Year 5

Autumn 2 Newsletter

English

This half term, our focus books are 'Boy at the Back of the Class' by Onjali Q. Rauf and 'Earth Shattering Events' by Robin Jacobs.

We will be writing diary entries, setting descriptions and non-chronological reports.

RE

The children will be continuing to explore Islam this half term, exploring the following questions:

- What helps Muslims through the journey of life?
- What are the 5 pillars of Islam?
- How and why do Muslims pray?

Maths

This half term, our maths topics are:

- Fractions
- Multiplication and Division

History

The children are learning about the Anglo-Saxons and the Scots in history. This will build on what they learnt last year, with the first lesson going as far back in history as to when the Romans left Britain.

PSHE

In PSHE this term, we will be learning about health, nutrition and food, aspirations, emotions and safety.

D&T

We are focusing on woodwork in D&T this half term. We will be researching how bridges are designed to be as strong as possible, building our own wooden bridges and evaluating our work.

PE

Our focus sports this term are basketball and gymnastics. Sessions will be led by class teachers on a Monday and a sports coach on a Friday. Please continue to send the children in their PE kits on these days.

Music

Alongside their fortnightly KS2 singing assemblies and clubs such as choir and string orchestra, the children will be learning to play keyboards this half term with Miss Tomlin.

Science

Our focus this half term will be forces. We will be learning about gravity, Galileo Galilee and Isaac Newton.

Autumn 2 Homework Mat

Please complete one task per week and upload a photo or video to Class Dojo.

English

Keep a diary for one week, making sure to include the features we are learning about in our English lessons. No need to upload what you've written to Class Dojo!

Maths

Consider how fractions are used in food in your daily life. This could be when cooking/baking something, or simply cutting up your food/separating food into various portion sizes for different family members. Video yourself discussing what you observed!

Science

Research a scientist that has made discoveries about forces. This could be one of our focus scientists that we will learn about in lessons (Galileo Galilee and Isaac Newton) or someone else! Present your findings in a poster, PowerPoint or any way you like.

History

Create an Anglo-Saxon artefact. This could be clothing, armour, pottery, jewellery, coins or anything you like! Be creative, and, if you want to, bring in your artefact to display in the classroom.

PE

Practise your sending and receiving skills at home, in the garden or at a club. Remember to scan the room, communicate and use space effectively. You could even try including a double movement! Upload a video to Class Dojo.

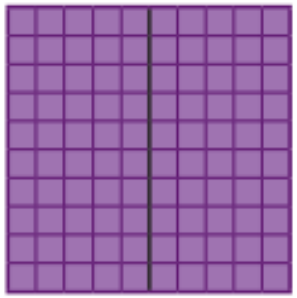
Fractions — Knowledge Organiser

Key Vocabulary

- numerator
- denominator
- unit fraction
- non-unit fraction
- whole
- equivalent
- mixed number
- improper fraction
- simplest form
- multiple
- common denominator
- common numerator

Equivalent Fractions

To find equivalent fractions, we multiply or divide the numerator and denominator by the same number.



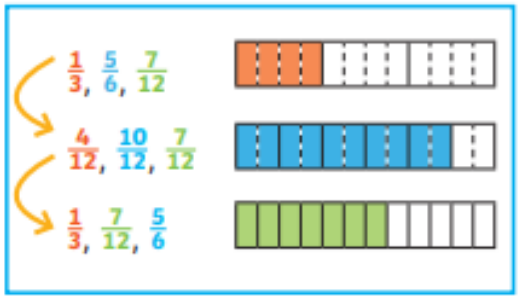
$\frac{1}{2} = \frac{5}{10} = \frac{50}{100}$

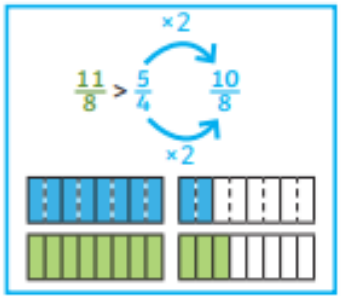
×5 ×10

×5 ×10

Compare and Order Fractions

We can compare and order fractions by using common denominators.





Mixed Numbers

Mixed numbers contain a whole number and a fraction.

whole → $2\frac{1}{4}$ ← fraction

Improper Fractions

An improper fraction has a numerator which is greater than or equal to the denominator.

$\frac{5}{3}$

Convert an Improper Fraction to a Mixed Number

$\frac{9}{4}$

$9 \div 4 = 2r1$ → $2\frac{1}{4}$

Divide the numerator by the denominator.

This shows you the whole number and the fraction.

Convert a Mixed Number to an Improper Fraction

Multiply the whole by the denominator to make an improper fraction.

$2\frac{5}{6} = \frac{12}{6} + \frac{5}{6} = \frac{17}{6}$

Add the fractions together.

Fractions of Quantities

To find a fraction of a number, divide by the denominator and multiply by numerator.

