CS in Math

Quick Integration Ideas

Using Computer Science in Math helps students visualize patterns, test ideas, and apply math in real-world ways. They strengthen problem-solving skills, build deeper conceptual understanding, and develop deeper critical thinking skills.

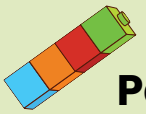
ELEMENTARY [K-5]

INTEGRATION IDEAS

Algorithms & Sequencing

Students break down math procedures into clear, logical steps. This builds precision, order, and comprehension of the underlying reasoning in a math process.

Example: Create an algorithm for how to count on, instructions for regrouping



Pattern Recognition

Students use CS tools or coding to identify, extend, or generate patterns

Example: Use Scratch Jr. to repeat color or shape patterns, generate number patterns using a loop (skip counting by 5's, etc.)

Models & Simulations

Students build or explore digital models to visualize math concepts.

Example: Digital base-ten blocks to simulate regrouping, simulate coin flips or dice rolls to predict outcomes

MIDDLE [6-8]

INTEGRATION IDEAS

Loops & Iteration

Exponents: Code a loop to repeatedly multiply a base number

Geometry: Loop drawing commands to construct regular polygons

Conditionals (If/Then/Else Logic)

Probability: Conditional probability simulation (re draw if red card selected)

Inequalities: Code to sort numbers or coordinate points (if x>3...)

Abstraction & Mathematical Modeling

Real World Situations- Linear Models: representing algebraic trends

Functions: Abstract patterns into slope-intercept form

QUICK TIPS

- First, look for natural connections between your content and CS skills.
- Focus on thinking, not just technology.
- Start small! Try one integrated computer science activity per science unit.

CodeVA