Year 2 Calculations

Know the 2, 3, 5, 10 times tables

0	x	2	=	0
1	x	2	=	2
2	x	2	=	4
3	x	2	=	6
4	x	2	=	8
5	x	2	=	10
6	x	2	=	12
7	x	2	=	14
8	x	2	=	16
9	x	2	=	18
10	x	2	=	20
11	x	2	=	22
12	x	2	=	24

0	x	3	=	0
1	x	3	=	3
2	x	3	=	6
3	x	3	=	9
4	x	3	=	12
5	x	3	=	15
6	x	3	=	18
7	x	3	=	21
8	x	3	=	24
9	x	3	=	27
10	x	3	=	30
11	x	3	=	33
12	x	3	=	36

0	x	5	=	0
1	x	5	=	5
2	x	5	=	10
3	x	5	=	15
4	x	5	=	20
5	x	5	=	25
6	x	5	=	30
7	x	5	=	35
8	x	5	=	40
9	x	5	=	45
10	x	5	=	50
11	x	5	=	55
12	x	5	=	60

0	x	10	=	0
1	x	10	=	10
2	x	10	=	20
3	x	10	=	30
4	x	10	=	40
5	x	10	=	50
6	x	10	=	60
7	x	10	=	70
8	x	10	=	80
9	x	10	=	90
10	x	10	=	100
11	x	10	=	110
12	x	10	=	120

Count in 10s

tens	units
3	7

Counting up in tens this digit changes:

37 47 57 67 77 87

Place value

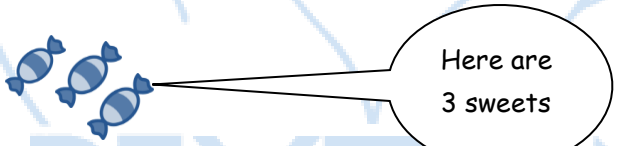
tens	units
2	8

28 means 2 tens and 8 units (ones)

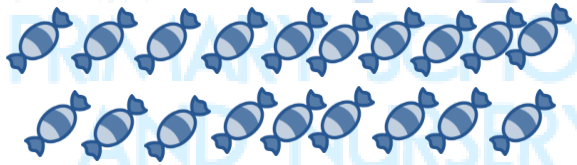
20 and 8

Estimate numbers

- Eyeball estimate

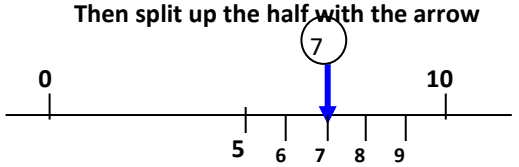


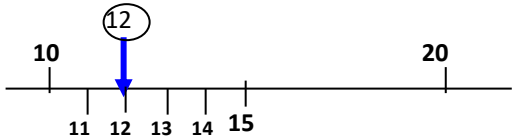
Use this to estimate larger amounts



Fill in the half way number first

Then split up the half with the arrow





Order numbers

Ten	Unit
3	7
3	2
7	6
6	2

- Begin at the tens and compare

76 is the biggest

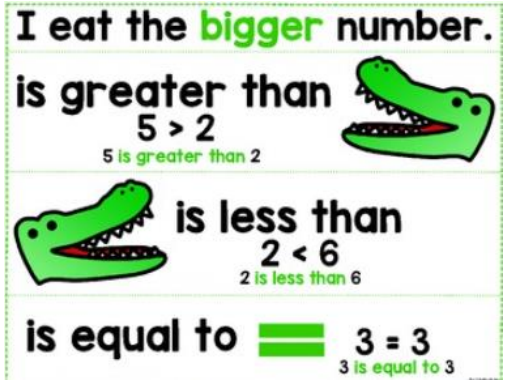
62 is next biggest

Ten	Unit
3	7
3	2
7	6
~~6~~	~~2~~

- Move to the units and compare

Order is: 76 62 37 32

Inequality symbols



Numbers in figures and words

1	one
2	two
3	three
4	four
5	five
6	six
7	seven
8	eight
9	nine
10	ten

11	eleven
12	twelve
13	thirteen
14	fourteen
15	fifteen
16	sixteen
17	seventeen
18	eighteen
19	nineteen

