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fun by having your children tell you a number and then you tell them the next number. Start with low numbers and, when your children are able to count higher, move to larger numbers.

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Adding two means hearing a number, then saying the number that is two more. To do this, children can either mentally add two or

children to count by twos: 2, 4, 6, 8, 10, . . . etc., it will be easier for them to add two mentally. However, remember that they will also have to learn how to count by the odd numbers: 1, 3, 5, 7, 9, . . . Also, if children understand that any odd number, plus 2, will always be another odd number, and that any even number, plus two, will always be another even number, these mathematics concepts can help them check their answers mentally.

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Counting-on is one of the simple but powerful mental math strategies children can learn and is the easiest for most students—many

Counting-on means a child mentally says the biggest number to add, and then counts-up the second number, one (or two) at a time. For example, in the equation 5 + 3, you start with the 5 in your head, and then count up: . . . 6, 7,

heads. If your children use this handy device, let them. It is not harmful if it helps to make counting-on a useful mental math strategy.

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Since ten is the basis of our number system, students who know all the single-digit combinations that equal 10 can make good use of them in doing mental math. The making-ten strategy involves memorizing the number combinations that add to ten: 7 + 3, 8 + 2, 5 + 5, etc.—they are not as useful if children need to think hard to remember these combinations. Once students memorize these, counting-on or other strategies become easier. For example, 6 + 4 = 10 may be a trivial problem, but if you know your combinations of ten, this strategy can then be extended to harder problems, such as 76 + 4, since 76 + 4 = 70 + 6 + 4 = 70 + 10 = 80—easy!

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On paper, we tend to calculate with numbers in the order they are given. Doing mathematics mentally frees us to do calculations in the order we choose and can do more easily. For example, if we do 6 – 3 + 2 + 4 + 8 in our heads, we can rearrange it as (6 + 4) + (2 + 8) – 3—two combinations of 10, then subtract 3 last. However, to do this, a child must be able to remember the numbers and rearrange them mentally. This is hard for some people.

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Number lines, such as those found on the wall

then combining the tens and ones. For example, in the problem 65 + 26, if students À U V W P H Q W D O O \ F D O F X O D W H number 80 is pretty easy to rememberÑto store away mentally for a few moments. If they then add the ones, 5 + 6 = 11, they can recall the easily remembered number, and compute 80 + 11 = 91. Not everyone prefers front-end addition, but those who do often use this strategy without thinking about it.

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Certain number pairs go together nicely and are easy to work with in our heads; we call these friendly numbers. For example, 75 + 25 totals 100Ñwe know this well from using money. Although we do not often get many problems as simple as 75 + 25, we can combine this friendly number strategy with other mental math strategies. For example, to add 78 + 25 students would instead think 75 + 25 + 3, changing it into two friendly numbers and one easily added number instead.

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Balancing numbers before you add them is a variation of the friendly number strategy. This strategy involves ÒborrowingÓ one or more from one number and ÒtradingÓ it to the other number to make two numbers that are friendly. For example, 68 + 57 are not friendly numbers, but if you mentally borrow 2 from 57 and add it to the 68, the problem now becomes 70 + 55Ña much easier problem to do mentally.

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For some students these mental math strategies will be interesting and funÑand may even make them feel mathematically powerful. However, what appeals to one child may be uninteresting and hard to another. If there is one important bit of advice before you share any of these strategies with your children, it is: go slow and proceed only IF your children enjoy learning how to do mathematics in their head. A few minutes of playing with mental math are plentyÑdo not make it tedious. If learning mental math tricks is not fun for your children, it is best if you stop and look for other areas of mathematics, such as geometry or puzzles, that will appeal to your children more than mental math.

In Part 2 of this series, I will share mental math strategies for sraction, multiplication, division, decimals and percentsW K H