To find quarters of 20:

20			
5	5	5	5

$\frac{1}{4}$ of 20 = 5 $\frac{2}{4}$ of 20 = 10 $\frac{3}{4}$ of 20 = 15 $\frac{4}{4}$ of 20 = 20

To find eighths of 56:

56							
7	7	7	7	7	7	7	7

$\frac{1}{8}$ of 56 = 7 $\frac{2}{8}$ of 56 = 14 $\frac{3}{8}$ of 56 = 21 $\frac{4}{8}$ of 56 = 28

$\frac{5}{8}$ of 56 = 35 $\frac{6}{8}$ of 56 = 42 $\frac{7}{8}$ of 56 = 49 $\frac{8}{8}$ of 56 = 56

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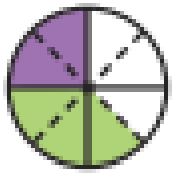
Fractions

Knowledge Organiser

Adding and Subtracting Fractions

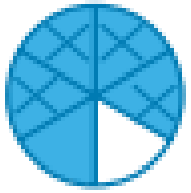
$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$

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



$\frac{1}{4} + \frac{3}{8} = \frac{2}{8} + \frac{3}{8} = \frac{5}{8}$

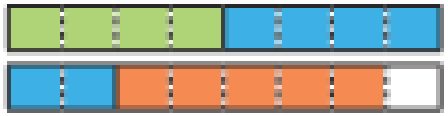
$\frac{5}{6} - \frac{2}{3} = \frac{5}{6} - \frac{4}{6} = \frac{1}{6}$



To add or subtract fractions with denominators that are multiples of the same number, we must change one fraction to have the same denominator.

Add Fractions When the Total is Greater Than 1

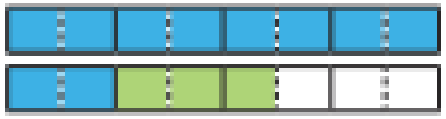
$\frac{1}{2} + \frac{3}{4} + \frac{5}{8} = \frac{4}{8} + \frac{6}{8} + \frac{5}{8} = \frac{15}{8} = 1\frac{7}{8}$



Add Mixed Numbers

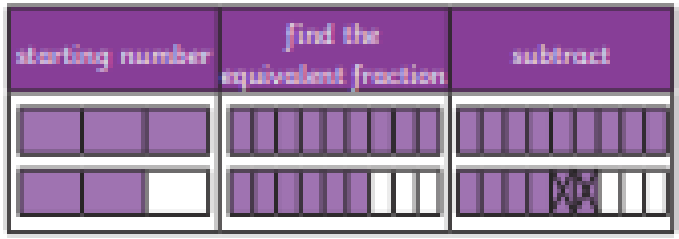
$1\frac{1}{4} + \frac{3}{8} = 1\frac{2}{8} + \frac{3}{8} = 1 + \frac{5}{8} = 1\frac{5}{8}$

$1\frac{1}{4} + \frac{3}{8} = \frac{5}{4} + \frac{3}{8} = \frac{10}{8} + \frac{3}{8} = \frac{13}{8} = 1\frac{5}{8}$



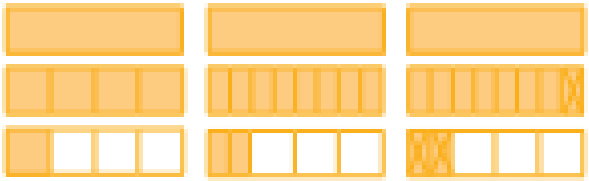
Subtract From a Mixed Number

$1\frac{2}{3} - \frac{2}{9} = 1\frac{6}{9} - \frac{2}{9} = 1\frac{4}{9}$



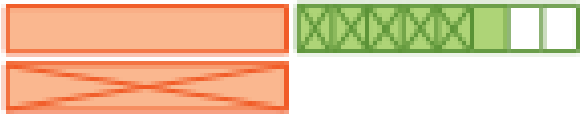
Subtract from a Mixed Number - Breaking the Whole

$2\frac{1}{4} - \frac{3}{8} = 2\frac{2}{8} - \frac{3}{8} = 1\frac{10}{8} - \frac{3}{8} = 1\frac{7}{8}$



Subtract Two Mixed Numbers

$2\frac{3}{4} - 1\frac{5}{8} = 1\frac{1}{8}$



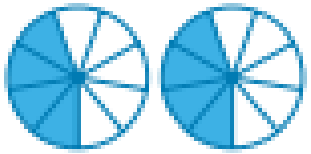
$2 - 1 = 1$

$\frac{3}{4} - \frac{5}{8} = \frac{1}{8}$

Multiply Unit Fractions by an Integer

$\frac{1}{3} \times 5 = \frac{5}{3}$

Multiply Non-Unit Fractions by an Integer



$2 \times \frac{4}{9} = \frac{8}{9}$

Multiply Mixed Numbers by Integers

Convert to an improper fraction and multiply the numerator by the integer.