20	twenty
21	twenty one
22	twenty two
23	twenty three
24	twenty four
25	twenty five
26	twenty six
27	twenty seven
28	twenty eight
29	twenty nine

30	thirty
40	forty
50	fifty
60	sixty
70	seventy
80	eighty
90	ninety
100	one hundred

Addition & subtraction problems

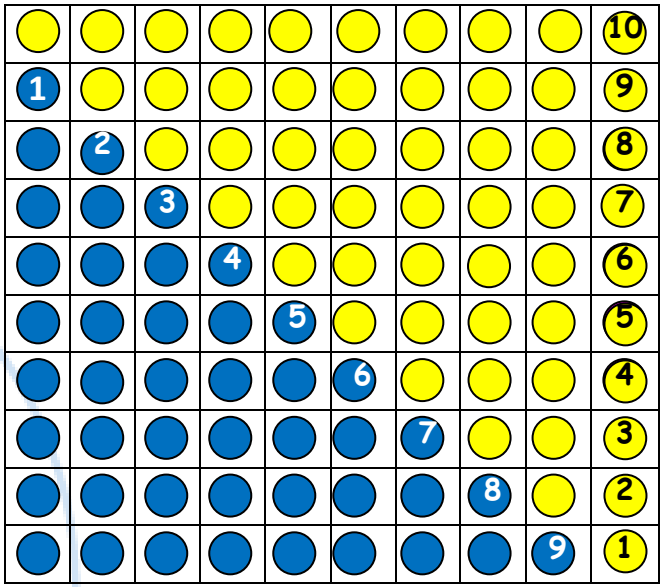
Words for addition

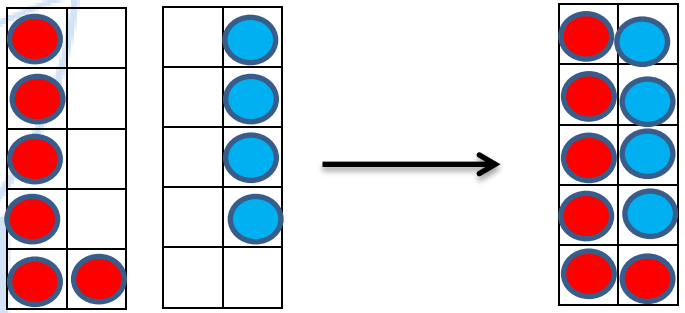
altogether, sum of, more, plus, total, make, add

Words for subtraction

take away, how many left?, difference, How many less?, How many more?

Addition facts to 10





0 + 10	1 + 9	2 + 8	3 + 7	4 + 6
10 + 0	9 + 1	8 + 2	7 + 3	6 + 4
		5 + 5		

Add & subtact

7 + 3 = 10 is the same as 3 + 7

10 – 7 = 3 is NOT the same as 7-10

Add & subtact

Fact family for add and subtract

13 + 7 = 20

20 - 13 = 7

20 - 7 = 13

4 + 16 = 20	**3 + 17 = 20**
16 + 4 = 20	**17 + 3 = 20**
20 –16 = 4	**20 - 3 = 17**
20 – 4 = 16	**20 - 17 = 3**

