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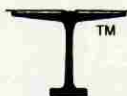
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CIRCLE 42 ON READER SERVICE CARD

Primary and intermediate math activities

Lola May on Teaching Math



Mental Mathematics

Think before you start computing: Five activities that will help your children learn to do just that.

"Drop your pencils! Hands off the calculators! It's time for mental math."

You probably don't say this to your students each day, but you should. Working mentally with numbers is a great way to nurture number sense and create a good foundation for mathematics.

Mental math has got to be fun, of course. That means that the problems you set before your children have to challenge them and give them a sense of accomplishment when the problems are solved.

Here are some examples of mental math problems that will have your students asking for more.

Many names. This activity will provide practice in mental math at all grade levels. Ask the children how many different names they can come up with for the day's date.

10	18	30
5+5 8+2	9+9	20+10
2x5	6+6+6	6x5
12-2	20-2	40-10
4+4+2	10+8	3x10

What am I? In this activity, you give your students a string of operations and numbers, and they come up with the answer.

If the students have pencil and paper handy, they can write down the answer. (I know - at the beginning of this column I said that students were supposed to drop their

pencils. But they can pick them up again for this activity; it's a great way of keeping kids from shouting out the answers.)

For a variation, try giving your students playing cards. Use only the Q, A, 2, 3, 4, 5, 6, 7, 8 and 9, with the queen representing 0 and the ace representing 1. (This will mean that you won't be playing with a full deck, but that's how it goes.)

The cards are placed in a straight horizontal line.



Teacher: "Start at 8, add 9, subtract 5, multiply by 2. What am I?"

The students hold up 2 and 4 to show the answer. (A word of warning: Make sure that the answer has no repeating digits.)

The easy way. Students need to learn to look before they start to compute. Specifically, they should look for short cuts. Have them do the shortcuts and then explain how they solved the problem so quickly. Here are some examples:

$$25 + 37 + 75 = ?$$

The answer is 137. I added 25 + 75, then + 37.

$$25 \times 17 \times 4 = ?$$

The answer is 1700. I multiplied 25 x 4, then x17.

$$99 + 23 + 1 + 7 = ?$$

The answer is 130. I added 99 + 1 and 23 + 7, then added the two sums.

$$2 \times 7 \times 3 \times 5 = ?$$

The answer is 210. I multiplied (2 x 5) and (3 x 7), then 10 x 21.

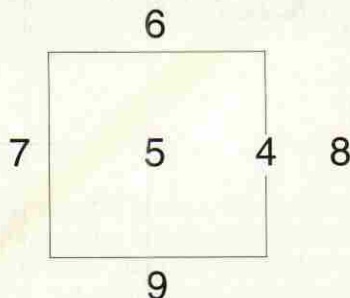
$$(-4) + 6 + 4 + (-6)$$

The answer is 0. I handled it like

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this: $(-4) + 4 = 0$, $(-6) + 6 = 0$.

Square number. Draw a square and write six numbers on the chalkboard or overhead. For example:



Ask the students, "Which number is above the square? Which number is below? Which number is on the left? Which number is on the right? Which number is inside? Which number is on the left? Which number is on the right?"

Now identify two or more numbers using only words. The students turn the words into numbers and then add the numbers.

Teacher: In and above.
Students: $5 + 6 = 11$.

Teacher: In, above, below.
Students: $5 + 6 + 9 = 20$.

Discovery computation. In this activity, students discover how to do some types of computation by answering your questions.

Question: If you can multiply by 10 and 2, how can you multiply 23×12 mentally?

Response: $(23 \times 10) + (23 \times 2)$.


Question: Is there a way to subtract $834 - 695$ mentally?

Response: 695 is close to 700. Subtract 700 from 834 and then add 5.

Question: How can you find mentally the cost of 5 items at \$1.95 each?

Response: Recognize that \$1.95 is near \$2.00. Multiply \$2.00 by 5 and then adjust the 25¢.

Mental math is important in a world of technology, where there's often a need to solve problems quickly and accurately. Never use a different tool if you have a good built-in machine.

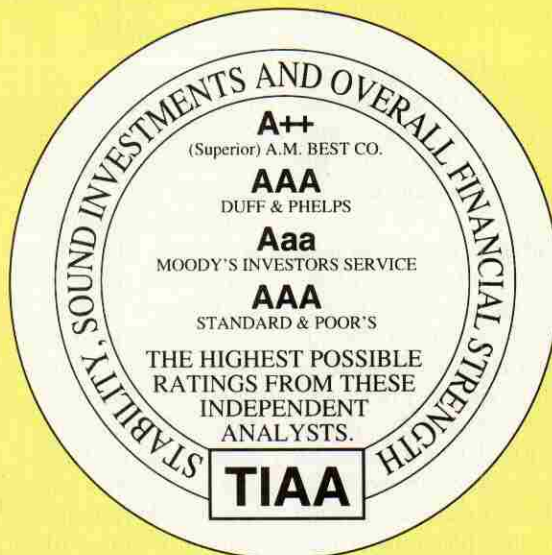
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