



KENTUCKY CENTER
FOR MATHEMATICS

Conceptual Place Value

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KCM Regional Consultant

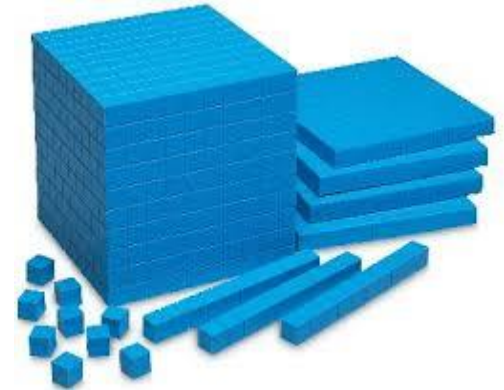
Place Value ...

H	T	O

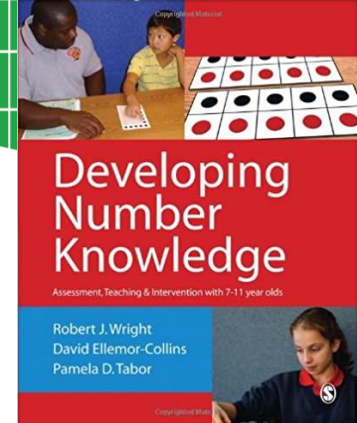
572

Circle the digit in the
hundred's place.

What is place is the 7
in?



Conceptual Place Value

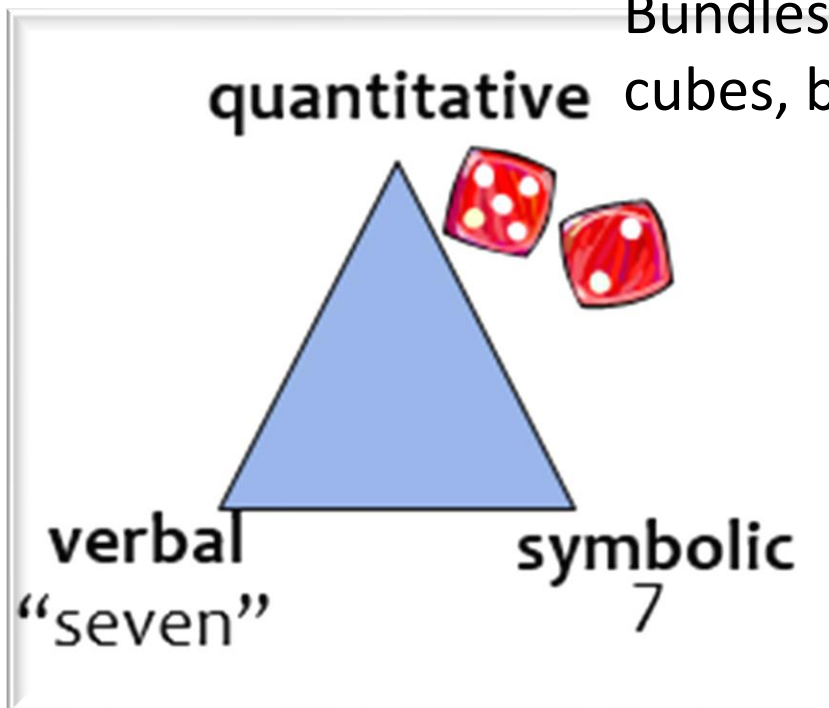


“Thus, being able to flexibly increment and decrement by ones and tens, and later also by hundreds, is critical knowledge for developing facile mental computation. We refer to this critical knowledge as *conceptual place value*. (CPV).”

Building CPV

Build the quantity with
different materials:

Bundles and sticks, unifix
cubes, bead racks ...



Count arounds
Number word before
Number word after

Numeral cards
Numerical rolls
Number lines
Number charts
Arrow cards

- <https://sites.google.com/view/kcm-virtual-settings/home> - h.h19u9sjcunre

Arrow Cards - up to 999

This collection has arrow cards to build both 2-digit and 3-digit numbers. For each, a variety of quantitative materials are available for additional support. These are listed below.

