**Models for Decimal Place Value**

I seem to be on a place value theme this week, so I thought I'd give decimal place value a shout out.  Even though decimals are taught in the older grades, let's not forget the value of using manipulatives whenever you introduce a new concept.  Remember that all new learning should start on the concrete level.  Two great models for decimals are base-10 blocks and money.  I like to use money first, because kids are really familiar with it, and then move to base-10 blocks, which are a bit more abstract concept.

Let's talk about how using manipulatives can dispel a couple of common misconceptions.  If you ask ten 4th grade students which is bigger, 1.2 or 1.09, at least six of the kids would probably say 1.09.  Why?  A couple of reasons.  First, 1.09 has more digits, and with whole numbers, more digits means a bigger number.  Second, 1.09 has a 9, and 9 is bigger than 2, right?  Kids try to apply whole number concepts to decimals, and it just doesn't work.  The better their understanding of place value and the patterns, the better they will understand decimals.  Unfortunately, many kiddos come to us without a deep understanding of place value in general.

Now, let's take those same numbers and make one change.  Which is bigger, $1.20 or $1.09?  I'll bet 10 out of 10 4th graders will get the right answer this time.  See how powerful using money as a model can be?  Then, you gradually take away the dollar sign and move them toward the base-10 blocks.  One caveat, students have to understand that 1.2 is the same as $1.20.  Sometimes they want to make it $1.02, so be on the look-out for that.  Remind them that the 2 can't changes places.  It's *place* value...it has to stay in its place.  And LOTS of concrete practice will help reinforce that concept.

When the kids are using the place value mats, be sure they have manipulatives to use.  There's plenty of room on the mats for the base-10 blocks and play money.  I've shown both the blank mats and and example of how to use them below.  Click [here](https://docs.google.com/open?id=0B_wlnPzXZBUZNmE5XzhQXzJCUzQ) to grab your mats!







