



Lesson #Day 10-11 Binary Numbers

Overview

Computer code is written in many different languages, but at the heart of every computer are the digital signals that operate the hardware. Binary code is the language of this hardware and is an important component in understanding basic computer operation.

Lesson Summary--Overview

- Journal entry
- Class discussion
- Count the dots activity
- Binary counting
- Birthday

Lesson Summary--Sequence

- Students will journal how high they can count using one hand.
- Discussion of journal entries.
- Counting the dots from CS Unplugged—5 students to the will go to the front of the room. Each one will have a card with binary dots 1, 2, 4, 8, 16. Using the cards students will count from 0-31.
 - With elbow partners students will complete a binary counting activity from 255-0.
 - In groups of 3 students will record their birthday in binary code.
 - Journal why binary code is important to computers.
 - Discussion of ways binary code can be used with computers.

CS Content

There is an obvious connection of Math to computer science in this lesson. In writing their birthday in binary code students must develop an individual and creative solution to a problem. Through the entire process students must communicate in both written and verbal forms and Work teams to accomplish the lesson.

Objectives

Students will be able to:

- Count in binary code
- Explain the application of binary code
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Materials and Prep

- CS unplugged download
- Binary dot cards
- Grid paper

Resources

Student Documents

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Code Studio

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Video

- <https://www.youtube.com/watch?v=b6vHZ95XDwU>

Assessments

- Binary birthday
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Notes