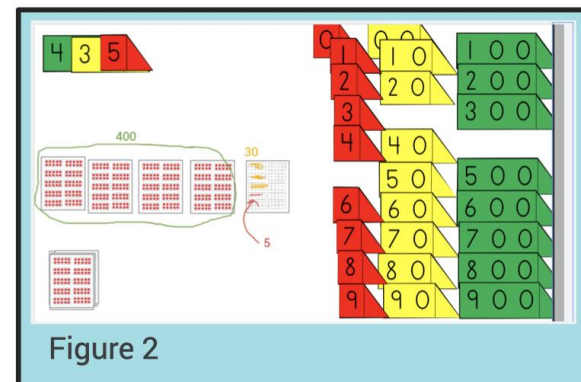
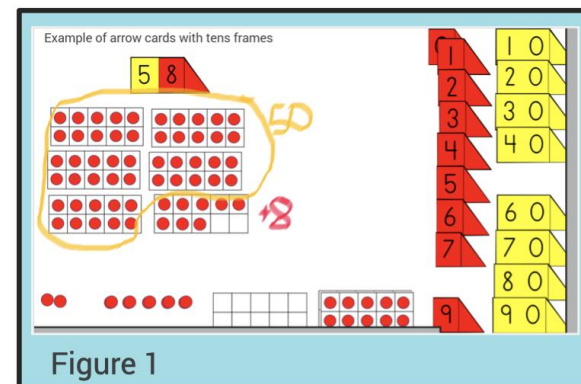
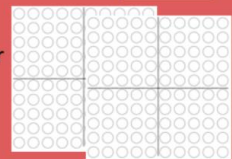
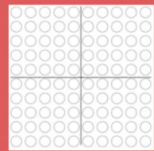
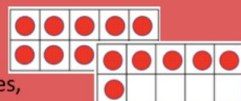
2-digit arrow cards:

- Ten Frames – Quantities can be built using filled ten frames, empty ten frames and dots that can be placed on the loose ten frames. (See Fig. 1)
- 10 by 10 array – Use the Jamboard drawing tools to color in the corresponding number of dots.

- Bundle and Stick images such as these:

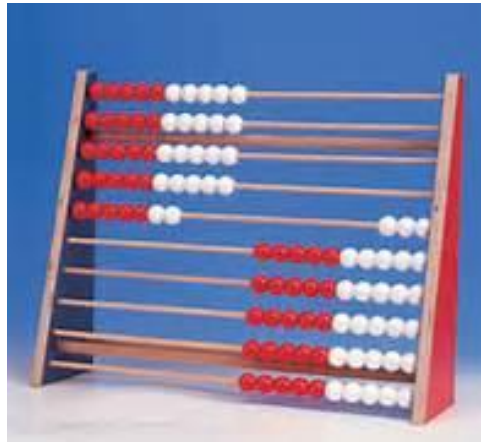
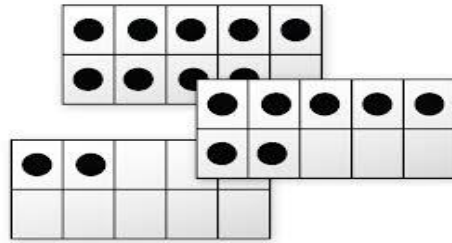
3-digit arrow cards:

- Ten Frames – Includes a card with 10 filled frames and 10 empty frames. Use the Jamboard tools to fill in the empty frames (See Fig. 2)
- 10 by 10 arrays – Use the Jamboard drawing tools to color in the corresponding number of dots.



Building CPV

- Students need to be able to compose and decompose numbers with materials.



Instructional progression

- Incrementing/decrementing by tens, on decade
- Incrementing/decrementing off decade by tens
- Incrementing/decrementing by tens or ones
- Incrementing/decrementing by tens and ones

Three in a Line - add & sub with materials

I can use base-ten materials to help me add and subtract one and two-digit numbers in the range of 1-100.

KNP # T 5525.1 - Three in a Line - add&sub with materials, Red

Fluency Standard: 2.NBT.5

Standard: 1.NBT.4,

Materials: Each pair of players should use a slide with game board, spinners and covers. Each student should have a base-ten materials such as bundles and sticks, [10 frame cards](#), [100 bead rack](#) and/or a 100 bead string (links for virtual manipulatives are provided in case physical manipulatives are not available).

Three in a Line - add & sub with materials

I can use base-ten materials to help me add and subtract one and two-digit numbers in the range 1-100.

KNP # T 5525.2 - Three in a Line - add & sub with materials, Blue

Fluency Standard: 2.NBT.5

Standard: 2.NBT.5, 1.NBT.4,

Materials: Each pair of players should use a slide with game board, spinners and covers. Each student should have a base-ten materials such as bundles and sticks, [10 frame cards](#), [100 bead rack](#) and/or a 100 bead string (links for virtual manipulatives are provided in case physical manipulatives are not available).

KCM is here to support you!

Your host

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