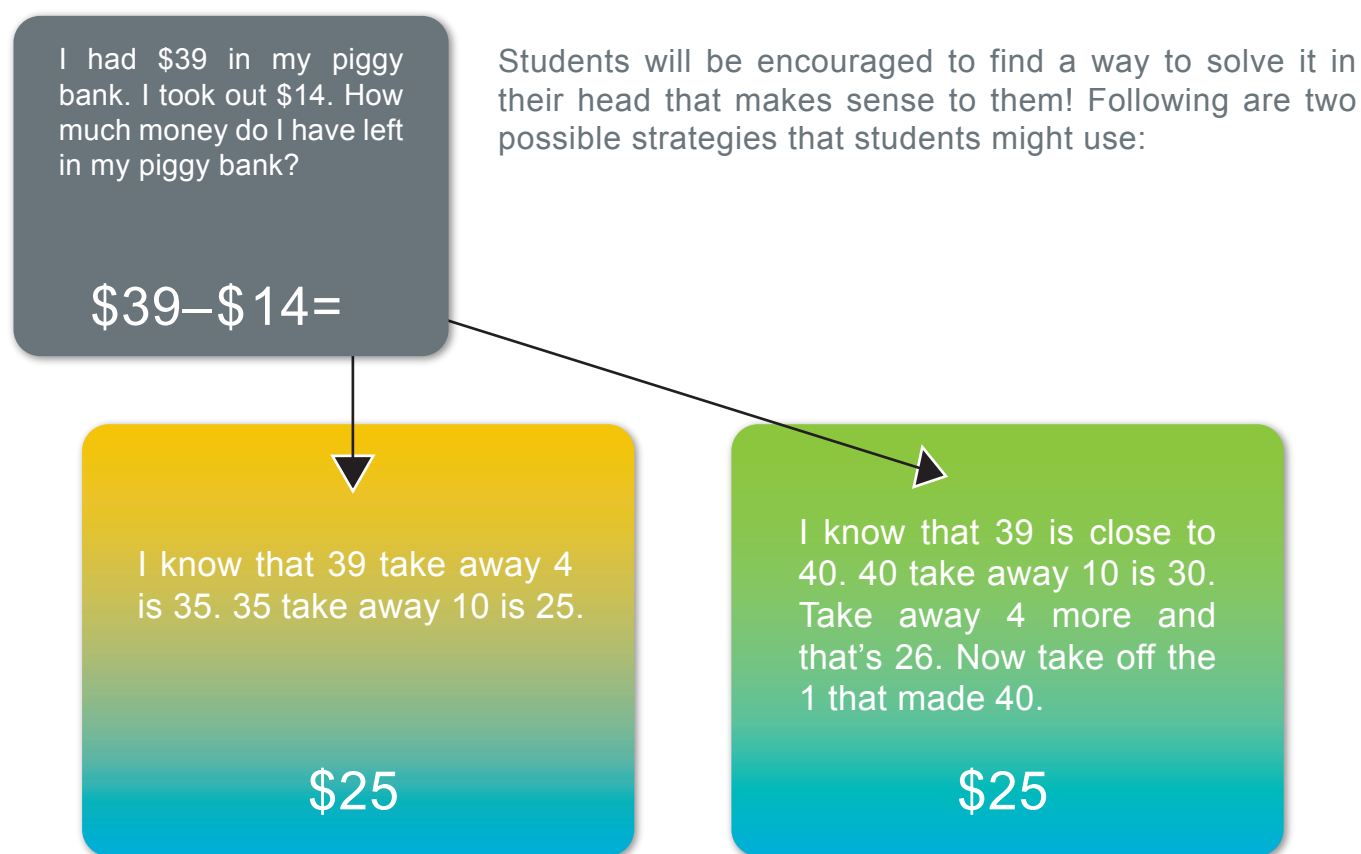# What is "mental mathematics"?

The revised Mathematics Kindergarten to Grade 9 Program of Studies expects a student to be able to do lots of math in his or her head, or use "mental mathematics." As adults, we do a lot of math in our heads! Most people use mental math at the grocery store, restaurants or department stores. Very few of us take out a pencil and paper to solve this type of consumer problem. We are able to do this because of many years of practice doing mental math in real-life situations.

In your child's classroom, students will be encouraged to find ways to use mental math when solving problems. For example, a teacher might pose the following problem:

I had $39 in my piggy bank. I took out $14. How much money do I have left in my piggy bank?

$39–$14=

Students will be encouraged to find a way to solve it in their head that makes sense to them! Following are two possible strategies that students might use:

I know that 39 take away 4 is 35. 35 take away 10 is 25.

$25

I know that 39 is close to 40. 40 take away 10 is 30. Take away 4 more and that's 26. Now take off the 1 that made 40.

$25

All of these strategies resulted in the right answer, but different mental mathematics strategies were used. Having students talk about how they think about numbers will allow them to find ways that make sense for them.

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How might I support my child with "mental mathematics"?

- *To help your child develop mental mathematics, start with small numbers. For example, you know that 2 × 2 × 2 is 8 so if you want to multiply a number by 8 you can multiply it by 2 three times, 3 × 8 =*

  > *3 × 2 = 6*
  > *6 × 2 = 12*
  > *12 × 2 = 24*

- *Model for your child how you apply these same strategies to larger numbers. For example, "I need to calculate how much money I will have if I collect $5 from each of my 17 classmates for the Winter Charity. I need to calculate 17 × 5 but I can't do that in my head so instead I'll multiply by 10 and then divide by 2. So the answer is $170 ÷ 2, which is $85."*

- *Ask questions, such as:*
  - *"If I have 4 cups, and I need 7, how many more do I need?" or*
  - *"If we need to take 12 drinks for the class, how many packages of 3 drinks will we need to buy?"*

- *Ask often, "Does your answer make sense?"*

- *If using a calculator, ask your child to check the reasonableness of their answer.*

- *Allow your child to use strategies that make sense to him or her.*

- *Play games with your child that involve mental math, such as cribbage and Monopoly.*

Adapted with permission from the Alberta Regional Professional Development Consortia.

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