Algorithms and Decomposition

Below is a list of examples for how different content areas use the computational thinking skills of algorithms and decomposition.

Algorithms

Decomposition

Algorithms: Using steps and sequencing to solve problems

Decomposition: Breaking things down into smaller manageable parts

ELA

- Story sequence
- Fiction/nonfiction pre-writing
- Text structure
- Grammar

- Individual letter sounds
- Writing process
- Poetry analysis
- Word parts

Fine Arts

- Reading and playing a song
- Algorithmic music/art composition

- Art critique
- One movement or chorus of a song

Math

- PEMDAS
- Mathematical standard algorithms
- Ordered pairs

- Finding groups of ten
- Combining friendly numbers
- Partial sums
- Solving systems of equations

PE

- Drills
- Steps of a dance
- Game plays
- Celebration handshakes

- Game plays with graphics or diagrams
- Working on a specific part or mechanic of a shot, a swing, etc.

Science

- Experiments
- Labs
- Engineering design process

- Parts of a scientific process
- Dichotomous key
- Chemical reaction (equations)

SS / History

- Cause and effect
- Constructing timelines

- Historical data sets
- Societal context of a situation
- Geography

World Lang.

- Language acquisition order
- Grammar

- Word parts: families, roots

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