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How to Make and Use a Bead Rack for Building Number Sense

Bead Racks…

- The Rekenrek, or bead rack, was designed by Adrian Treffers, a mathematics curriculum researcher at the Freudenthal Institute in Holland, to support the natural development of number sense in children.
- Smaller versions consist of two rows of 10 beads. Larger versions have ten rows of ten beads. Each row is made of five red beads and five white beads. This allows students to make mental images of numbers.
- This tool provides learners with the visual models they need to discover number relationships and develop a variety of addition and subtraction strategies, including doubles plus or minus one, making tens, and compensation, thereby leading to automaticity of basic facts.

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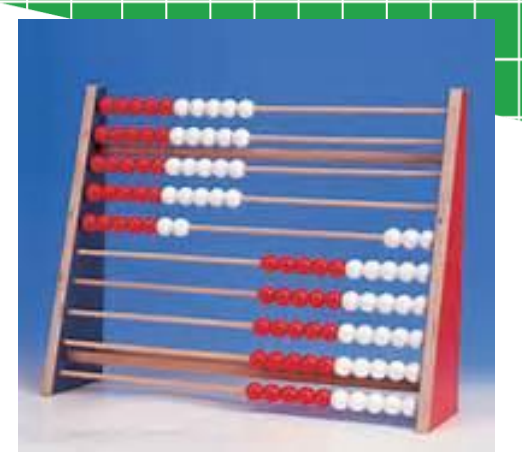

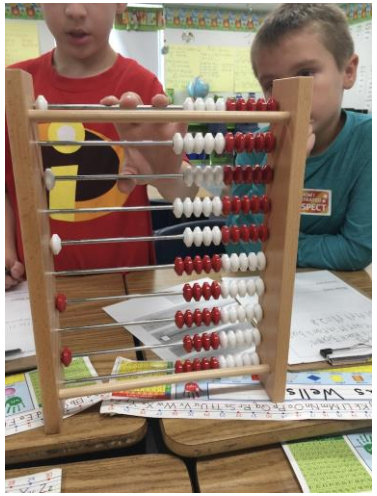

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A KCM HOW-TO VIDEO

So I have a bead rack …
now what???

- The first time you use the bead rack orient students to the setting by asking what they notice.
- Set some conventions.
  - White on the right
  - Beads on the right are out of play, Push to the left, beads on the left are in play.

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- https://apps.mathlearningcenter.org/number-rack/?46tpls32

A teaching progression:

- Build the number. w/10
- Quick images w/10
- 2 rows – small doubles
- Doubles +/- 1
- 10 +
- Large doubles
- Doubles +/-1

Activities:

- Meet me in the middle (5)
- I have ___, I need ___

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Arithmetic Rack Bingo

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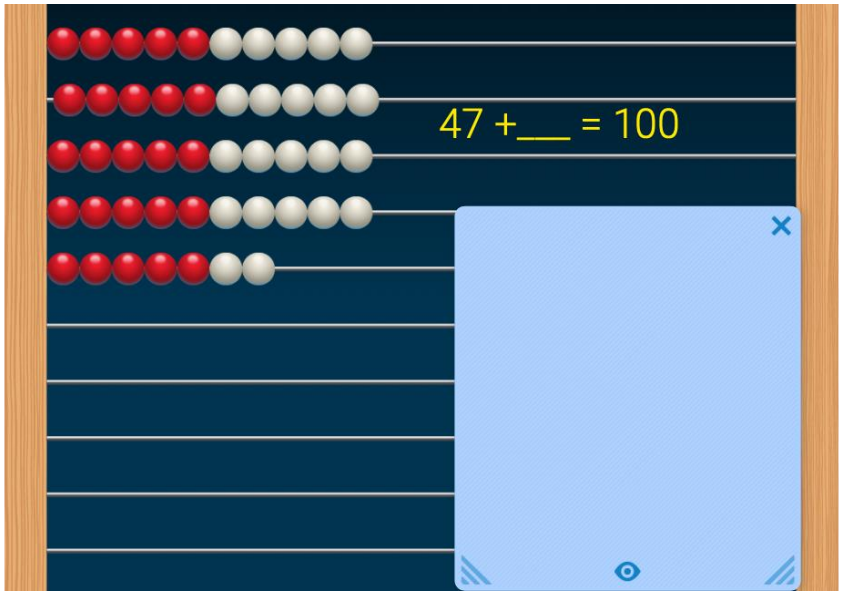
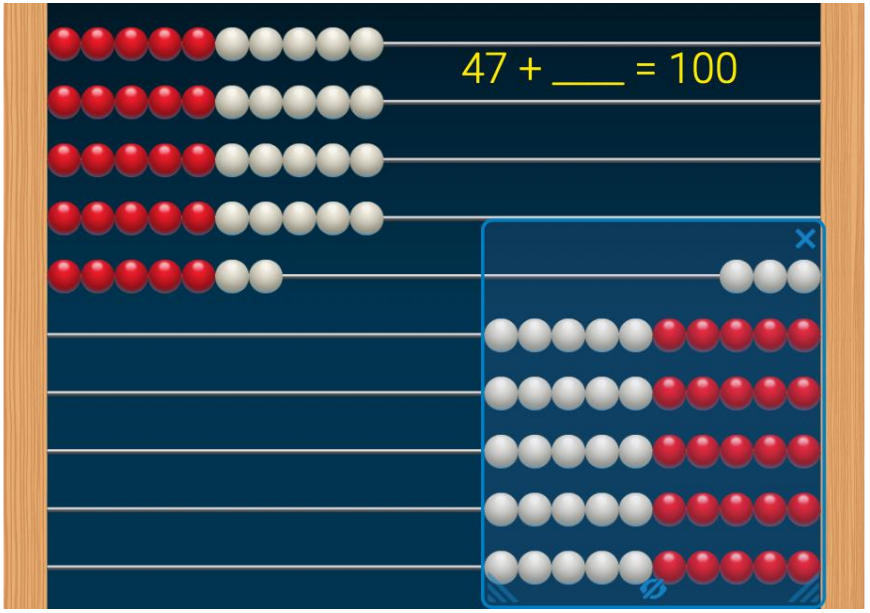
Addition to 100





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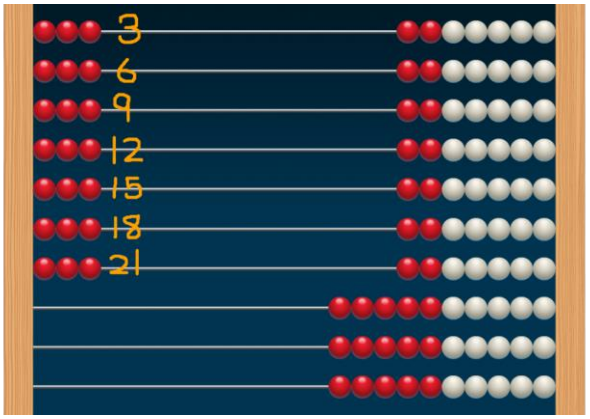
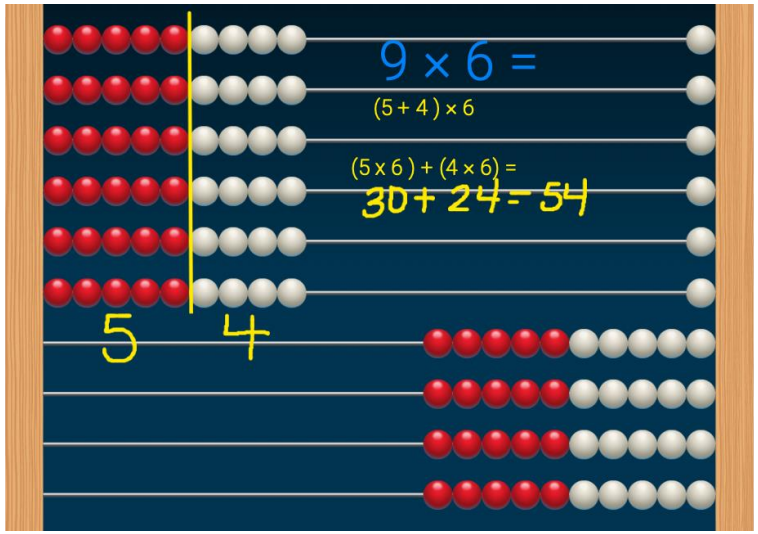
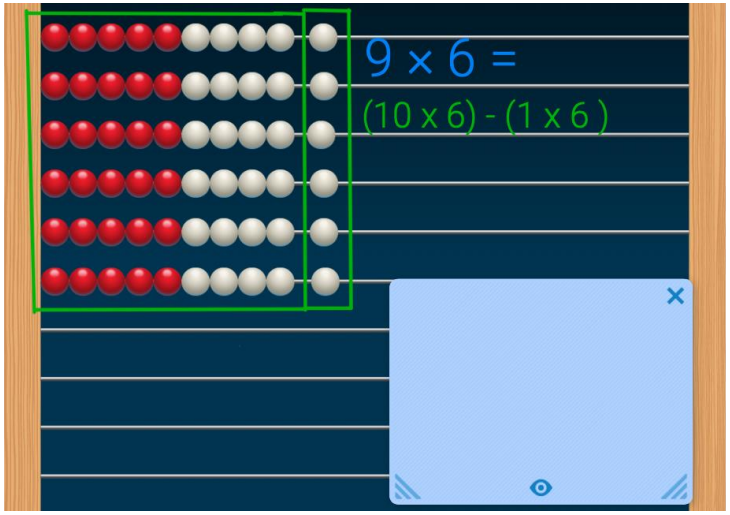
Multiplicative Thinking







