

# Math Centers for Independent Practice

It is critical to differentiate math instruction for all of our students. Our math centers are broken into different strands of mathematical thinking. There are 10 centers available for each grade level (K-5). These centers all relate directly to the National Content Standards developed by the National Council of the Teachers of Mathematics.

The strands include:

- Number and Operation
- Algebra
- Geometry
- Measurement
- Probability and Statistics
- Problem Solving

Each center encourages problem solving and provides students the time to practice and apply the math strategies they are learning in both whole group and small group instruction.

In addition, each center provides all of the materials necessary for full implementation. The kit comes complete with:

- storage boxes
- laminated centers and manipulatives
- Resource CD for teacher resources, lesson ideas, forms and management tools.

Your purchase may include a literature option. The literature option consists of 6 carefully selected titles for K-2 and 6 titles for 3-5. A mini-lesson for whole group or small group instruction is included on the Resource CD.

Purchase price: \$550.00/each

## Math Centers for Independent Practice Research Base

<i>What the Research Says...</i>	<i>Math Centers for Independent Practice</i>
<p>“In a mathematical environment, students feel comfortable trying out ideas, sharing insights, challenging others, seeking advice from other students and the teacher, explaining their thinking, and taking risks. No one is permitted to be a passive observer.” <i>John Van De Walle, <u>Elementary and Middle School Mathematics: Teaching Developmentally</u></i></p>	<p><i>Math Centers for Independent Practice</i> provides students the time to work in small groups to solve problems. The centers encourage free, risk-free thinking.</p>
<p>“A classroom arranged in small groups has many times more interaction and discussion going than can be accomplished in a full-class setting” <i>John Van De Walle, <u>Elementary and Middle School Mathematics: Teaching Developmentally</u></i></p>	<p><i>Math Centers for Independent Practice</i> allows teachers the structure, content, and time to teach using small-group instruction. Students actually have time to practice and apply the skills introduced during whole group instruction.</p>
<p>NCTM defines six principles fundamental to a high-quality mathematics education:</p> <ul style="list-style-type: none"> <li>• Equity</li> <li>• Curriculum</li> <li>• Teaching</li> <li>• Learning</li> <li>• Assessment</li> <li>• Technology</li> </ul>	<p><i>Math Centers for Independent Practice</i> provides the six principles of a high-quality mathematics education through:</p> <p><u>Equity</u>: This supplemental program provides support and hands-on activities for all students.</p> <p><u>Curriculum</u>: <i>Math Centers for Independent Practice</i> are designed around the standards required for grade level mastery.</p> <p><u>Teaching</u>: A center approach to instruction allows teachers the valuable time they need to reteach or extend in small groups.</p> <p><u>Learning</u>: <i>Math Centers for Independent Practice</i> allows time for all students to practice the skills they are working to master.</p> <p><u>Assessment</u>: The individual centers are designed around grade level strands; thus, providing built in informal assessments.</p> <p><u>Technology</u>: Grade level kits include opportunities for students to use timers and calculators to solve problems.</p>

<p>“Research in cognitive psychology and mathematics education suggests that students actively construct their own meanings through mentally engaging experiences. They do not simply absorb knowledge delivered to them by the teacher or text.”</p> <p style="text-align: center;"><i>John Van De Walle</i> <i>Elementary and Middle School Mathematics: Teaching Developmentally</i></p>	<p><i>Math Centers for Independent Practice</i> allows students time to engage in problems and process the possible solutions. Students are working to solve problems as they engage in the experience.</p>
<p>Students are often able to show mastery with arithmetic computations, but they are not able to use their skills to solve problems. NAEP finds students are lacking in the areas of mathematics that require higher-level cognitive skills and understanding to solve problems beyond routine, step-by-step situations.</p>	<p><i>Math Centers for Independent Practice</i> is full of problem solving opportunities. Each grade level kit contains 10 problem solving centers. In addition, the majority of the centers in the other 5 strands require problem solving to arrive at a solution.</p>
<p>“Rather than directing a lesson, the teacher needs to provide time for students to grapple with problems, search for strategies and solutions on their own, and learn to evaluate their own results.”</p> <p style="text-align: center;">-<i>Marilyn Burns, About Teaching Mathematics</i></p>	<p><i>Math Centers for Independent Practice</i> provides the structure and quality content for independent centers. Students may work independently or on their own with any of the 60 tasks found in a grade level kit.</p>
<p>In <i>About Teaching Mathematics</i>, Marilyn Burns suggests the use of menus. Menus provide tasks that vary according to the topic and the age of the children. Menus make it possible for teachers to work with individual groups and have discussions while lead to valuable insights into students’ understanding.</p>	<p><i>Math Centers for Independent Practice</i> provides time for “menu” type activities. Rather than requiring teachers to engage in time-consuming construction of centers for each unit, <i>Math Centers for Independent Practice</i> contains all of the centers a teacher would need for the school year.</p>

“Students have different abilities, needs, and interests. Yet everyone needs to be able to use mathematics in his or her personal life, in the workplace, and in further study.

All students deserve an opportunity to understand the power and beauty of mathematics. Students need to learn a new set of mathematics basics that enable them to compute fluently and to solve problems creatively and resourcefully.” *NCTM – Principles and Standards*

*Math Centers for Independent Practice* provides students the necessary time to practice and apply the skills they are learning in a meaningful, everyday format.