Bakuro: Binary Logical Thinking Puzzles

Paul Curzon
Queen Mary
University of London

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www.teachinglondoncomputing.org
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A simple example puzzle

- Fill the grid using only powers of 2 (1, 2, 4, 8)
- Horizontal (vertical) blocks must add to the number on the left (above)
- Fill in the binary of the answers too
A simple example puzzle

- Each number has a unique sum
- Work values out from the intersection of sums
- $3 = 1 + 2$
- $9 = 1 + 8$
A simple example puzzle

- $3 = 2 + 1$
- $6 = 2 + 4$

The binary tells you the numbers!

$0011 = 0010 + 0001$

$3 = 2 + 1$
A simple example puzzle

- $12 = 8 + 4$
- $6 = 2 + 4$
- $9 = 8 + 1$

Now you have the basics, do a harder version
Extension Activity

• Get the students to invent their own based on blank grids
• They must check it is solvable!

• Then create ones from a blank sheet of squared paper
Summary

- Learn fundamentals of binary and logical thinking
- Lots of practice at binary
  - more fun than lists of binary-decimal conversions to do
  - also focuses on underlying construction
- Puzzles are a good way to explore and learn many computing and computational thinking ideas
More support

On our website contains:
• Activity sheets
• Booklets
• Slides
• Lots more stories

For teachers: www.teachinglondoncomputing.org
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