



Addition Strategies



One of the ongoing learning targets for second graders is fluently (mentally, quickly, and efficiently) recalling single-digit addition and subtraction facts to 18. We will work on this all year. Below are strategies I will cover to help your child master these facts. We worked on Doubles last week and this week, so please help your child to master the Doubles facts first. We will move on to "One-More-Than," followed by "Two-More-Than" facts. Then we will move on to "Sums of Ten," "Adding 10," "Adding 9," "Adding 8," and "Doubles + 1." After going over all of the strategies, students will be assessed on mixed addition facts to determine mastery. Please keep these strategies handy and work on additional strategies when your child masters the ones we've studied.

A) Adding Zero: When zero's the game, the sum's the same! The sum is the same as the number being added to zero.

Examples: $7 + 0 = 7$ $8 + 0 = 8$ $10 + 0 = 10$ $0 + 3 = 3$ $0 + 5 = 5$

B) Counting Up for "One-More-Than" or "Two-More-Than" Facts: (In your head): When adding 1 or 2 to a number, students will start with the bigger number and count up quickly (in their head) beginning with the next consecutive number.

Examples: $7 + 1 = 8$ (Start with 7 in your head & count 1 more number quickly, "...8")
 $8 + 2 = 10$ (Count up in your head 2 more numbers quickly, "...9...10")

C) Doubles: Learning the Doubles (two addends that are the same) helps with learning additional facts.

Examples: $1 + 1 = 2$ $2 + 2 = 4$ $3 + 3 = 6$ $4 + 4 = 8$ $5 + 5 = 10$
 $6 + 6 = 12$ $7 + 7 = 14$ $8 + 8 = 16$ $9 + 9 = 18$ $10 + 10 = 20$

D) Doubles + 1: Whenever two consecutive numbers are being added, double the smaller number and then add 1.

Example: $2 + 3 = 5$

Since 2 and 3 are consecutive numbers, you can double the smaller number, $(2 + 2) = 4$ and add 1 to give you the sum 5.

Example: $7 + 6 = 13$

Since 6 and 7 are consecutive numbers, you can double the smaller number $(6 + 6 = 12)$, and add 1 to give you the sum 13.

E) Sums of Ten: Learning "Sums of 10" will help when students have 3 or more digits to add together or when students have numbers to add that are "near 10."

$$1 + 9 \quad 2 + 8 \quad 3 + 7 \quad 4 + 6 \quad 5 + 5 \quad 6 + 4 \quad 7 + 3 \quad 8 + 2 \quad 9 + 1$$

F) Adding 10: Adding one-digit numbers to 10 is fairly easy because the one-digit number replaces the zero in 10, and that is the answer.

<u>Examples:</u>	10	10	10	10	10	10
	$\begin{array}{r} + 1 \\ \hline 11 \end{array}$	$\begin{array}{r} + 2 \\ \hline 12 \end{array}$	$\begin{array}{r} + 3 \\ \hline 13 \end{array}$	$\begin{array}{r} + 4 \\ \hline 14 \end{array}$	$\begin{array}{r} + 5 \\ \hline 15 \end{array}$	$\begin{array}{r} + 6 \\ \hline 16 \end{array}$

G) Adding 9: Knowing how to add 10 to one-digit numbers fluently will help students add 9 to one-digit numbers fluently as well. You simply take 1 from the number you're adding to 9 and then add 10. What you are really doing is moving the 1 from the addend and adding it to 9 to make the 9 a 10. This makes it easier to solve.

Example: $8 + 9 = 17$

You take one less than 8, which is 7 and add the 1 to the 9 to make it 10. So the original equation $8 + 9$ can be looked at as $7 + 10$ to make it easier to solve. Since $7 + 10 = 17$, the answer is 17.

Example: $5 + 9 = 14$

One less than 5 is 4, and $4 + 10 = 14$, so the answer is 14.

Example: $9 + 3 = 12$

One less than 3 is 2, and $2 + 10 = 12$, so the answer is 12.

H) Adding 8: Knowing how to add one-digit numbers to 10 fluently will help students add not only 9 to a number, but it will also help them to add 8 to one-digit numbers. You simply take 2 from the number (if the # is more than 2), and add the 2 to 8 to make a fast 10. Add 10 to the amount left (after you take 2 from the number).

Example: $6 + 8 = 14$

Take 2 from 6 to get 4 and add the 2 to the 8 to give you a 10. So the original equation $8 + 6$ can be looked at as $4 + 10$ to make it easier to solve. Since $4 + 10 = 14$, the answer is 14.

Example: $5 + 8 = 13$

Take two from 5, which leaves 3, add the 2 you took away to the 8 and make 10 and add $10+3$, so the answer is 13.

Mastering the Basic Subtraction Facts:

"Think Addition" is the most powerful way to help students master the basic subtraction facts. Rather than counting back or counting on for a problem such as $15-8$, students can simply think, "What number plus 8 equals 15?" It is imperative that students master the basic addition facts if "Think Addition" is to be used effectively.

Helpful Tips:

- 1) Allow your child to practice basic fact fluency on the Internet by using "Are You a Math Magician?" on internet4classrooms.com. You can google: Are You a Math Magician and when the links come up, click on the link entitled "Math Magician Games - Oswego City School District. Then click on Addition and then click on "+9." Once your child has mastered +9 (scoring 100% consistently), have him/her work on +8 and continue the pattern.
- 2) Call out facts to your child while on the way to school and on the way home if your child is a car-rider. Remind him/her to use the strategies (especially "Addends +9" and "Doubles + 1" if your child gets stuck on those types of facts). Practice in the car on the way to the grocery store or Wal-mart. 😊 Periodically, ask your child to share a strategy he/she could apply to solve the fact.
- 3) Play card games. You can use a deck of cards and play a game such as "Addition War." Each of you will turn over a card, and the first one who says the addition fact along with the answer will get both cards. The only exception is when you turn over cards with the same number. Then you have to place 4 more cards down as you state, "I...de...clare...war" and turn over only the last card. The person who adds those two numbers and gives the correct answer first wins.
- 4) Use flash cards for about 10 minutes a day. Separate the cards and only use the ones that pertain to a particular strategy so that students will work on one strategy at a time. For example, if you are trying to help your child with "Doubles," only take out the flash cards that have two of the same addends.
- 5) Use dice to practice. Roll one die, for example, and ask your child to double it and tell you the sum. You can do the same for "Doubles +1." Roll a die and your child can add the number on the die and the next consecutive number (by going up or down 1) and tell you the sum.
- 6) Encourage your child to solve mental math problems in real-life situations as often as possible. Remind him/her to use strategies.

Please keep this handy all year and review the strategies and facts with your child until he/she knows all of the facts. Thank you very much for your help with this very important life-long skill!