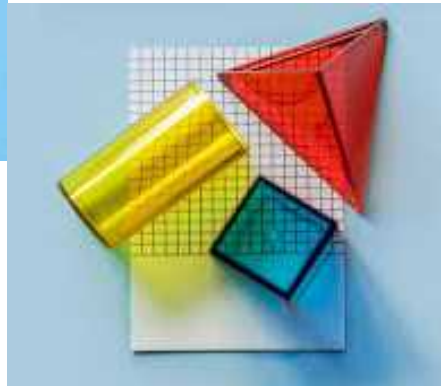




Project code:
2019-1-EL01-KA201-062914

Erasmus+ Call: 2019 - KA2 -



3D printing technology aims students understanding maths and recycling procedure

02_1st Curricula of Maths: Fractions

Add Subtract Fractions

Outline

- Add & Subtract Fractions
- To Remember
- Activities
- Videos



ADD and SUBTRACT FRACTIONS



➔ You can add and subtract **like fractions** easily - simply add or subtract the numerators and write the sum over the common denominator.

➔ Before you can add or subtract **unlike fractions**, you must first find equivalent fractions with the same denominator, like this:

1. Find the smallest multiple (LCM) of both denominators.
2. Rewrite the fractions as equivalent fractions with the LCM as the common denominator.

Let's try adding fractions with same and different denominators.

Add Like and Unlike Fractions

Like Fractions Same Denominators	Unlike Fractions Different Denominators
$\frac{1}{6} + \frac{1}{6} = \frac{2}{6}$	$\frac{1}{2} + \frac{1}{3}$
$\frac{2}{6} = \frac{1}{3}$	$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$
$\frac{1}{6} \quad \frac{1}{6}$	$\frac{1}{6} \quad \frac{1}{6}$
$\frac{1}{6} \quad \frac{1}{6}$	$\frac{1}{6} \quad \frac{1}{6}$
$\frac{1}{6} \quad \frac{1}{6}$	$\frac{1}{6} \quad \frac{1}{6}$











Erasmus+

This project is funded by the European Union.

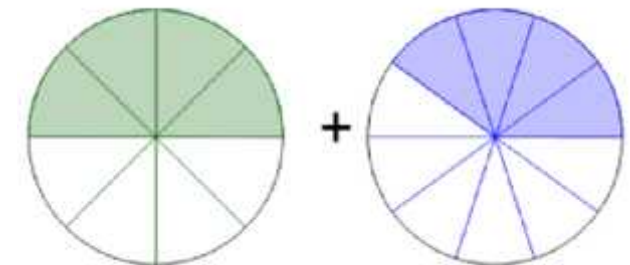
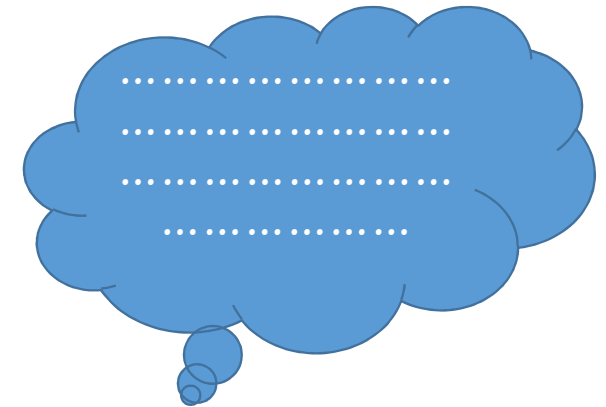


Example

Addition		Subtraction			
	Model of the sum	The addition problem		Model of the difference	The subtraction problem
1		$\frac{3}{8} + \frac{1}{8} = \frac{4}{8}$	5		$\frac{4}{4} - \frac{1}{4} = \frac{3}{4}$
2		$\frac{4}{4} + \frac{1}{4} = \frac{5}{4}$ or $1\frac{1}{4}$	6		$\frac{7}{8} - \frac{2}{8} = \frac{5}{8}$
3		$\frac{3}{6} + \frac{2}{6} = \frac{5}{6}$	7		$\frac{4}{6} - \frac{1}{6} = \frac{3}{6}$
4		$\frac{7}{10} + \frac{4}{10} = \frac{11}{10}$ or $1\frac{1}{10}$	8		$\frac{7}{10} - \frac{4}{10} = \frac{3}{10}$

Students Print

- ✓ 1 circle
- ✓ 8 equal parts of the circle
- ✓ 6 equal Parts of circle
- ✓ 4 equal parts
- ✓ 10 equal parts



Source Picture: Internet



Erasmus+

This project is funded by the European Union



ACTIVITY 1

Add / subtract the fractions
and simplify the result.