2, 5, 10 times tables

Odds & even numbers

- **Even numbers** – can be paired up

Tip – the last digit always 0 2 4 6 8

- **Odd numbers** – cannot be paired up

Tip – the last digit always 1 3 5 7 9

Multiply & divide

Words for MULTIPLY

array

double triple

product

times lots of

repeated addition

Words for DIVIDE

split

share

equal groups of

divided

Fact family for multiply and divide

7 x 5 = 35

35 ÷ 5 = 7

35 ÷ 7 = 5

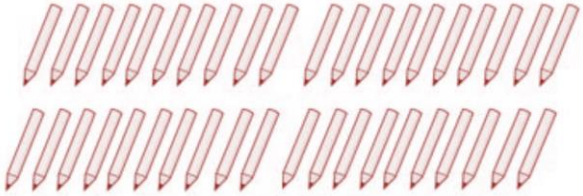
Multiply & divide

7 x 5 = 35 is the same as 5 x 7

35 ÷ 7 = 5 is NOT the same as 7÷35

Multiply & divide

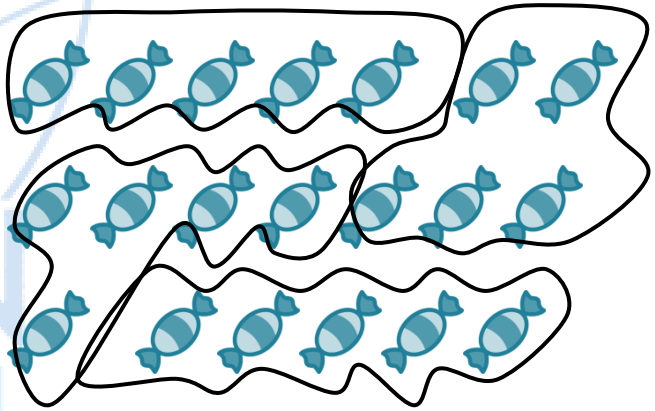
40 pencils are shared between 5 children.



$$40 \div 4 = 10$$

Here are 20 sweets to share
Each child gets 5 sweets
How many children are there?

Divide them up into groups of 5 sweets-like this



There must be 4 children

: Here are 12 marbles to share
There are 4 children.
How many marbles does each get?
Divide them up into 4 groups - like this

Each child gets 3 marbles

Group the 1p coins into 5s.
How many 5p coins do we need to make the same amount of money?
Draw coins and complete the missing information.

- __4_ lots of 5p =20 one pence coins
_4__ lots of 5p =20p
- 20p =__4_ ×5p
- 20p ÷5 =_4__

Repeated addition (Multiplication)

Addition sentence 2 + 2 + 2 = 6

Multiplication sentence 3 x 2 = 6

Repeated addition is the same as multiplication

Addition sentence	Multiplication sentence
5 + 5 + 5 + 5 = 20	**4 x 5 = 20**
10 + 10 + 10 = 30	**3 x 10 = 30**

Repeated subtraction (Division)

Repeated subtraction is the same as division

15
-5 (1)
10
-5 (2)
5
-5 (3)
0

This is the same as 15 ÷ 5 = 3

Because 5 has been subtracted 3 times to get to 0

Fractions

To work out a half

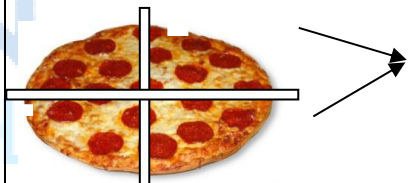
Split into two equal parts

YES **NO!!!!**

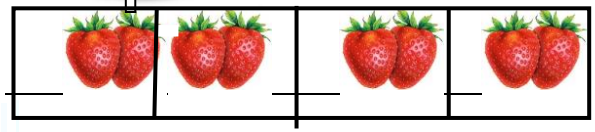
10 sweets ÷ 2 = 5 sweets
OR
$\frac{1}{2}$ **of 10 = 10 ÷ 2 = 5**

To work out a quarter

Split into four equal parts



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



8 strawberries ÷ 4 = 2 strawberries

OR $\frac{1}{4}$ **of 8 = 8 ÷ 4 = 2**

Units of measure

METRIC units of length are:

Millimetre (mm)

↓

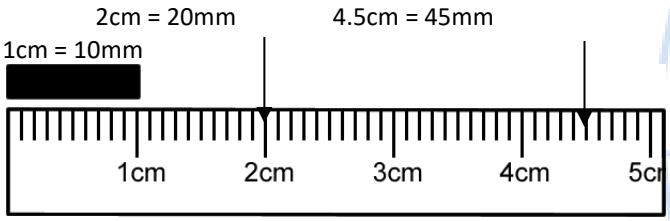
Centimetre (cm)

↓

Metre (m)

↓

Kilometre (km)



- A big stride is about a metre

- Distance to Dublin is measured in kilometres

METRIC units of mass are:

