Computing** - use technology purposefully to create and manipulate digital content.
- **Mathematics** - measurement using non-standard and standard units.



Knowledge Organiser



(Egton CE, St Hedda's RC, Danby CE, Oakridge and Goathland)

DT- 'Beneath Our Feet' - Mechanisms

Key Knowledge and Key Skills I will learn/use:

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.

By the end of this Key Stage, I will have learnt:

DESIGN

- ♣ 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 and, where appropriate, information and communication technology

MAKE

- ♣ 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

EVALUATE

- ♣ explore and evaluate a range of existing products
 - ♣ evaluate their ideas and products against design criteria
- Technical knowledge
- ♣ build structures, exploring how they can be made stronger, stiffer and more stable
 - ♣ explore and use mechanisms [for example, levers, sliders, wheels and axles], in their products



Knowledge Organiser



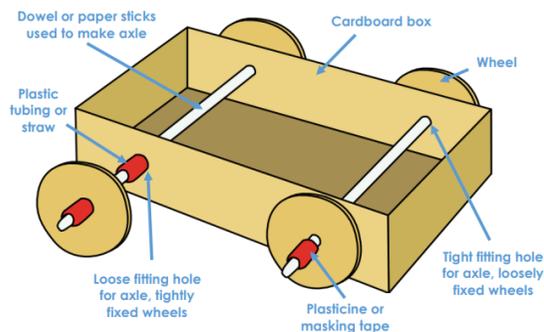
(Egton CE, St Hedda's RC, Danby CE, Oakridge and Goathland)

DT- 'Beneath Our Feet' - Mechanisms

What will I know by the end of the unit?:

Questions I need to answer:

- Who will the toy be for?
- How many wheels will it need?
- What type of wheel will be best?
- How will I test this out?
- What does it need to carry?
- What materials could I use?
- Will it be pulled or pushed?
- How will I make it look appealing to the child using it?
- What tools might I need?
- How will I know it has been successful?
- How will I evaluate my moving toy?



Design Technology Concepts:

- Market research
- Creative design
- Construction/Making
- Testing and evaluating
- Vocabulary

Opportunities for teaching Diversity, Equality and expanding Cultural Capital

Focus on male and female designers - showcase their work and look at their biographies.

Recall and remember - quiz ideas:

- Can you tell me five words to name parts of your vehicle?
- Name two tools you used to make your vehicle and explain how to use them safely.

Types of wheels

