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My Math-Made For You

Using Manipulatives in the Elementary Classroom with MH My Math

Math manipulatives are an important part of teaching math in the elementary classroom. The brightly colored connecting cubes and bears, easy to handle counters and color tiles, and clearly-sized fraction tiles and base-ten blocks are probably a big part of your daily math teaching toolkit. And, virtual manipulatives deliver very much the same benefits! The usefulness of these tools is clear.

Manipulatives aid in understanding.

Math manipulatives are an important bridge to help students connect the concrete to the abstract in mathematical learning. Math manipulatives allow students to see, touch, and move real representations of conceptual ideas. Numbers on a page are brought to life when students can model with representations. Concepts such as decomposition, place value, and fractions benefit from the visual and kinesthetic aspects of manipulatives. Challenging and multi-step problem-solving activities can be made more manageable when students are able to use tools like manipulatives to compute and represent various parts of the problem. Practice in choosing appropriate manipulatives deepens student expertise with identifying the correct tools for solving a problem.

Manipulatives aid in communication.

Explaining and critiquing mathematical reasoning are important skills in understanding mathematics. Manipulatives help students discuss and demonstrate their methods for solving problems. This type of collaborative communication builds precision in language as well as procedure. When students can demonstrate the *how* and *why* of a math concept, they build connections and prepare for more advanced skills. Manipulatives also provide students a tool for testing their theories and the theories of others. And, manipulatives can assist English language learners, who are still building their vocabularies, demonstrate understanding of math concepts.

Manipulatives aid in exploration.

Manipulatives beg to be explored. They are fun! Their movable nature allows students to try various ways to solve problems and make mistakes. While it is important to teach students that some tools are more appropriate in certain situations than others, it is also important to allow students to explore new ways to use manipulatives. You might be surprised by what your students discover!

The manipulatives available in *MH My Math* are designed to be used in many constructive exercises and routines. Students are encouraged to use manipulatives in various features in the student edition, the teacher edition, and online with virtual manipulatives. The student edition not only contains point of use manipulative directions on pages such as Explore and Explain (K-2) and Hands-On Lessons (3-5), it also guides students to extend learning beyond the student page with work-mats. In the teacher edition, you will find Model the Math features to start every chapter. And, the Explore the Math feature and digital lesson presentation slides bring a full hands-on virtual manipulative experience. Not only are the manipulatives available at point of use during your classroom presentation of the student edition content, links to virtual manipulatives allow students to further explore additional useful tools.

Manipulatives are a valuable and robust teaching tool with a myriad of applications. Using manipulatives in your classroom and with the *MH My Math* program is a fantastic way to guide students to deeper understanding, stronger communication, and more fun in your math lessons.

References

National Council of Teachers of Mathematics. (2000). *Principles and Standards for School Mathematics*. Reston, VA: National Council of Teachers of Mathematics.

Using Manipulatives in Mathematical Problem Solving: A Performance- Based Analysis, Catherine A. Kelly, University of Colorado at Colorado Springs Retrieved June 5, 2012 from http://www.math.umat.edu/tmme/vol3no2/tmmevol3no2_colorado_ppl84_193.pdf