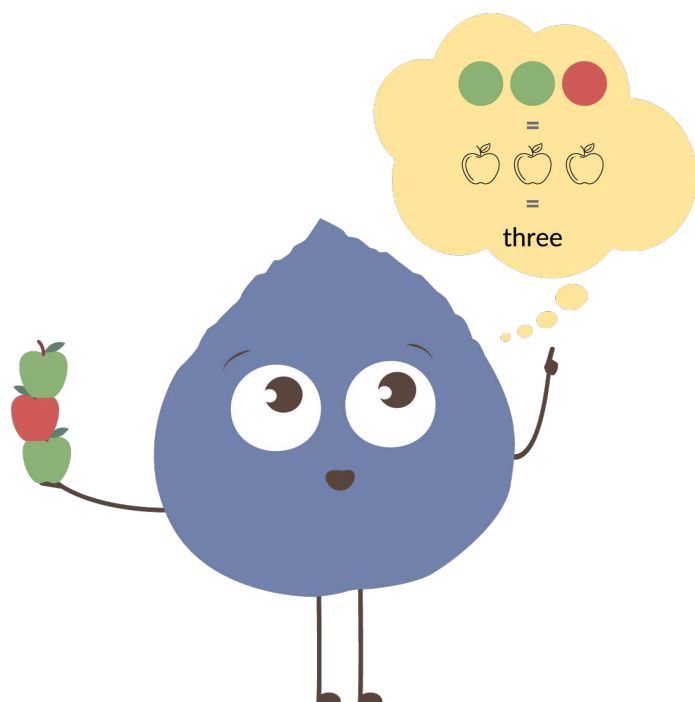


# REPRESENT

K - 3

To convey understanding through pictures, diagrams, models, manipulatives, symbols, words, etc.



*Representing* indicates that students are showing their knowledge and understanding. For example, *representing* a story problem using an equation and/or manipulatives, or choosing which coins might be used to purchase a chocolate bar. When students express the same concept in different forms it helps to clarify their understanding.

The table below shows where **represent** is included as student action within Alberta's K-3 Math curriculum.

| Grade Level  | Learning Outcomes                               | Skills & Procedures  |
|--------------|---|--|
| Kindergarten |   | <b>Represent</b> a quantity in different ways.   |
| Grade 1      | Students investigate and <b>represent</b> data. | <b>Represent</b> quantities using words, numerals, objects, or pictures.<br><b>Represent</b> a quantity relative to another, including symbolically. |
| Grade 2      |   | <b>Represent</b> quantities using words and natural numbers.<br>Construct graphs to <b>represent</b> data.   |

# REPRESENT

To demonstrate a mathematical concept through pictures, diagrams, models, manipulatives, symbols, words, etc.

| Grade Level | Learning Outcomes | Skills & Procedures  |
|-------------|-------------------|--|
| Grade 3     |                   | <p>Count and <b>represent</b> the value of a collection of nickels, dimes, and quarters as cents.</p> <p>Count and <b>represent</b> the value of a collection of loonies, toonies, and bills as dollars.</p> <p>Write equations that <b>represent</b> equality between a number and an expression or between two different expressions of the same number.</p> <p><b>Represent</b> first-hand and secondhand data in a dot plot or bar graph with one-to-one correspondence.</p> |

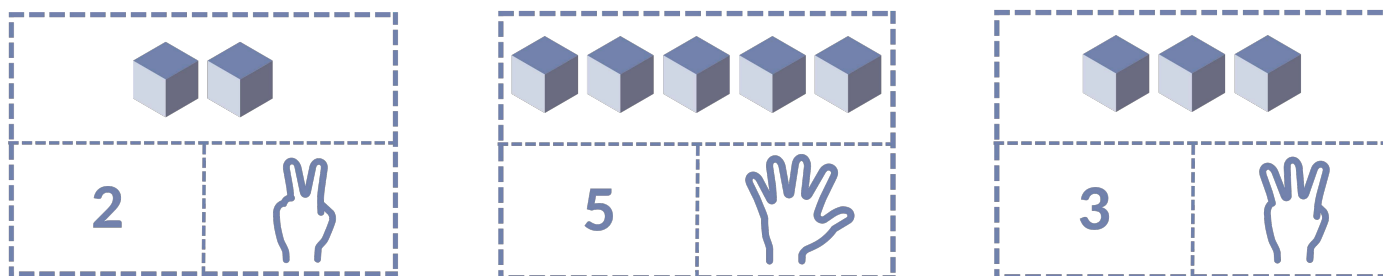


To best support learners, student action verbs should be explicitly taught, modeled and practiced through multiple experiences. The illustrative examples can provide clarification about how student understanding might be developed. It is important to reference the curriculum to view the entire context of the Learning Outcome and related KUSPS.

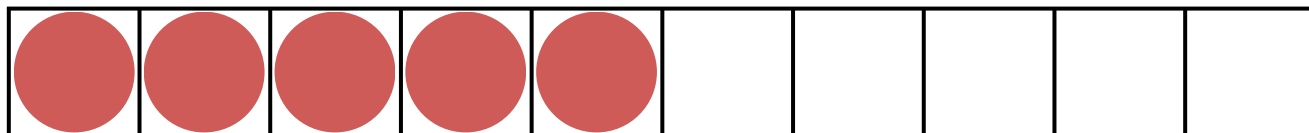
## Illustrative Examples

Learning Outcome KN1.1: **Represent** a quantity in different ways.

1. Students are given cutouts, similar to the one shown here. You could do the numbers 1 through 10 or less, depending on your individual students. The idea is that students **represent** a quantity using pictures and symbols by matching puzzle pieces.



2. Students will make **representations** of a given number. Students use given materials to make a given quantity.
  - For example: they would show 5 paper clips as a group, place a die with 5 dots upright, and show the quantity 5 on a 10 frame.



## Additional Resources

[New Learn Alberta Planning Guide for Number.](#)  
[Interactive Manipulatives including Canadian Money.](#)

## References

Hodnett, B.R. (n.d.). *How to Teach Number Representations*. Understood.  
<https://www.understood.org/en/articles/number-representations-an-evidence-based-math-strategy>  
HTML 5 apps. (n.d.). Mathies Apps. <https://mathies.ca/apps.php#gsc.tab=0>  
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