

Colour by Numbers

Junior/Middle/Upper Primary

Curriculum

Representation of Data

Data can be represented in different ways.

Vocabulary

Overview

Data in computers is stored and transmitted as a series of zeros and ones. We can represent information by using just these two symbols. Students will investigate the patterns used in Binary Code.

Lesson Steps

- Students lay the cards out in order with the 16 dot card on the left.
- What do you notice about the number of dots on the cards? (Each card has twice as many as the card to its right)
- We can use the cards to make numbers by turning some of them face down and adding up the dots that are showing.
- Students flip the cards to show a number exactly. Eg 5.
- Try making numbers 1, 2, 3, 4, 12, 19, 6, 15, 21.
- Discuss any patterns that the students observe.
- When a binary number card is **not** showing, it is represented by zero. When it is showing, it is represented by 1. Eg. 01001=9

Extension

Give students the binary numbers and have them work out what the number is.

What day of the month were you born? Write it in binary.

Activity available on csunplugged.org