



Design and Make

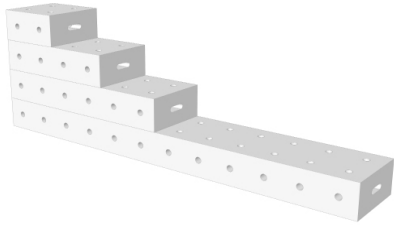
Blocks Challenge



The Blocks

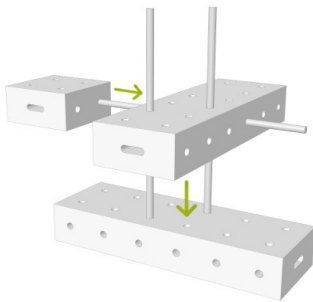
How it works:

Several components are included in the Blocks kit and different activities can be run with different combinations of materials.



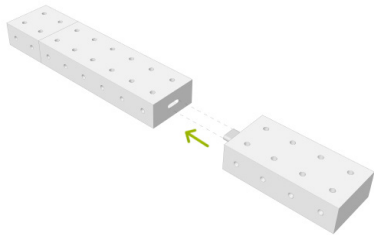
Blocks sizes:

There are four sizes of block provided in the kit. All blocks are the same dimensions except for the length and all lengths are multiples of 7cm (the same as the width). The block sizes are: 7cm, 14cm, 21cm and 42cm. These relationships mean the blocks work well together in a similar manner to Lego.



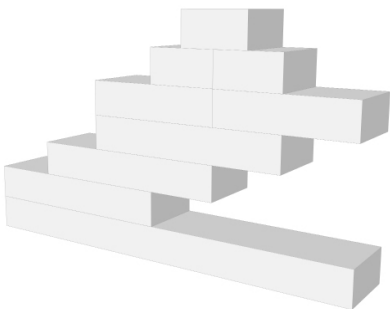
Dowel/Holes:

The holes are evenly spaced on all blocks, giving the students the most freedom to stack and arrange the blocks in any formation using the provided 6mm dowel to connect them.



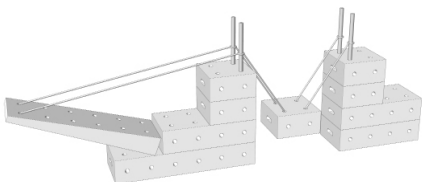
Dominos:

The oval-shaped Dominos allow the blocks to be connected at their ends.



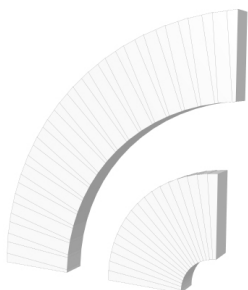
Stacking:

The blocks can be stacked and balanced without the use of the dowel or dominos. Some blocks are provided that do not have holes, however, the blocks with holes can also be used for stacking activities by not providing the students with the dowel or dominos.



String:

The blocks can be threaded onto string to hang them or balance them in different ways.



Wedges:

The wedge-shaped blocks can be assembled into arch structures either used alone or alternated with the rectangular blocks.

Curriculum Links



Design and Make

Year 3/4

DESIGN AND TECHNOLOGY

- ACTDEK013 Investigate the suitability of materials, systems, components, tools and equipment for a range of purposes
- ACTDEP018 Plan a sequence of production steps when making design solutions, both individually and collaboratively
- ACTDEK011 Investigate how forces and the properties of materials affect the behaviour of a product or system

HUMANITIES AND SOCIAL SCIENCE (HASS)

- ACHASSK090 The use and management of natural resources and waste and the different views on doing this sustainably
- ACHASSI059/80 Interact with others with respect to share points of view

Year 5/6

DESIGN AND TECHNOLOGY

- ACTDECK023 Investigate characteristics and properties of a range of materials, systems, components, tools and equipment and evaluate the impact of their use
- ACTDEP028 Develop project plans that include consideration of resources when making designed solutions individually and collaboratively
- ACTDEP026 Select appropriate materials, components, tools, equipment and techniques and apply safe procedures to make designed solutions

HUMANITIES AND SOCIAL SCIENCE (HASS)

- ACHASSI102 Work in groups to generate responses to issues and challenges



Suggested Activities



Design and Make

BRIDGE DESIGN

Materials:

- Kit contents
- Pencils and paper

Task:

- Students take the challenge to design and build their own bridge.

Design Process:

Ask: Provide students the opportunity to experiment with the materials in a discovery phase to tune them in. Encourage students to explore ways of joining, connecting and assembling components. Develop a success criteria - student considers - What is the challenge? What is the ultimate goal?

Imagine: Students brainstorm ideas for their bridge design and collaborate to develop a plan. Encourage students to consider possible challenges and solutions.

Plan: Students develop a visual plan of their bridge design and the material they will need. Students must evaluate the appropriateness of the material they select.

Create: Students collaborate to build their design. Students build and trial their bridge plan.

Improve: Students evaluate how they can improve on their design. They might consider - How can we make our bridge stronger? What other materials might we include to make our bridge more stable? Did our bridge design go to plan?



Suggested Activities



Design and Make



STACKED BRIDGE

Materials:

- 20 x 21cm blocks per group
- Two tables 50cm apart
- Objects to use as weights (can be more blocks)

Task:

- Students must stack the blocks in a way that will allow them to span the gap between the two tables. If the groups of students are successful, weights can be added to their bridges to test whose will hold the most weight.

