

Numbers to 20 and Strategies: math lesson, Grade 1 – download the PDF

Numbers to 20 are the key to all your math in Grade 1. In this chapter you will count past 20, see teen numbers as a ten and some ones, and learn clever strategies to add and subtract fast. Get ready to become a number detective!

1. Counting to 20 and beyond

You can start counting from any number, not only from 1. To count on, say the next number each time. After 9 comes 10, after 19 comes 20, and after 20 you just keep going: 21, 22, 23, 24 and so on.

D Counting on

To count on from a number, say that number first, then say the numbers that come right after it, one at a time, in order.

E Example 1

Count on from 17 and say six numbers: 17, 18, 19, 20, 21, 22. We went past 20 and nothing strange happened. The counting words just keep going!

2. Teen numbers: a ten and some ones

The numbers from 11 to 19 are called teen numbers. Every teen number is one full ten and some extra ones. Look at the two ten-frames: the first is full with 10 counters, the second holds the ones.

{FIG_TEEN}

Teen numbers

14 is 10 and 4 more. We write $14 = 10 + 4$. The same works for every teen number: $17 = 10 + 7$ and $19 = 10 + 9$.

Careful!

Do not mix up the digits. The number 16 is one ten and six ones. It is not 61, which is six tens and one one.

3. Counting on to add

When you add a small number, you can start from the bigger number and count on. For $8 + 5$, keep 8 in your head and count five more: 9, 10, 11, 12, 13. On a number line, each count is one hop to the right.

{FIG_COUNT_ON}

M**Method: count on**

1. Start with the bigger number.
2. Count on the smaller number of steps. Use your fingers to keep track.
3. The last number you say is the answer.

E**Example 2**

Find $12 + 4$. Start at 12 and count on 4 times: 13, 14, 15, 16. So $12 + 4 = 16$.

4. Making ten to add

Ten is an easy friend. When one number is close to 10, move some counters to fill a ten first. Then add what is left. This strategy is called making ten.

{FIG_MAKE_TEN}

M**Method: make ten**

1. Pick the number that is close to 10, here 8.
2. Find how many more make 10. Here 8 needs 2.
3. Break the other number into that part and the rest: 5 is 2 and 3.
4. Add the ten and the rest: $10 + 3 = 13$.

E Example 3

Find $9 + 6$. Nine needs 1 to make ten. Split 6 into 1 and 5. Then $9 + 1 = 10$ and $10 + 5 = 15$. So $9 + 6 = 15$.

5. Doubles and near doubles

A double adds a number to itself, like $6 + 6 = 12$. Doubles are easy to remember, so they help with other facts. A near double has numbers that are just one apart, such as $6 + 7$. Use the double and add one more.

Number	Double	Near double
3	$3 + 3 = 6$	$3 + 4 = 7$
5	$5 + 5 = 10$	$5 + 6 = 11$
7	$7 + 7 = 14$	$7 + 8 = 15$
9	$9 + 9 = 18$	$9 + 10 = 19$

! Zyro's tip

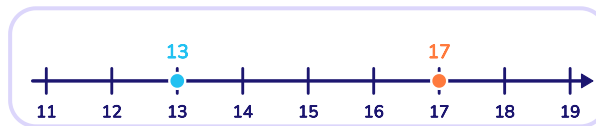
On my planet we learn the doubles like a song: 2, 4, 6, 8, 10, 12, 14, 16, 18, 20. Sing it with me, and a near double is only one more step!

E**Example 4**

Find $7 + 8$. We know $7 + 7 = 14$. The second number is one more, so we add one:
 $14 + 1 = 15$.

6. Counting back to subtract

To take away a small number, start at the bigger number and count back. For $17 - 4$, say 16, 15, 14, 13. Each hop goes to the left on the number line.

**M****Method: count back**

1. Start with the number you take away from.
2. Count back as many steps as the number you subtract.
3. The last number you say is the answer.

**Careful!**

Do not say the starting number as a step. For $17 - 4$, the first number you say is 16, not 17.

7. Subtracting using addition

Subtraction and addition are partners. If counting back is long, ask yourself: what number do I add to the small number to reach the big one? For $15 - 9$, think $9 + \square = 15$. Since $9 + 6 = 15$, the answer is 6.

P Fact families

Three numbers can make four facts. For 5, 7 and 12 we get $5 + 7 = 12$, $7 + 5 = 12$, $12 - 5 = 7$ and $12 - 7 = 5$.

E Example 5

Find $13 - 8$. Think $8 + \square = 13$. From 8 to 10 is 2, and from 10 to 13 is 3, so we need 5. Check: $8 + 5 = 13$. So $13 - 8 = 5$.

8. Facts within 20

Facts within 20 are additions and subtractions where every number is 20 or less. Choose the strategy that feels fastest. Use counting on for small steps, making ten when you are close to 10, doubles and near doubles when the numbers match, counting back for small subtractions, and think-addition for the others. The more you practice, the more facts you will simply know.

Key takeaways

- You can count on from any number, and counting keeps going after 20.
- A teen number is one ten and some ones: $15 = 10 + 5$.
- To add, count on from the bigger number or make ten.
- Doubles help you: $6 + 6 = 12$, so $6 + 7 = 13$.
- To subtract, count back or think of the missing addend: $14 - 9$ is $9 + 5 = 14$.
- Addition and subtraction facts come in families of three numbers.



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