$\frac{1}{5} + \frac{4}{5} = \frac{5}{5} = 1$	$\frac{2}{3} - \frac{1}{3} = \frac{1}{3}$	$\frac{6}{12} + \frac{5}{12} = \frac{11}{12}$	$\frac{7}{16} - \frac{3}{16} = \frac{4}{16} = \frac{1}{4}$
$\frac{8}{10} - \frac{2}{10} = \frac{6}{10} = \frac{3}{5}$	$\frac{7}{8} + \frac{3}{8} = \frac{10}{8} = \frac{5}{4}$	$\frac{6}{9} - \frac{6}{9} = 0$	$\frac{4}{16} + \frac{4}{16} = \frac{8}{16} = \frac{1}{2}$
$\frac{3}{7} + \frac{1}{7} = \frac{4}{7}$	$\frac{10}{12} - \frac{6}{12} = \frac{4}{12} = \frac{1}{3}$	$\frac{4}{6} + \frac{1}{6} = \frac{5}{6}$	$\frac{7}{8} - \frac{2}{8} = \frac{5}{8}$
$\frac{6}{12} - \frac{3}{12} = \frac{3}{12} = \frac{1}{4}$	$\frac{2}{8} + \frac{3}{8} = \frac{5}{8}$	$\frac{5}{9} - \frac{3}{9} = \frac{2}{9}$	$\frac{5}{18} + \frac{4}{18} = \frac{9}{18} = \frac{1}{2}$





ACTIVITY 2

Add / subtract the fractions
and simplify the result.

$$\frac{5}{6} - \frac{2}{5} =$$

$$\frac{5}{6} - \frac{1}{4} =$$

$$\frac{11}{12} - \frac{5}{6} =$$

$$\frac{5}{6} - \frac{5}{9} =$$

$$\frac{2}{3} + \frac{1}{2} =$$

$$\frac{5}{8} - \frac{5}{8} =$$

$$\frac{4}{5} + \frac{4}{9} =$$

$$\frac{5}{8} + \frac{3}{10} =$$

$$\frac{2}{3} - \frac{1}{4} =$$

$$\frac{3}{4} + \frac{7}{12} =$$

$$\frac{3}{8} - \frac{1}{9} =$$

$$\frac{3}{8} + \frac{3}{4} =$$

$$\frac{7}{8} - \frac{5}{9} =$$

$$\frac{7}{8} + \frac{8}{9} =$$

$$\frac{1}{2} - \frac{3}{8} =$$



ACTIVITY 3

Add / subtract the mixed fractions and simplify the result.

1. $2\frac{1}{5} + 1\frac{3}{4}$

5. $1\frac{1}{2} + 2\frac{3}{5}$

9. $3\frac{1}{2} - 1\frac{1}{2}$

2. $3\frac{1}{2} - 2\frac{2}{3}$

6. $3\frac{1}{2} - 2\frac{5}{9}$

10. $5\frac{1}{2} + 5\frac{1}{4}$

3. $3\frac{1}{2} - 3\frac{1}{2}$

7. $2\frac{3}{4} + 1\frac{1}{5}$

11. $1\frac{10}{11} - 1\frac{1}{3}$

4. $5\frac{3}{4} - 5\frac{1}{4}$

8. $3\frac{1}{4} - 2\frac{3}{8}$

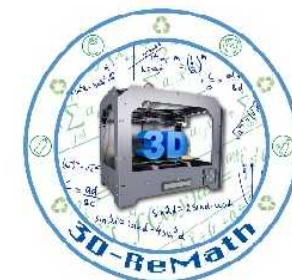
12. $1\frac{5}{12} + 3\frac{1}{3}$



Addition of Fractions



Videos



$$\frac{2}{3} + \frac{1}{4} = \frac{11}{12}$$

The image shows a handwritten mathematical equation on a yellow background. The equation is $\frac{2}{3} + \frac{1}{4} = \frac{11}{12}$. A blue bracket is drawn under the denominators 3 and 4, indicating the common denominator 12. Above the fraction $\frac{1}{4}$, the numbers '8+3' are written in red, representing the cross-multiplication steps: $2 \times 4 = 8$ and $1 \times 3 = 3$.

- <https://www.youtube.com/watch?v=QgizFohvJo0>
- <https://www.youtube.com/watch?v=tDQipFjAoT8>
- <https://www.khanacademy.org/math/arithmetic/fraction-arithmetic/arith-review-add-sub-fractions/v/adding-small-fractions-with-unlike-denominators>