

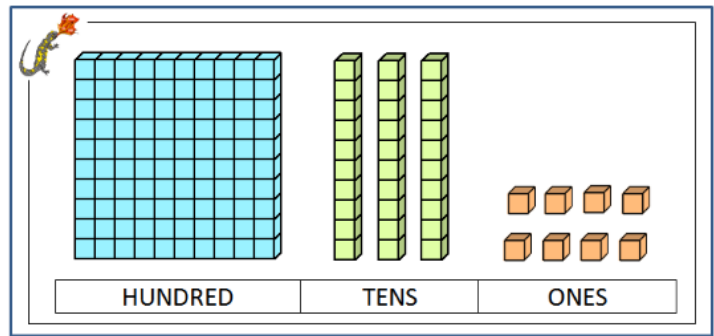


## 3 digit place value

### Year 3 Maths Knowledge Organiser

#### Numbers 100 ~ 1000

|     |     |     |     |     |     |     |     |     |      |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|
| 10  | 20  | 30  | 40  | 50  | 60  | 70  | 80  | 90  | 100  |
| 110 | 120 | 130 | 140 | 150 | 160 | 170 | 180 | 190 | 200  |
| 210 | 220 | 230 | 240 | 250 | 260 | 270 | 280 | 290 | 300  |
| 310 | 320 | 330 | 340 | 350 | 360 | 370 | 380 | 390 | 400  |
| 410 | 420 | 430 | 440 | 450 | 460 | 470 | 480 | 490 | 500  |
| 510 | 520 | 530 | 540 | 550 | 560 | 570 | 580 | 590 | 600  |
| 610 | 620 | 630 | 640 | 650 | 660 | 670 | 680 | 690 | 700  |
| 710 | 720 | 730 | 740 | 750 | 760 | 770 | 780 | 790 | 800  |
| 810 | 820 | 830 | 840 | 850 | 860 | 870 | 880 | 890 | 900  |
| 910 | 920 | 930 | 940 | 950 | 960 | 970 | 980 | 990 | 1000 |



1

3

8

#### Multiplication Facts

| 3 times table | 4 times table | 8 times table |
|---------------|---------------|---------------|
| 1x3=3         | 1x4=4         | 1x8=8         |
| 2x3=6         | 2x4=8         | 2x8=16        |
| 3x3=9         | 3x4=12        | 3x8=24        |
| 4x3=12        | 4x4=16        | 4x8=32        |
| 5x3=15        | 5x4=20        | 5x8=40        |
| 6x3=18        | 6x4=24        | 6x8=48        |
| 7x3=21        | 7x4=28        | 7x8=56        |
| 8x3=24        | 8x4=32        | 8x8=64        |
| 9x3=27        | 9x4=36        | 9x8=72        |
| 10x3=30       | 10x4=40       | 10x8=80       |
| 11x3=33       | 11x4=44       | 11x8=88       |
| 12x3=36       | 12x4=48       | 12x8=94       |

#### Counting up in 50

|     |     |     |      |
|-----|-----|-----|------|
| 50  | 100 | 150 | 200  |
| 250 | 300 | 350 | 400  |
| 450 | 500 | 550 | 600  |
| 650 | 700 | 750 | 800  |
| 850 | 900 | 950 | 1000 |

### Commutative Law

The commutative law means numbers can be added or multiplied in any order without affecting the answer.

For example:  $2 \times 4 \times 5$  is the same as  $5 \times 4 \times 2$

OR When adding  $25 + 30 + 4$ , the commutative law lets you rearrange the 30 and the 4 to get  $25 + 4 + 30$  so that we can add the 25 and 4 first.

Example:

$$\begin{array}{c} \bullet \bullet \bullet \bullet \bullet \bullet \\ 6 \end{array} + \begin{array}{c} \bullet \bullet \bullet \\ 3 \end{array} = \begin{array}{c} \bullet \bullet \bullet \bullet \bullet \bullet \\ 3 \end{array} + \begin{array}{c} \bullet \bullet \bullet \bullet \bullet \bullet \\ 6 \end{array}$$

Subtraction and division are not commutative

Example:

$$\begin{array}{c} \bullet \bullet \bullet \bullet \\ 2 \end{array} \times \begin{array}{c} \bullet \bullet \bullet \bullet \\ 4 \end{array} = \begin{array}{c} \bullet \bullet \bullet \bullet \\ 4 \end{array} \times \begin{array}{c} \bullet \bullet \bullet \bullet \\ 2 \end{array}$$

#### Division Facts

| Divided by 3 | Divided by 4 | Divided by 8 |
|--------------|--------------|--------------|
| 3÷3=1        | 4÷4=1        | 8÷8=1        |
| 6÷3=2        | 8÷4=2        | 16÷8=2       |
| 9÷3=3        | 12÷4=3       | 24÷8=3       |
| 12÷3=4       | 16÷4=4       | 32÷8=4       |
| 15÷3=5       | 20÷4=5       | 40÷8=5       |
| 18÷3=6       | 24÷4=6       | 48÷8=6       |
| 21÷3=7       | 28÷4=7       | 56÷8=7       |
| 24÷3=8       | 32÷4=8       | 64÷8=8       |
| 27÷3=9       | 36÷4=9       | 72÷8=9       |
| 30÷3=10      | 40÷4=10      | 80÷8=10      |
| 33÷3=11      | 44÷4=11      | 88÷8=11      |
| 36÷3=12      | 48÷4=12      | 96÷8=12      |

