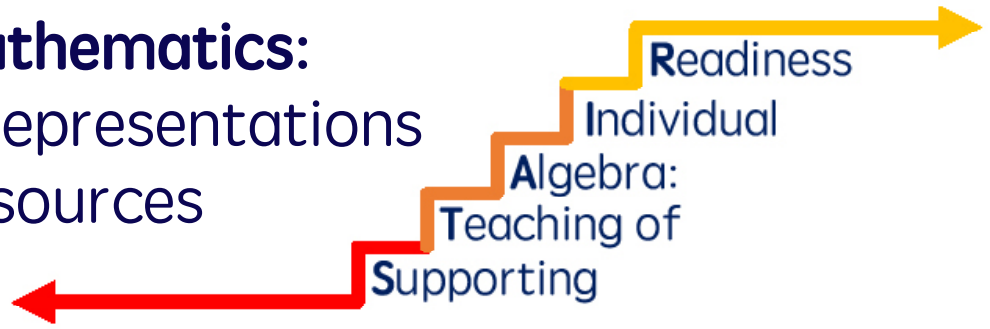
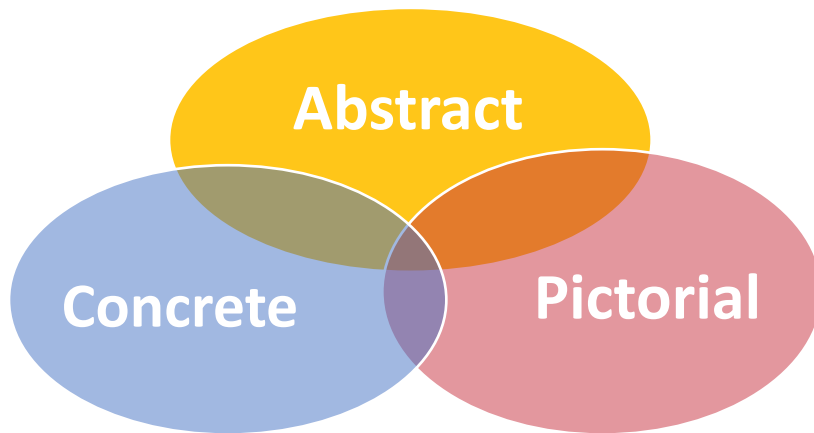


# Resources in Mathematics: Using Multiple Representations with Limited Resources



While students often develop the use of these representations in a particular order, the representations are not in a hierarchy and can be used by any students at any grade level working on any type of mathematics. If you have limited resources (e.g. no algebra tiles or geoboards), **you can still use this approach!**



## Concrete: Three-Dimensional Objects

Get creative and use what you have, as long as it accurately represents the mathematics.



# Resources in Mathematics: Using Multiple Representations with Limited Resources



## Concrete: Three-Dimensional Objects

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Ask students to draw a representation, or use free virtual manipulative websites (see Virtual manipulatives 1 pager for more info)



Link to Virtual Manipulatives: <https://www.didax.com/math/virtual-manipulatives.html>

## Abstract: Numerals and symbols and words

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Show in multiple forms to encourage flexible thinking

$$\frac{1}{2}(b \cdot h)$$

$$\frac{1}{2} \times b \times h = A$$

$$\frac{bh}{2}$$