



Bridge that gap! - KS2 Challenge Sheet

What is a bridge? Why do we need them? What sorts of bridges can we find? Why are there so many different bridges? In small groups role play an engineering company tendering to build a railway bridge. It must be safe, strong and competitively priced.

Educational objective

A practical project which helps the children to understand the forces involved in structures. The project may be used as an introduction to the topic, or to reinforce work already done in class.

Approach

Whole class introduction about bridges. An activity for small groups of children to build a bridge across a gap. Test their first bridge with a weight until it deforms. Discuss why the bridge deformed, and the forces involved, children suggest ideas for strengthening their bridge. To put the ideas into practice, and then to further test and improve the bridge. Make a vehicle, using a motor, that will cross the bridge. What is the cost of the bridge, could you reduce the cost and still have a safe bridge.

Specific skills to be developed

Manipulative, designing and making skills, social and problem solving skills.



Cross-curricular links

Science, Design & Technology,
Maths

Ideas for extension activities

Project on structure and history of a local bridge. Construct bridges from different materials.

Equipment we will provide:

boxes of K'NEX
K'NEX wheels
lengths of track

Subject skills / Desirable outcomes

Structures
Forces and motion
Designing skills
Making skills
Shape, space & measure

Life skills

Innovation skills
Problem-solving skills
Team working skills
Communication skills
A 'can-do' approach