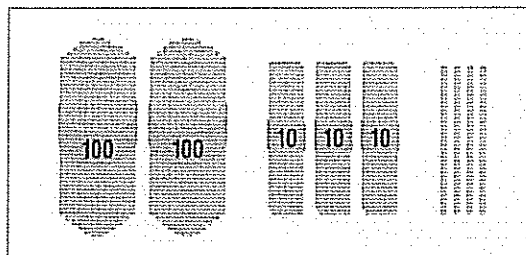


Bundles

Grade Level K – 2

Description

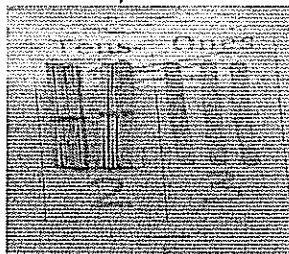


Bundles are discrete groupings of place value units (tens, hundreds, thousands), usually made by students/teachers placing a rubber band or chenille stem around straws, popsicle sticks, or coffee stirrers. Linking cubes may also be used in this fashion. Ten straws (or cubes) are bundled (or linked) into 1 unit of ten, 10 tens are bundled into 1 unit of a hundred, and so on. These student-made groupings provide the necessary conceptual foundation for children to be successful with pre-grouped, proportional, and non-proportional base-ten materials. (See Base-Ten Blocks and Number Disks.)

Understanding tens and ones is supported in Kindergarten as students learn to compose and decompose tens and ones by “bundling” and “unbundling” the materials. Numbers 11-19 are soon seen as 1 ten (a bundled set of 10 ones) and some extra ones.

By Grade 2, students expand their skill with and understanding of units by bundling units of ones, tens, and hundreds up to one thousand with sticks. These larger units are discrete and can be counted: “1 hundred, 2 hundred, 3 hundred, etc.” Bundles also help students extend their understanding of place value to 1000. (2.NBT.1) Repeated bundling experiences help students to internalize the pattern that 10 of one unit make 1 of the next larger unit. Expanded form, increased understanding of skip-counting (2.NBT.2), and fluency in counting larger numbers are all supported by the use of this model.

Bundles are also useful in developing conceptual understanding of renaming in addition and subtraction. The mat below shows 2 tens and 3 ones. To solve $23 - 9$, one bundle of ten is “unbundled” to get 1 ten and 13



ones in order to take away 9 ones.

Instructional Strategies

- Represent various quantities with bundles and “singles.”
- Count school days. Each day a single straw/stick is added to the ones pocket and counted. Sticks are bundled when 10 days have passed and moved to the tens pocket. Have a “100th Day” celebration.

- Bundles may also be used to count down to a significant event (e.g., the last day of school), unbundling as necessary.
- Play "Race to Zero" with a partner. Students start with a quantity between 30 and 40 in bundles. Roll two dice to determine what can be taken away from the starting quantity (unbundling as necessary). First partner to reach zero is the winner. (This game may also be played as an addition game.)
- Count in unit form (2 tens, 8 ones; 2 tens, 9 ones; 3 tens, etc.).
- Represent quantities on place value mats to be added or subtracted.