Gram (g)

↓

Kilogram (kg)

1 kilogram(kg) = 1000grams(g)

- An apple weighs 150grams

- Baby chimp weighs 3kg

Units of measure (continued)

METRIC units of capacity (liquids) are:

Millilitre (ml)

↓

Centilitre (cl)

↓

Litre (l)

- A medicine spoon holds 5ml

- A 5-litre bucket

- Fuel for the car is measured in litres

Compare units of measure

Think of the units of mass then order:

- a bar of chocolate
- your teacher
- a blown-up balloon
- a loaf of bread

A blown-up balloon < a bar of chocolate < a loaf of bread < your teacher

Think of the units of length used then order:

- How high you could jump in the air
- How far you can kick a football
- How far you can run in ½ minute
- Length of a bug

Length of a bug < you could jump in the air < you can kick a football < you can run in half a minute

Money

To write amounts of money

£3 or £3.00

50p or £0.50

£3.50 or 350p **BUT never £3.50p or £3.5**

Value of coins

1p or £0.01 2p or £0.02 5p or £0.05 10p or £0.10

20p or £0.20 50p or £0.50 £1 or £1.00 £2 or £2.00

Notes and change

To add amounts of money

24p + 32p

=20p + 4p + 30p + 2p

=20p + 30p + 4p + 2p

=50p + 6p

=56p

To find change from £1

Subtraction method

£1 - 56p

= £1 - 50p - 6p

= 50p - 6p

= 44p

Add-on method

56p + 4p = 60p

60p + 40p = £1

= 4p + 40p

= 44p

Sequence of time

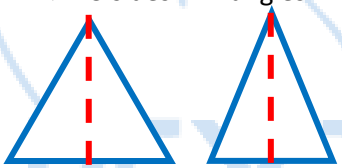
Seconds 60 per minute
Minutes 60 per hour
Hours 24 per day
Day 7per week
Week 4 per month 52 per year
Month 12 per year