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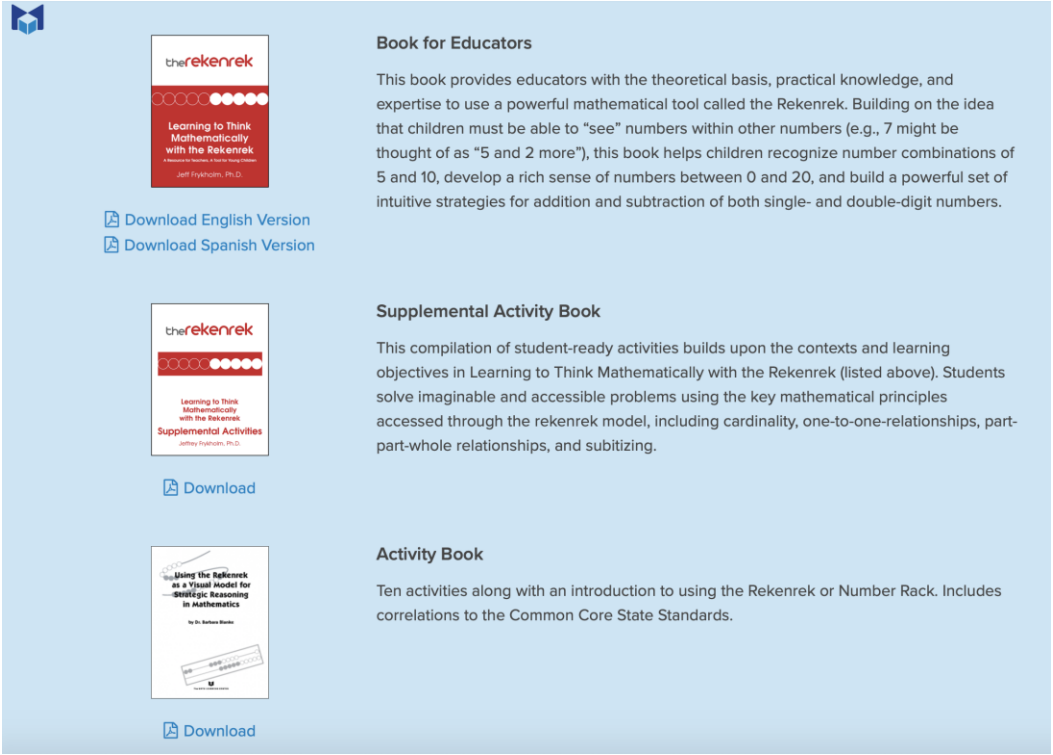
Resources and Links

- [math learning center resources]
- [math learning center number-rack app]
- [math-recovery/arithmetic-rack-bingo]



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