Oaklands Primary Academy — Year 4 – Maths Knowledge Organiser

Key Vocabulary

- Add
- Total
- Plus
- Sum
- More
- Altogether
- Difference
- Subtract
- Less
- Minus
- Take away
- Mentally, Orally
- Column Addition
- Column Subtraction
- Exchange
- Estimate
- Inverse operation
- Solve problems
- Number facts

Addition and Subtraction Methods

Add 4-digit numbers

No exchange

5162
+3427
8589

Starting with the ones, add each column in turn.

One exchange

5162
+3497
8659
1

Starting with the ones, add each column in turn. When adding
6 tens + 9 tens = 15 tens
= 1 hundred + 5 tens
Place 1 hundred under the hundreds answer and 5 tens in the answer.

Multiple exchanges

5864
+3497
9361
1 1 1

Starting with the ones, add each column in turn. Exchange tens, hundreds and/ or thousands as required.

Subtract 4-digit numbers

No exchange

5789
- 3421
2368

Starting with the ones, subtract each column in turn.

One exchange

6 1
5749
- 3471
2278

Starting with the ones, subtract each column in turn. When subtracting 4 tens -7 tens, exchange 1 hundred to make:
14 tens – 7 tens = 7 tens

Multiple exchanges

6131
5742
- 3476
2266

Starting with the ones, subtract each column in turn. Exchange tens, hundreds and/ or thousands as required.

Area and Perimeter

Area is the amount of space inside a 2D shape.

Perimeter is the total **distance** around the outside of a 2D shape.

Measuring Area

We can count **squares** to find the **area** of a **rectilinear** shape.

Units of Measure for Perimeter

km	1 **kilometre** = 1000 **metres**
m	1 **metre** = 100 **centimetres**
cm	1 **centimetre** = 10 **millimetres**
mm	

Rectilinear Figures

A **rectilinear** figure is a 2D shape whose sides all meet at **right angles** (90°).

Dividing by 10

Tens	Ones		
8	5	÷ 10	

÷ 10

Tens	Ones	Tenths
	8	5

÷ 10

Dividing by 100

Tens	Ones		
8	5	÷ 100	

÷ 100

Tens	Ones	Tenths	Hundredths
	0	8	5

÷ 100

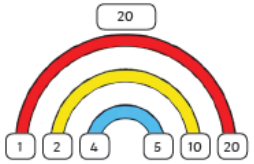
Multiply Using Formal Written Methods

Th	H	T	O	
	5	4	3	
×			4	
		1	2	(4 × 3)
	1	6	0	(4 × 40)
2	0	0	0	(4 × 500)
2	1	7	2	

Th	H	T	O
	5	4	3
×			4
2	1	7	2
	1	1	

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

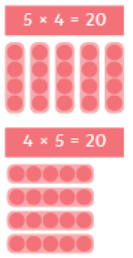
Factor pairs and Commutativity



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



Counting in 6s, 7s and 9s

Counting in 6s

0	6	12	18	24	30	36	42	48	54	60

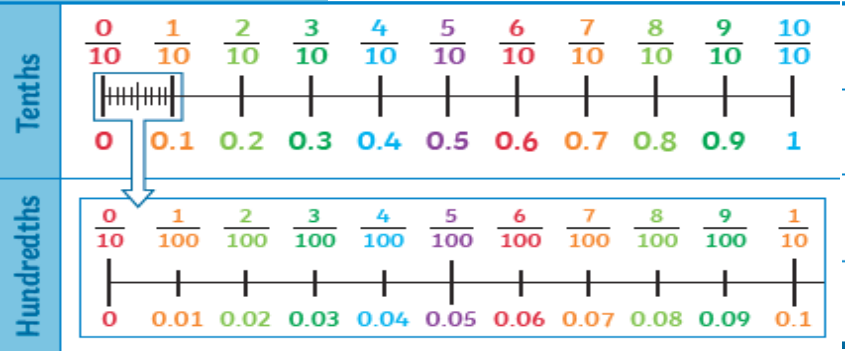
Counting in 7s

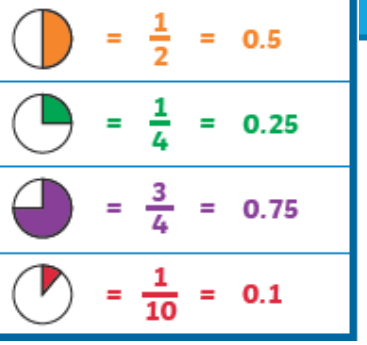
0	7	14	21	28	35	42	49	56	63	70

Counting in 9s

0	9	18	27	36	45	54	63	72	81	90

Tenths and Hundredths





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