$2\frac{1}{4} \times 2 = \frac{9}{4} \times 2 = \frac{18}{4} = 4\frac{2}{4} = 4\frac{1}{2}$

Use repeated addition.

$2\frac{1}{4} \times 2 = 2\frac{1}{4} + 2\frac{1}{4} = 4\frac{2}{4} = 4\frac{1}{2}$

Multiplication and Division

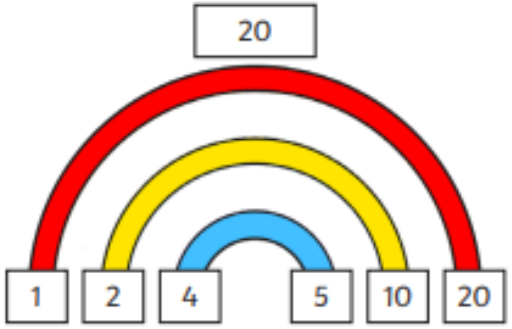
Knowledge Organiser

Key Vocabulary

- multiply
- groups of
- lots of
- times
- divide
- share
- remainder
- factor
- multiple
- product

Factors

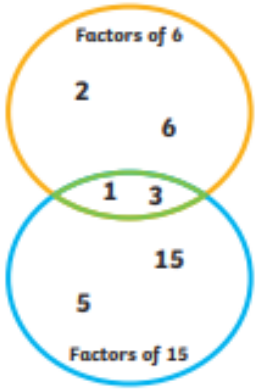
A factor is a number that divides into another number exactly, without leaving a remainder.



The factors of 20 are 1, 2, 4, 5, 10 and 20.

The factor pairs are:
1 and 20
2 and 10
4 and 5

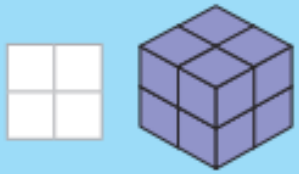
A common factor is a factor of 2 or more numbers.



Prime Numbers

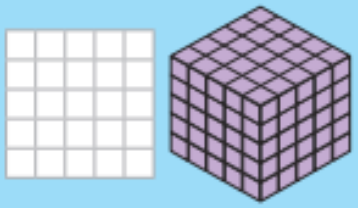
1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40
41	42	43	44	45	46	47	48	49	50
51	52	53	54	55	56	57	58	59	60
61	62	63	64	65	66	67	68	69	70
71	72	73	74	75	76	77	78	79	80
81	82	83	84	85	86	87	88	89	90
91	92	93	94	95	96	97	98	99	100

Squared² and Cubed³ Numbers



$2^2 = 4$
$2 \times 2 = 4$

$2^3 = 8$
$2 \times 2 \times 2 = 8$



$5^2 = 25$
$5 \times 5 = 25$

$5^3 = 125$
$5 \times 5 \times 5 = 125$

Related Calculations

$8 \times 9 = 72$ $80 \times 9 = 720$	$9 \times 8 = 72$ $90 \times 8 = 720$
$72 \div 9 = 8$ $720 \div 9 = 80$	$72 \div 8 = 9$ $720 \div 8 = 90$
$724 \times 10 = 7240$ $724 \times 100 = 72\,400$ $724 \times 1000 = 724\,000$	$486\,000 \div 10 = 48\,600$ $486\,000 \div 100 = 4860$ $486\,000 \div 1000 = 486$

$3600 \div 400 = 9$

3600 $\div 100$ → 36 $\div 4$ → 9

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Multiplication and Division

Knowledge Organiser

Short Multiplication

$$2543 \times 7 = 17\,801$$

	2	5	4	3
×				7
1	**7**	**8**	**0**	**1**
1	3	3	2	

Remember to move any regrouped digits into the next column. After the next multiplication, add the regrouped number to the answer.

Long Multiplication

$$2543 \times 67 = 170\,381$$

		2	5	4	3
	×			6	7
	1 (1)	7 (3)	8 (3)	0 (2)	1
1 (1)	5 (3)	2 (2)	5 (1)	8	0
1	**7**	**0**	**3**	**8**	**1**
	1	1			

Before multiplying by the number in the tens column, remember to use zero as a placeholder because the 6 in 67 is 6 tens (60).

Short Division

		3	8
4	1	$^{1}5$	$^{3}2$

15 ÷ 4 = 3 remainder 3

Remember to regroup any remainders and move them into the next column.

		4	5	5	r	3
5	2	2	$^{2}7$	$^{2}8$		

28 ÷ 5 = 5 remainder 3

If your calculation has a remainder, remember to record it in the answer using the letter r.

Division

$$136 \div 4 = 34$$

		3	4	
4	1	3	6	
−	1	2	0	→ 30 × 4
		1	6	
	−	1	6	→ 4 × 4
			0	

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