CodeWeek
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Binary Beads

By European Parents' Association - EPA

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Objective

Introduce binary numbers and how they represent information.

Duration

45 – 60 min

Target group:

Children 6+ yrs, introduction for adults

Experience

Beginners

Materials:

Beads of two different colors, string or yarn.

Setup

Prepare sufficient quantities of beads in two colors and cut string or yarn for bracelets or necklaces. .

Description

- Introduction: Introduce binary as how computers "talk" using only 0s and 1s, represented by the two bead colors.
- Explain Binary: Assign colors to binary digits (e.g., Red = 1, Blue = 0). Explain how to count in binary and relate it to how computers store information using 0s and 1s.
- Activity: Creating Binary Messages: Younger participants can represent their age or a short sequence in binary using beads. Older participants can represent initials or short words using a simplified binary code.

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Sharing and decoding

Participants share their creations and "decode" each other's messages. Discuss the ease of creation/decoding, the effect of mistakes, and the number of possible messages with few beads.

Extension

Binary Number Challenge: Convert decimal numbers to binary using beads.

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