



Theme Overview

In this Design and technology unit, the children will explore a range of wheeled toys considering how the wheels move, how they are fixed on etc. They will draw examples of wheeled products and label the main parts. The children will go on to use construction kits with wheels and axles learning they are assembled as free or fixed axles. They will look at how to make axle holders and practise their skills of marking out, holding, cutting and joining. They will go on to design and make their own alien buggy.

Project Outcomes

To design, create and evaluate a vehicle for an alien to travel across their planet.

Skills Focus

Key Vocabulary

Main Skills Focus:
Understanding context, user and purpose

- to design in an imaginary context; to state who the product is for; to state how the product will work; to use simple design criteria.
- **Generating, developing, modelling and communicating ideas**
- use knowledge of existing products to help with ideas; model ideas by making templates and mock-ups.

think, design, feature, draw, pencil, paper, colour, style, boxes, bottles, wheels, axles, tape, stick, glue, join, model, turn, move, model, design, evaluation, What do you think? like, dislike, happy, unhappy, change, improve

Sequence of Learning

Lesson 1

LI: to identify some key features of a vehicle; to use different media to research features of vehicles.
Class discussion
using the character Beegu. What vehicle might Beegu use?
What features would be important to Beegu? Take ideas from different talk partners and model sketching a design of the vehicle.
Activity 1 - Rotate through tables with different equipment: toy vehicles; iPads for researching vehicles; magazines/books - so children can explore and manipulate different vehicles to look at design features.

Lesson 2

LI: to design an alien car - drawing and listing parts and resources; to plan the materials to support this design;

Class discussion
Re-cap the features specific aliens might want in their vehicle.
Decide which specific alien they are designing a vehicle for and what their vehicle will be able to do.

Introduce children to the design sheet they will be completing throughout the unit. Children draw their initial design of their vehicle, with support as needed.

Return with completed drawings and begin to consider

Planning:

- to plan by suggesting what to do next; to select from a range of tools and equipment; select from a range of components and materials according to their characteristics.
- Practical skills and techniques
- follow procedures for safety;
 - use a range of materials including mechanical components;
 - Assemble and join materials and components;
 - Use finishing techniques;

Linked Skills Focus:

- **Teaching design and technology skills and techniques at Mrs Bland's Infant School.**

<p>Activity 2 - Show a variety of different aliens - what different features might they need in their vehicle? (talk partners, can children explain their reasoning?) Assessment: Can the children look and identify features? Can the children talk about features they like or dislike?</p>	<p>which materials they might need. They will need to write a list of the materials they will need to later create the model. Assessment: Can the children create simple planning for constructions? Can children make simple records?</p>
<p>Lesson 3 LI: to follow a design plan to create a vehicle.</p> <p>Class discussion Recap on design process so far. Briefly consider wheels and how the wheels might be attached using the slides on the powerpoint and some pre-made models. Model using the correct vocabulary to describe the parts of the vehicle - wheel, axle etc. Talk about options for joining and the materials available, get children to talk about their own ideas for how they will join pieces. Will anyone need to adapt their Assessment: Can they construct in a purposeful way, using simple tools and techniques? design because they can't source a particular piece of junk modelling? Activity - Work independently/in pairs/groups as appropriate to make their vehicle.</p>	<p>Lesson 4 LI: to evaluate their model Class discussion</p> <p>As a class share the different models made - choose a few that have stuck close to their model to talk about - what have they done well? Choose some children who are confident to talk about their design and how they liked it? How they would change/improve it if they were starting again? Questions Does your model look like your design? Do you like your design? Would you change or improve your design? Activity: in small groups with an adult – can they evaluate their design based on their initial design criteria? Assessment: Children make evolutions of their work</p>