# MATHEMATICS WORKSHOP

Poulton Lancelyn Primary School

# NATIONAL CURRICULUM CHANGES

- New Curriculum introduced from September 2014 for all pupils.
- Children must be mathematically fluent.
- Expectations have changed. Coverage and skills have been “pushed down.”
- No longer using levels. Emerging, Expected, exceeding.

# SCHOOL CHANGES

- Maths calculation policy.
- Long term plans for each year group.
- 2 maths lessons per day – main and arithmetic
- More focus on number to develop number fluency.
- Focus on developing mastery in maths.

# WRITTEN MATHEMATICS

- Detailed breakdown for each year group in Mathematics policy on the website.
- Summary document highlights key stages.
- Mathematics session in each year group will outline the calculation methods used within that group.

# MENTAL MATHEMATICS

- Extra emphasis on mental mathematics.

-Counting on

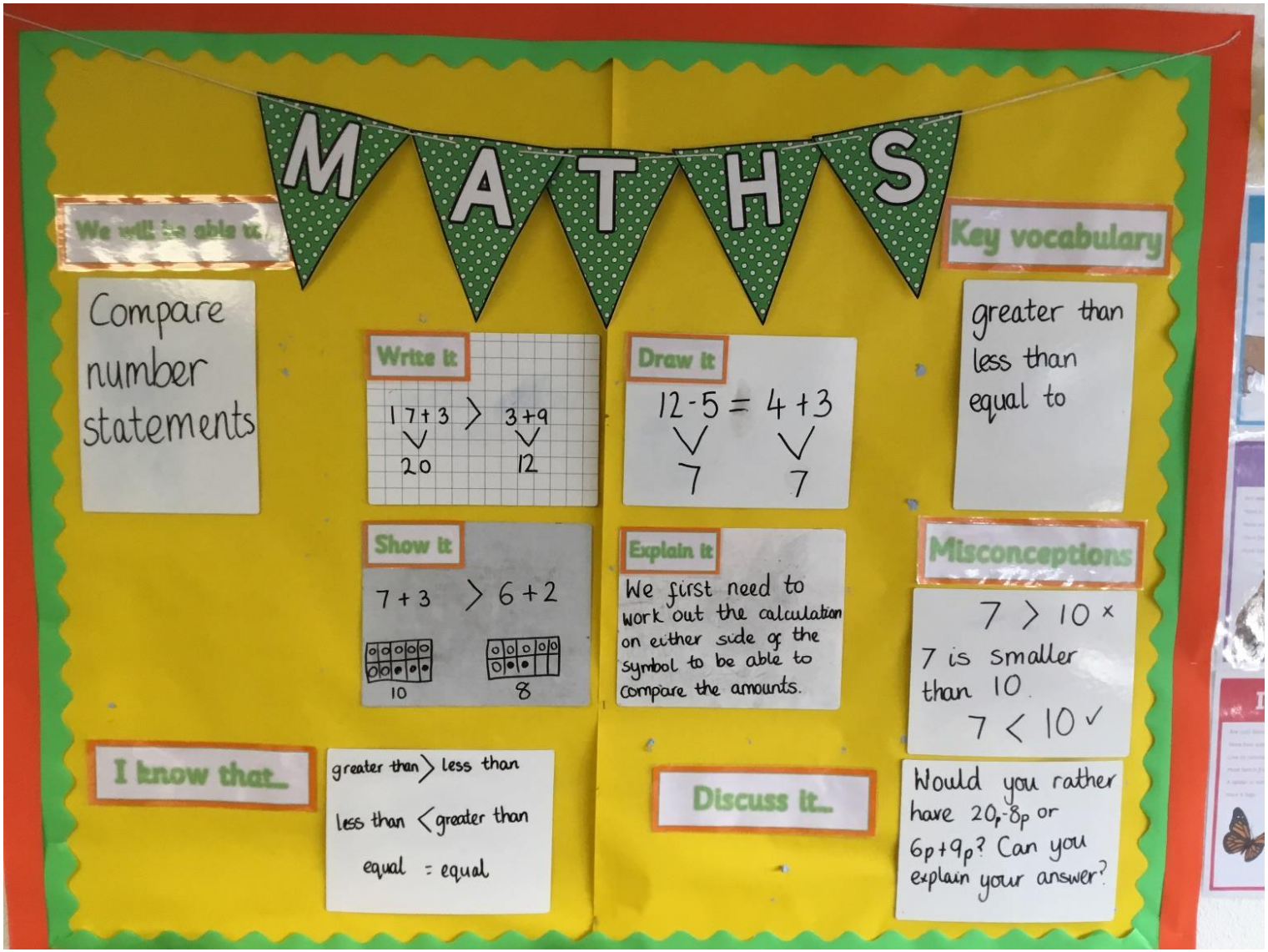
-Counting back

-Doubling and halving

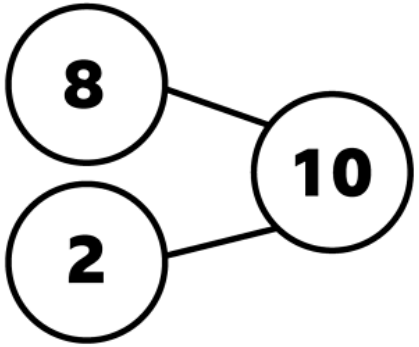
-Partitioning

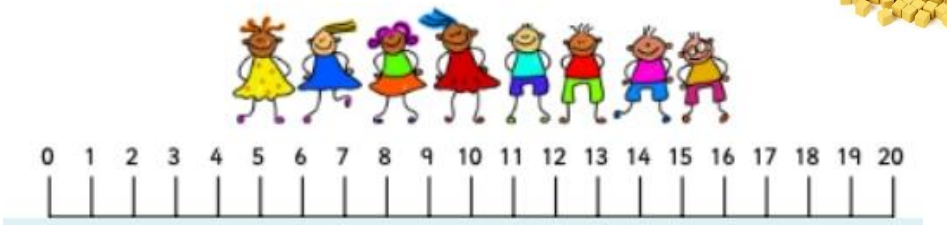
-Number bonds

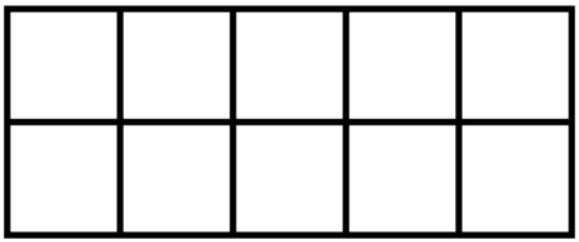
# CLASSROOM ENVIRONMENT



# RESOURCES



# YEAR 1 - LTP

| Year 1 2021-2022 Maths LTP | Week 1 | Week 2 | Week 3 | Week 4 | Week 5 | Week 6 | Week 7 | Week 8 |
|---|---|---|---|---|---|---|---|---|
| **Autumn 1**<br>Calculation focus – number bonds to 10<br>Doubles and halves within 10 | 2 Days Number Assessment | **Number**<br>6.9.21<br>Sorting, counting and representing objects and numbers to 10 | **Number**<br>13.9.21<br>Counting forwards and backwards