Dear Parent(s) and Guardian(s),

Beginning this week, we will be learning about place value 1 to 100 in math class. To help your child better understand the concept of place value, we will be utilizing base ten blocks. In your child's folder, you will find a bag of adapted base ten blocks. In the classroom, we will be using the 3D version of the base ten blocks, however to prevent losing Miss Beichner's base ten blocks, I have printed and laminated a set for your child to use at home with homework pages. Your child should have 10 units, 10 rods, and one flat. There is also a laminated place value mat to help your child keep their work organized. Attached, please find information about base ten blocks and their purpose in guiding your child's learning. Should you have any questions, please do not hesitate to contact me.

Happy Learning!

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Base Ten Blocks

Exploring Base Ten Block

The Base Ten Blocks provide a spatial model of our base ten number system. The smallest blocks–cubes that measure 1 cm on a side–are called units. The long, narrow blocks that measure 10 cm by 1 cm by 1 cm are called rods. The flat, square blocks that measure 10 cm by 10 cm by 1 cm are called flats. When working with base ten place value experiences, we commonly use the unit to represent ones, the rod to represent tens, and the flat to represent hundreds. Providing names based on the shape rather than the value allows for the pieces to be renamed when necessary. For example, when studying decimals, a class can use the flat to represent a unit and establish the value of the other pieces from there.

The size relationships among the blocks make them ideal for the investigation of number concepts. Base Ten Blocks are especially useful in providing students with ways to physically represent the concepts of place value and addition, subtraction, multiplication, and division of whole numbers. By building number combinations with Base Ten Blocks, students ease into the concept of regrouping, or trading, and are able to see the logical development of each operation. The blocks provide a visual foundation and understanding of the algorithms children use when doing paper-and-pencil computation. Older children can transfer their understanding of whole numbers and whole-number operations to an understanding of decimals and decimal operations.

Working With Base Ten Blocks

Place-value mats, provide a means for children to organize their work as they explore the relationships among the blocks and determine how groups of blocks can be used to represent numbers. Students may begin by placing unit blocks, one at a time, in the ones column on a mat. For each unit they place, they record the number corresponding to the total number of units placed (1, 2, 3 ...). They continue this process until they have accumulated 10 units, at which point they match their 10 units to 1 rod and trade those units for the rod, which they place in the tens column. Students continue in the same way, adding units one at a time to the units column and recording the totals (11, 12, 13 ...) until it is time to trade for a second rod, which they place in the tens column (20). When they finally come to 99, there are 9 units and 9 rods on the mat. Adding one more unit forces two trades: first 10 units for another rod and then 10 rods for a flat (100). Then it is time to continue adding and recording units and making trades as needed as students work their way through the hundreds and up to thousands. Combining the placing and trading of rods with the act of recording the corresponding numbers provides students with a connection between concrete and symbolic representations of numbers.