A goal of the elementary math curriculum is that students master basic addition and subtraction facts. Demonstrating mastery of basic facts typically means that you can produce the answer in about 3 seconds or less without resorting to inefficient methods such as counting.

Memorizing basic facts may appear to work for some children. However, students who memorize facts miss out on developing the number sense and reasoning inherent in a strategy approach. The strategies that are used to master the basic facts can be used as mental math strategies for bigger numbers.

There are three important steps to mastering basic facts. Students need to:
- understand what addition and subtraction mean,
- develop efficient thinking strategies to find the answers,
- and practice using the strategies until the strategies become automatic.

What Should I Know About Addition and Subtraction Facts?

Addition Fact Strategies and Activities

Counting On
Only use when adding 1, 2, or 3
Think: Start with the big number. Count on 1, 2, or 3 in your head.

![Counting On Example]

Doubles
Use when both addends are the same.
Think: “Double ___”
3 + 3 “Double 3 is 6.”

![Doubles Example]

Near Doubles (Doubles Plus One)
Use when addends are “neighbors”
Think: Double the smaller number and add one more.
6 + 7 “Double 6 is 12, 1 more is 13.”

![Near Doubles Example]

Terrific Tens
Facts with a sum of ten.
When students are very comfortable with parts of ten, this knowledge can be applied to the more advanced strategies and comes into play for place value work.

![Terrific Tens Example]

Bridging Through Ten (Make Ten)
Use when one addend is 8 or 9.
(Can also be used with addends of 7.)
Think: Take 1 (or 2, or 3) to make 10, and then add on the rest.
The most useful tool for visualizing the concept is a ten frame.

![Bridging Through Ten Example]
Subtraction Fact Strategies and Activities

Subtraction as Think Addition
Use known addition facts to help with subtraction.

\[
\begin{array}{cc}
12 - 5 = \boxed{7} & 5 + \boxed{7} = 12
\end{array}
\]

For 12—5, think 5 plus what equals 12?

One Less/ Two Less
Use when numbers have differences of 1 or 2 as well as those that involve -1 or -2.

Play “one-less-than” dominoes. Play in the usual way, but instead of matching ends, a new domino is added if it is one less.

Counting Back
Use when subtracting one, two or three

Think: Start at the big number. Count back the number of counts that you need to subtract.

11-3 = ?

Counting Up
Use for differences of one, two or three (or when the numbers are close)

Think: Start with the smaller number. Count up to the larger number.

12—9 = ?

I started at 9. Three more got me to 12, so 12—9 = 3.

Bridging Through Ten
(Ten Between)
Use when the number you are subtracting from is more than ten and the other number is less than ten.

Think: Find the distance from 10 for each of the numbers, then add their distances together.

One Less/ Two Less
Use when numbers have differences of 1 or 2 as well as those that involve -1 or -2.

Play “one-less-than” dominoes. Play in the usual way, but instead of matching ends, a new domino is added if it is one less.

Counting Back
Use when subtracting one, two or three

Think: Start at the big number. Count back the number of counts that you need to subtract.

11-3 = ?

Counting Up
Use for differences of one, two or three (or when the numbers are close)

Think: Start with the smaller number. Count up to the larger number.

12—9 = ?

I started at 9. Three more got me to 12, so 12—9 = 3.

Bridging Through Ten
(Ten Between)
Use when the number you are subtracting from is more than ten and the other number is less than ten.

Think: Find the distance from 10 for each of the numbers, then add their distances together.

Student Invented Strategies
Always listen to how your children think! They may have strategies that work for them, which you’ve never even thought of.

What Can I Do to Help?

- Use the activity suggestions accompanying the strategies to reinforce each strategy.
- Provide frequent opportunities to practice basic facts. This can be done as you’re driving in the car or waiting in line at the grocery store. Flash cards are not needed for practice.
- When your child is unable to provide an answer to a fact within three seconds, ask them to think of a strategy that might help.
- Even when your child can provide an answer quickly, occasionally ask him to explain a strategy that could be used to justify the answer.
- Provide encouragement. Fluency will happen gradually, not overnight.