

## Math Matchbooks

Math Matchbooks can be used to support your child's learning and achievement of state and national standards in mathematics. Many math standards involve the use of manipulatives. Manipulatives are objects (e.g., coins, paper clips, the Math Matchbook) that can be moved or arranged by hand as a way of developing motor skills or understanding abstractions, especially in mathematics. Using the directions in this handout, you can make a Math Matchbook that contains 12 small matchbooks. Varying the size of the small matchbooks or using more paper will give you more or fewer small matchbooks. Hint: for smaller fingers, larger matchbooks are easier to use.

The following are examples of math standards that can be reinforced using the Math Matchbook as a learning tool. For example, to address the first kindergarten standard listed below, you might want to make two Math Matchbooks, numbering the first one 1-10 and the second one 11-20. The child can begin counting and lift the matchbook flaps to check for accuracy.

### Kindergarten

- Count and read to 20. Remember to vary the size of the small matchbooks or use more paper to get the desired number of small matchbooks.
- Count and read to 50. Several Math Matchbooks can be used to accomplish this task.

### First Grade

- Count and read to 100.
- Solve two-number addition and subtraction problems (e.g.,  $2 + 1 = 3$ ,  $3 - 1 = 2$ ). Each addition or subtraction problem can be written on a matchbook flap with the answer under the flap.

### Second Grade

- Solve two- and three-number addition and subtraction problems (e.g.,  $2 + 1 + 1 = 4$ ).
- Demonstrate quick recall of basic addition facts with sums to 18 and corresponding subtraction facts (e.g.,  $7 + 7 = 14$ ,  $9 - 3 = 6$ ).

### Third Grade

- Count and read numbers to 10,000.
- Add and subtract 2- and 3-digit whole numbers and money. Glue pictures of money on the cover of the small matchbook and write the amount under the flap. You can also glue several different pictures of money on the cover and write the total amount under the flap.

### Fourth Grade

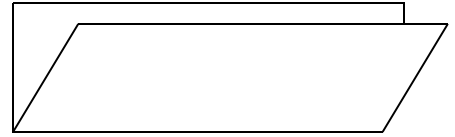
- Count and read numbers to the millions place and decimals to thousandths.
- Quick recall of basic multiplication and division facts (e.g.,  $3 \times 4 = 12$ ). Each multiplication or division problem can appear on the cover of the matchbook flap with the answer underneath.

### **Fifth Grade**

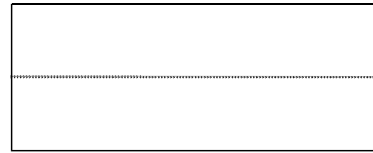
- Read and compare the numerical and word expressions of whole numbers, fractions, mixed numbers, and decimals. For example,  $\frac{1}{2}$  can be written on the cover of the small matchbook with the name of the fraction (one half) or its decimal equivalent (0.5) appearing underneath the flap.
- Model and write equivalencies of fractions as decimals, percentages, and ratios. For example,  $\frac{1}{2}$  can be written on the cover of the small matchbook, with its decimal equivalent (0.5) under the flap.

## Math Matchbook Directions

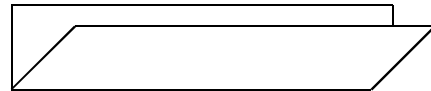
1. Begin by making several small matchbooks. Fold a sheet of paper ( $8\frac{1}{2}$ " by 11") in half like a hot dog bun.



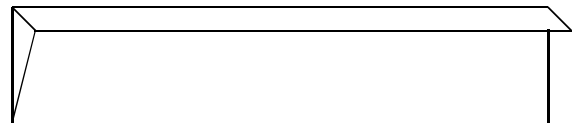
2. Cut the sheet in half along the fold line.



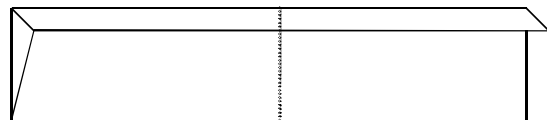
3. Fold each of the two long strips in half like hot dogs buns, leaving one side  $\frac{1}{2}$ " shorter than the other side.



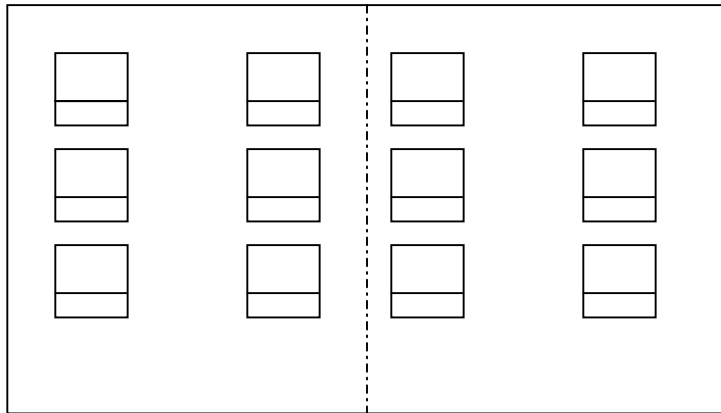
4. Fold the  $\frac{1}{2}$ " tab over the shorter side on each strip.



5. Cut each of the two strips in half, forming four pieces. Then cut each piece into thirds, making 12 miniature matchbooks.



6. Fold a sheet of paper (8 ½" by 11") like a book. Open the "book" and on the inside, glue the 12 small matchbooks. (3 rows of 4 each).



7. Lift the flap of each small matchbook and number, in order, 1-12.