#### Column Addition (no exchange)

Check you answer

|       |   |   |
|-------|---|---|
| H     | T | O |
| 3     | 5 | 1 |
| +     | 6 | 3 |
|       | 4 |   |
| ----- |   |   |
| 9     | 8 | 5 |

Add the hundreds

Add the tens

Add the ones

Start here

#### Column Subtraction (no exchange)

Check you answer

|       |   |   |
|-------|---|---|
| H     | T | O |
| 7     | 6 | 3 |
| -     | 3 | 4 |
|       | 1 |   |
| ----- |   |   |
| 4     | 2 | 2 |

Subtract the hundreds

Subtract the tens

Subtract the ones

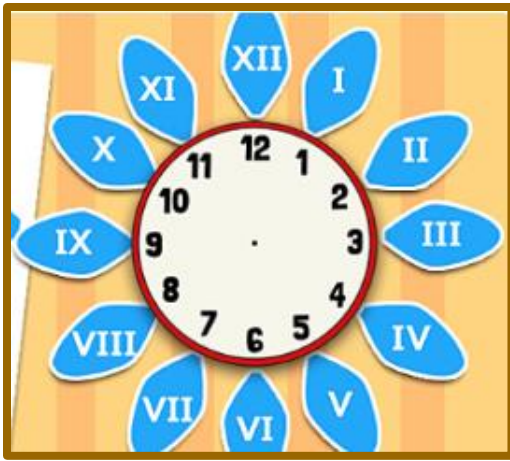
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### Perimeter

The perimeter is the total distance around the outside of a 2D shape.



You calculate the perimeter of a 2D shape by adding together all the lengths of the shape.

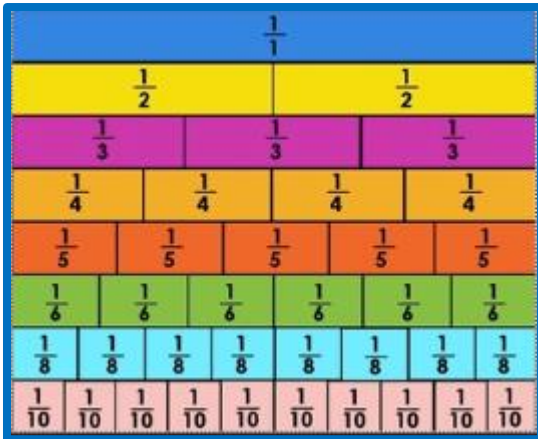


### Time

60 seconds = 1 minute  
 60 minutes = 1 hour  
 24 hours = 1 day  
 7 days = 1 week  
 365 days = 1 year  
 52 weeks = 1 year  
 10 years = 1 decade  
 100 years = 1 century  
 1000 years = 1 millennium

### Days in the Month of....

|           |       |
|-----------|-------|
| January   | 31    |
| February  | 28/29 |
| March     | 31    |
| April     | 30    |
| May       | 31    |
| June      | 30    |
| July      | 31    |
| August    | 31    |
| September | 30    |
| October   | 31    |
| November  | 30    |
| December  | 31    |



### Measurement conversions

#### Length

1 kilometre = 1000 metres  
 1 metre = 100 centimetres  
 1 centimetre = 10 millimetres

km  
 m  
 cm  
 mm

### Time vocabulary

|           |
|-----------|
| O'clock   |
| a.m.      |
| p.m.      |
| Morning   |
| Afternoon |
| Noon      |
| Midnight  |

### Measurement conversions

#### Weight

1 tonne = 1000 kilograms  
 1 kilogram = 1000 grams  
 1 gram = 1000 milligrams

t  
 kg  
 g  
 mg

### Tally Chart

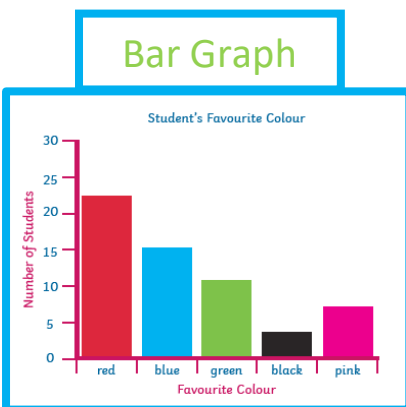
| Favourite Animal | Number of Children |
|------------------|--------------------|
| Dog              |                    |
| Cat              |                    |
| Snake            |                    |
| Bear             |                    |
| Horse            |                    |
| Goose            |                    |

### Shapes and Angles

Parallel lines never meet  
 Like train tracks  
 Angles + to 180  
 Angles + to 360  
 A quadrilateral has 4 sides

Angles are measured in degrees  
 acute is less than 90  
 obtuse  
 right angle  
 3 angles + to 180  
 This is a right angled triangle

This is an isosceles triangle  
 These two angles are always equal



### Measurement conversions

#### Capacity

1 litre = 1000 millilitres  
 1 centilitre = 10 millilitres

l  
 cl  
 ml

### Pictogram

| Favourite Animal | Number of Children |
|------------------|--------------------|
| Dog              |                    |
| Cat              |                    |
| Snake            |                    |
| Bear             |                    |
| Horse            |                    |
| Goose            |                    |

### Numerator

The top number of a fraction

### Denominator

The bottom number of a fraction