

Grade 2 · Fluency Within 20, Even and Odd Numbers · Lesson

Common Core 2.OA.B.2, 2.OA.C.3 · mathovore.fr

Fluency within 20 means adding and subtracting numbers up to 20 quickly and correctly with mental strategies such as doubles, making a ten, and counting on. An even number can be put into pairs with none left over. An odd number always has one left over. Even numbers are sums of two equal addends.

Grade 2 Common Core: 2.OA.B.2 · 2.OA.C.3

Key facts:

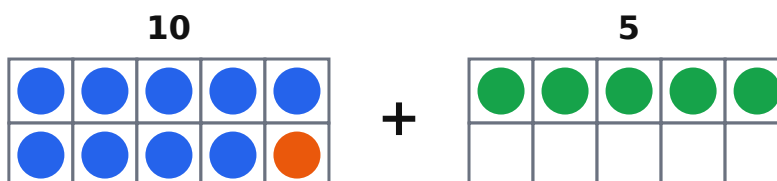
- Fluency within 20 means adding and subtracting facts up to 20 quickly with mental strategies.
- Make a ten: $9+6$ becomes $10+5$.
- A double adds the same number twice, and a near double is one more or less.
- Subtraction facts can be solved by thinking of a missing addend.
- An even number makes pairs with none left over, so it is a sum of two equal addends.

What does fluency within 20 mean?

Being fluent means you find a sum or a difference fast, without counting every object one by one. All the facts in this chapter stay at 20 or below. A strategy is a tool, and you pick the tool that fits the numbers.

How do you add by making a ten?

Ten is an easy number to work with. To find $9+6$, move 1 dot from the 6 to the frame that holds 9. Now one frame is full, and the problem becomes $10+5$.



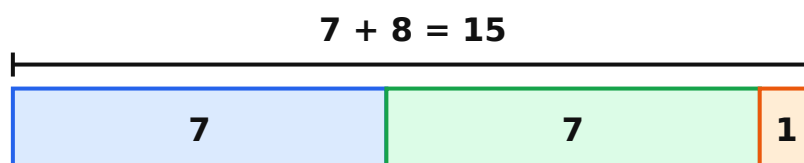
One dot (orange) moves so the left frame shows 10 and the right frame shows 5.

1. Start with the bigger number, 9.
2. Ask how many more make 10. Here it is 1.
3. Take 1 from the other number, so 6 becomes 5.
4. Add: $10+5=15$. So $9+6=15$.

How do doubles and near doubles help?

Doubles

A **double** adds the same number twice, like $7+7=14$. A **near double** is one more or one less than a double, so $7+8$ is $14+1=15$.

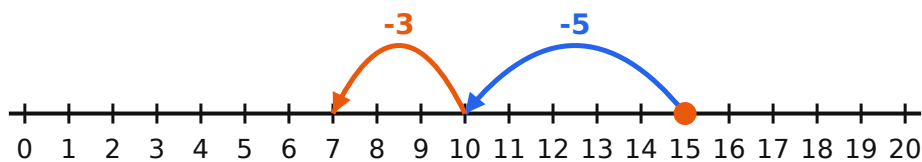


Seven plus seven is 14, and one more makes 15.

Double	Sum
$5+5$	10
$6+6$	12
$7+7$	14
$8+8$	16
$9+9$	18

How do you subtract within 20?

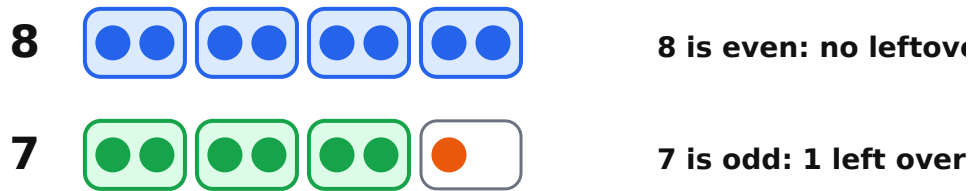
Use an addition fact you know. To find $15-8$, ask: $8+?=15$. Since $8+7=15$, the answer is 7. You can also count back through ten: take away 5 to land on 10, then take away 3 more.



Starting at 15, jump back 5 to 10, then back 3 to 7. So $15 - 8 = 7$.

What are even and odd numbers?

Put dots in pairs. If every dot has a partner, the number is even. If one dot is left alone, the number is odd.



Eight makes 4 pairs. Seven makes 3 pairs and 1 left over.

Even and odd

An **even** number is a sum of two equal addends, like $8 = 4 + 4$. An **odd** number is a double plus 1, like $7 = 3 + 3 + 1$. Even numbers end in 0, 2, 4, 6, or 8. Odd numbers end in 1, 3, 5, 7, or 9.

Fluency Within 20, Even and Odd Numbers: frequently asked questions

What are the doubles facts to 20?

They are the sums of a number added to itself: $1 + 1 = 2$ up to $10 + 10 = 20$. Knowing them by heart helps with near doubles like $6 + 7$.

What is the make-a-ten strategy?

You move part of one addend to the other until you reach 10. For $8 + 5$, move 2 from the 5 to the 8. Then add $10 + 3 = 13$.

How can I tell if a number is even or odd?

Look at the ones digit. If it is 0, 2, 4, 6, or 8, the number is even. If it is 1, 3, 5, 7, or 9, the number is odd. You can also make pairs of objects and see if one is left over.

How can addition help with subtraction?

Subtraction asks for the missing addend. To solve $13 - 6$, think $6 + ? = 13$. Since $6 + 7 = 13$, the answer is 7.

How do I write an even number as equal addends?

Split the number into two equal groups. Half of 14 is 7, so $14 = 7 + 7$. If the groups cannot be equal, the number is odd.