Wheels for Jack and Jill

Primary Lesson Plan

This lesson plan was developed by Curriculum Corporation.

Source
Part of a Pattern: Years 2–3 (Integrated Units Collection)

Learning areas
Technology and Mathematics

Level
Lower primary

Description
Students design, make and appraise a model wheeled vehicle that is capable of carrying a small load. This activity is part of the unit ‘Wheels in motion’. In the unit, students solve a simple problem that enables them to appreciate the value and importance of the wheel to our lives. They explore and investigate many applications of wheels in our world.

Purpose
To develop the technology skills of designing, making and appraising and to practice skills in measurement.

Duration
2–3 sessions

Possible outcomes
In relation to Technology — a curriculum profile for Australian schools, work in this activity could lead to the achievement of outcomes in the following strands:

- Designing, making and appraising
- Devising
- Evaluating
- Materials
- Nature
- Techniques
In relation to *Mathematics - a curriculum profile for Australian schools*, work in this activity could lead to the achievement of outcomes in the following strands:

- Measurement
- Choosing units
- Measuring
- Estimating

This also has links to other learning areas such as English and Studies of society and environment.

**Materials required**

Cotton reels, cartons of various sizes, rubber bands, glue, string, buttons, dowel, tape, Lego or other commercial construction materials.

**Procedure**

1. **Set the challenge**

Through a class brainstorm and discussion, develop a list of features of wheels. For example:

- They are all round but have different diameters.
- They use some type of axle.
- Some turn freely.
- Some can point in any direction.
- Some have tyres.

The challenge:

*If Jack and Jill had used a wheeled vehicle to carry the water down the hill they might never have had their accident. Design and build a model wheeled vehicle that could be used to carry 250 millilitres of water down a slope.*

2. **Design and make the model**

Have students work in small groups to design and make their model, using the materials provided. Encourage consideration of construction methods, size of the model, wheel size, placement and attachment, appropriate materials, allocation of tasks and safety. Adult help would be useful.

3. **Appraise the model**

Have students test their models on a simulated slope, avoiding or minimising slippage. Guide students to appraise their model. Ask:

- Does it work?
- Is it strong enough?
- Is the water carried without spilling?
- Do the wheels turn easily?
- How could you improve your model?
4 Demonstrate the model and explain the production process

Ask students to demonstrate their model vehicles, pointing out features of their model and aspects of the production process. The following is an example from a similar activity:

Our truck carries the set of coloured pencils anywhere on the activity table. It has four wheels; two of them are on a turning axle so that we can steer. When we were making the truck, we found it could overturn if the steering axle moved too far. We have stopped the axle turning very far. The pencils sit in the tray of the truck.

5 Make a comparative display

Students devise and conduct comparative tests of vehicles. Compile a chart for display that shows the results of these comparative tests. Include the students' models in the display and their reports on the construction of the model.

Extension activity

Write a story in which the model plays an important role.

Related products

Other titles in the Integrated Units Collection are:

- Oodles of Noodles: Early Years
- From Igloos to Yurts: Years 4–7