

## Hi! Let's learn about fact families.

### 1. What is a fact family?

A fact family is a group of three numbers that make four related math sentences. For addition and subtraction, the same three numbers make two addition facts and two subtraction facts.

### 2. An easy example:

Use the numbers 3, 4, and 7. These make the fact family for  $3 + 4 = 7$ .

$$\begin{array}{r} 3 \\ / \quad \backslash \\ 7 - - - 4 \end{array}$$

From these three numbers we get four facts:

- $3 + 4 = 7$
- $4 + 3 = 7$
- $7 - 3 = 4$
- $7 - 4 = 3$

### 3. How to find the facts:

1. Pick three numbers where one is the biggest (the total) and the other two add to that big number.
2. Write the two addition facts by swapping the two small numbers ( $a + b = c$  and  $b + a = c$ ).
3. Write the two subtraction facts by taking the big number away from each small number ( $c - a = b$  and  $c - b = a$ ).

### 4. Try with objects (hands-on):

Get 7 toy cars. Put 3 on one side and 4 on the other. Count each side and the total. Say the four facts out loud. Move the cars and repeat with different groups.

### 5. More examples:

- Numbers 2, 5, 7 make:  $2 + 5 = 7$ ,  $5 + 2 = 7$ ,  $7 - 2 = 5$ ,  $7 - 5 = 2$ .
- Numbers 6, 1, 7 make:  $6 + 1 = 7$ ,  $1 + 6 = 7$ ,  $7 - 6 = 1$ ,  $7 - 1 = 6$ .

**6. Quick tip:** The biggest number is always the answer for the two addition facts and the starting number for the two subtraction facts.

### 7. Practice problems (find the four facts for each trio):

1. 3, 2, 5
2. 4, 6, 10
3. 1, 8, 9
4. 5, 5, 10
5. 2, 7, 9
6. 6, 2, 8
7. 0, 5, 5
8. 3, 3, 6

Show answers

1.  $3 + 2 = 5$ ,  $2 + 3 = 5$ ,  $5 - 3 = 2$ ,  $5 - 2 = 3$

2.  $4 + 6 = 10$ ,  $6 + 4 = 10$ ,  $10 - 4 = 6$ ,  $10 - 6 = 4$
3.  $1 + 8 = 9$ ,  $8 + 1 = 9$ ,  $9 - 1 = 8$ ,  $9 - 8 = 1$
4.  $5 + 5 = 10$ ,  $5 + 5 = 10$  (same),  $10 - 5 = 5$ ,  $10 - 5 = 5$
5.  $2 + 7 = 9$ ,  $7 + 2 = 9$ ,  $9 - 2 = 7$ ,  $9 - 7 = 2$
6.  $6 + 2 = 8$ ,  $2 + 6 = 8$ ,  $8 - 6 = 2$ ,  $8 - 2 = 6$
7.  $0 + 5 = 5$ ,  $5 + 0 = 5$ ,  $5 - 0 = 5$ ,  $5 - 5 = 0$
8.  $3 + 3 = 6$ ,  $3 + 3 = 6$  (same),  $6 - 3 = 3$ ,  $6 - 3 = 3$

**8. A little preview:** When you get older, fact families also work for multiplication and division (for example, 2, 3, 6 give  $2 \times 3 = 6$ ,  $3 \times 2 = 6$ ,  $6 \div 2 = 3$ ,  $6 \div 3 = 2$ ).

Have fun making fact families with toys, fingers, or drawings. Want more practice or a game to play with fact families?