Write time

The time shown is:
5 past 6 OR 6:05

2D shapes

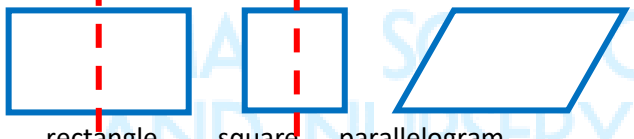
- 3 sides – Triangles



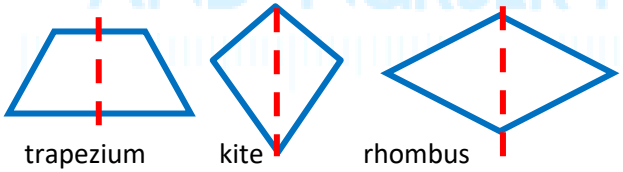
equilateral isosceles

A vertical line of symmetry

- 4 sides - Quadrilaterals

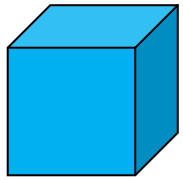


rectangle square parallelogram

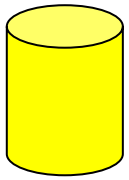


trapezium kite rhombus

3D shapes

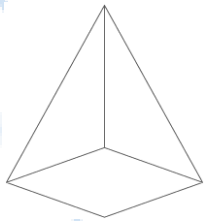


cube

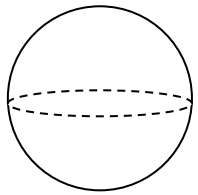


cylinder

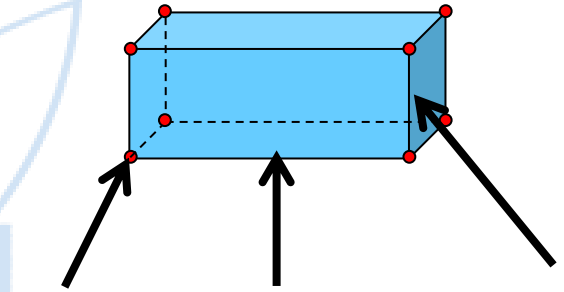
cuboid



pyramid

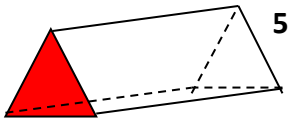


sphere

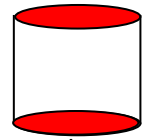


2D shapes on 3D shapes

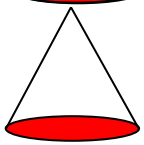
6 faces – all rectangles



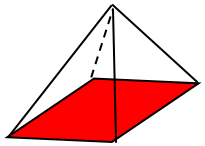
5 faces – 2 triangles
- 3 rectangles



3 faces – 2 circles
- 1 curved surface

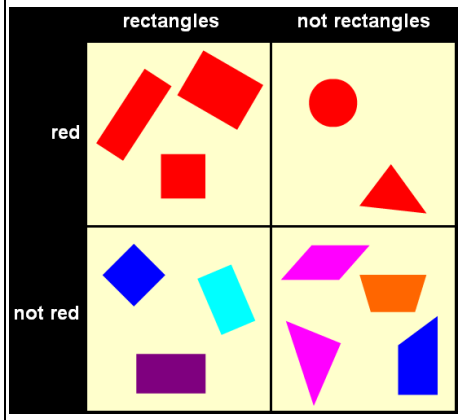


2 faces – 1 circle
- 1 curved surface



5 faces – 1 rectangle
- 4 triangles

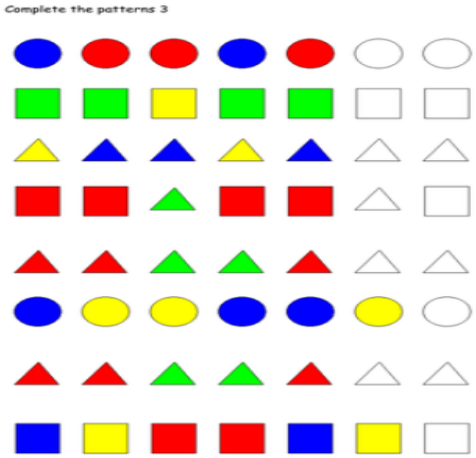
To sort 2D shapes and 3D shapes



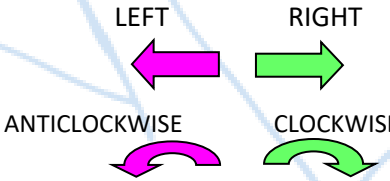
Carroll diagram

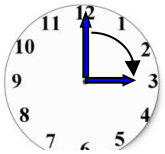
Sequence of shapes

Make these shapes into a pattern



Describe position, direction & movement





Clockwise (1 right angle) or ¼ turn

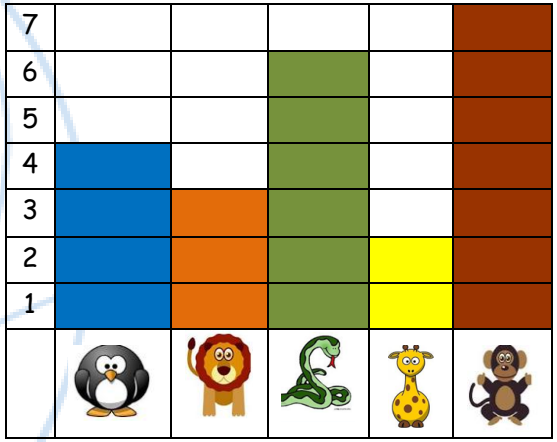
Anticlockwise(1 right angle) or ¼ turn

Half turn (2 right angles

Tally chart showing animals in the zoo

Animal	Tally	Number of animals
Penguin	IIII	4
Lion	III	3
Snake	~~IIII~~ I	6
Giraffe	II	2
Monkey	~~IIII~~ II	7

Block graph to show animals in the zoo



Questions about tables and graphs

Example:
Questions about 'Animals in the zoo'

1. How many animals are there altogether?
   4+3+6+2+7=22
2. How many more monkeys are there than lions?
   7-3=4
3. What animal is there least of?
   giraffe