

Mathematics Teaching Practice #3

Use and Connect Mathematical Representations

Effective teaching of mathematics engages students in making connections among mathematical representations to deepen understanding of mathematics concepts and procedures and as tools for problem solving.

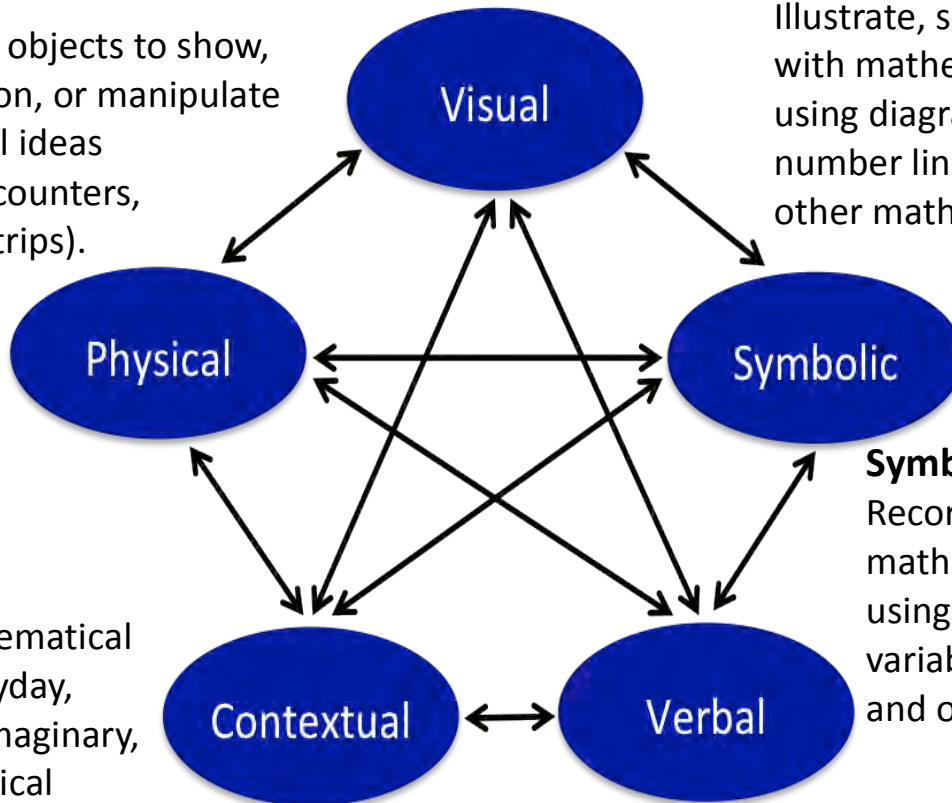
Representational Actions

Physical

Use concrete objects to show, study, act upon, or manipulate mathematical ideas (e.g., cubes, counters, tiles, paper strips).

Contextual

Situate mathematical ideas in everyday, real-world, imaginary, or mathematical situations and contexts.



Visual

Illustrate, show, or work with mathematical ideas using diagrams, pictures, number lines, graphs, and other math drawings.

Symbolic

Record or work with mathematical ideas using numerals, variables, tables, and other symbols.

Verbal

Use language (words and phrases) to interpret, discuss, define, or describe mathematical ideas, bridging informal and formal mathematical language.



National Council of Teachers of Mathematics. (2014). *Principles to actions: Ensuring mathematical success for all*. Reston, VA: Author.

<http://www.nctm.org/pta>

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