OPERATIONAL RESEARCH IN SCHOOLS

Let's Play with Lego #ThisIsOR

NANAMIC / ALM Conference

10th July 2018

We'll Cover…

- #1 – The background and aims of OR in Schools (ORiS)
- #2 – Resources available to teachers
- #3 – Your turn to be a child!

#1 - The background and aims of OR in Schools (ORiS)

Operational Research

- Operational Research (OR) is the application of mathematical methods to tackle real-life problems associated with decision-making in businesses and other enterprises.
- OR combines:

A way of thinking & communicating

+

Analytical techniques

to provide the means for making more informed and better decisions.

In a nutshell, operational research (O.R.) is the discipline of applying advanced analytical methods to help make better decisions.

The OR Society

The Operational Research Society is the professional membership body for over 3,000 professionals in 53 countries.

- Acquire, share and exchange knowledge
- Publications
- Conferences / Training
- OR in Schools & Pro Bono OR

The OR Society – Strategic Initiatives

- Pro Bono Operational Research & Operational Research in Schools

OR in Schools: A Background

- ‘OR in Schools’ (ORiS) is one of The OR Society’s active publicity programmes, which promotes OR to young people and their teachers.

- After a review on the future of OR education highlighted a lack of awareness of OR in schools, the Society created the OR in Schools Taskforce.

- They created the LearnAboutOR website which contains information about:
  - what OR is and where it can be applied
  - teaching resources based on the A-Level Decision Maths modules
  - university course and careers information
  - a short film and booklets about O.R

“Every student should know what OR is”

Why?

- OR is a ‘signpost’ career for young people who enjoy studying mathematics and problem solving but aren’t sure how they might use these skills in the workplace.

Some common techniques

#2 – Resources available to teachers

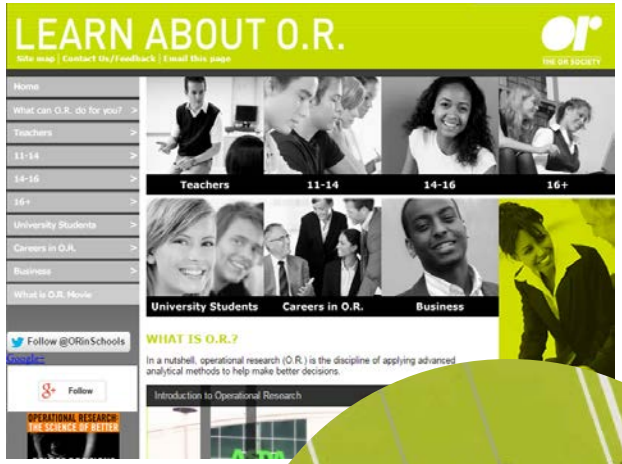
How we do this:

- **We Visit:**
  - Schools
  - Colleges
  - Universities
  - Specialist Events
- **We:**
  - Run OR Workshops
  - Give Career Talks
  - Attend Career Fairs
  - Attend Specialist Events

Learnaboutor.co.uk

The website included:

- What OR is and where it can be applied
- University course and careers information
- Teaching resources
- A short film and booklet about OR



FREE Materials on TES

https://www.tes.com/member/TheORSociety

- FREE resources
- 10 + different activities
- Full supporting materials

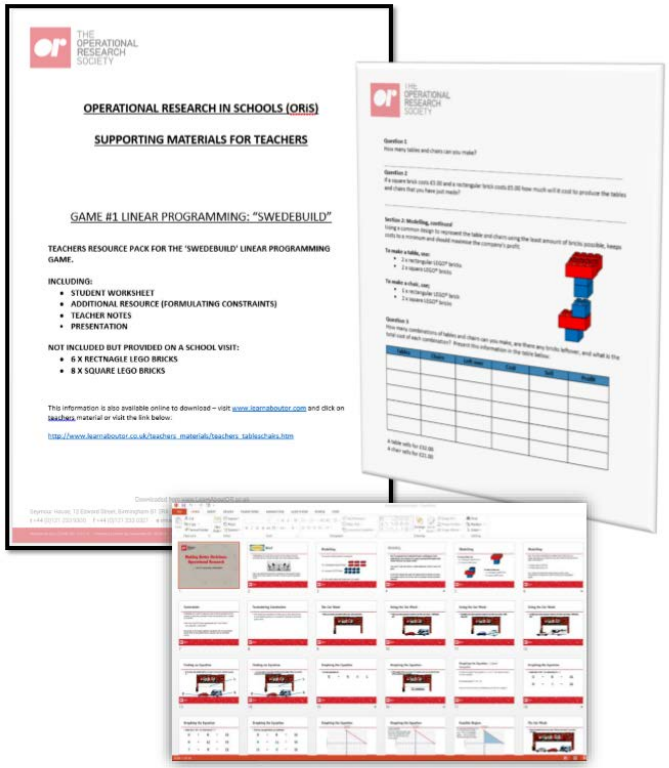
FREE Visits

http://www.theorsociety.com/Pages/ORinSchools/ORinSchoolsTeachers.aspx

- Click on the red button (‘ORIS VISIT REQUEST FORM’)
- Free school visit to inspire students

#3 - Your turn to be a child!

Workshop #1 – Using Lego!



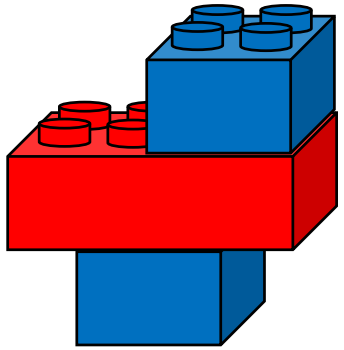
- "Building with lego was fun and helped me understand the session“
- "We got to make / create stuff and showed us how maths can be used in the real world"

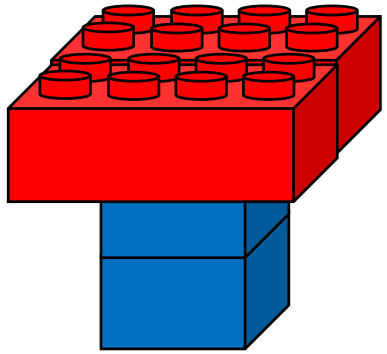
OPERATIONAL RESEARCH IN SCHOOLS

Modelling

To make a table, use:

- 2 x rectangular LEGO® bricks
- 2 x square LEGO® bricks





To make a chair, use:

- 1 x rectangular LEGO® brick
- 2 x square LEGO® bricks

Modelling

Q2: How much will it cost to produce the tables and chairs that you have just made?

- **A square brick costs £3.00**
- **A rectangular brick costs £5.00**

Q3: How many combinations of tables and chairs can you make, are there any bricks left over, and what is the total cost of each combination?

- **A table sells for £32.00**
- **A chair sells for £21.00**

The OR Society website

http://www.theorsociety.com/Pages/ORinSchools/ORinSchoolsTeachers.aspx

- Outline of Workshops and FAQ and
- Booking Form

Questions? Email us: **schools@theorsociety.com**