within 10 including 1 more and 1 less | **Number**<br>20.9.21<br>1:1 correspondence and comparing numbers within 10 | **Number**<br>27.10.21<br>Ordering numbers within 10 & ordinal numbers<br>WRM mini assessment | **Operations**<br>4.10.21<br>Part whole models<br>Introduction to addition | **Operations**<br>11.10.21<br>Addition facts related to number bonds to and within 10 | **Operations**<br>18.10.21<br>Addition (adding together, adding more and using number bonds) |
| **Autumn 2**<br>Calculation focus – number bonds to 10 and addition/ subtraction within 10 and 20<br>Doubles and halves within 20 | **Operations**<br>1.11.21<br>Subtraction (taking away, finding a part, fact families) | **Operations**<br>8.11.21<br>Subtraction (counting back, finding the difference) and comparing addition and subtraction statements.<br>WRM mini assessment | **Geometry**<br>15.11.21<br>Recognising and naming 2-D and 3-D shapes<br>WRM mini assessment. | **Number**<br>22.11.21<br>Numbers to 20 (tens and ones, one more and one less, writing numbers to 20) | **Number**<br>29.11.21<br>Numbers to 20 (comparing and ordering)<br>WRM mini assessment | 6.12.21<br>Consolidation/ activity week | 13.12.21<br>Consolidation/ activity week | |
| **Spring 1**<br>Calculation focus – doubles and halves, number bonds, addition and subtraction to/ within 10 and 20<br>Comparing, ordering, one more one less within 50 | 3.1.22<br>Consolidation week – recapping learning from Autumn term | **Operations**<br>10.1.22<br>Addition within 20 (by counting on and number bonds) | **Operations**<br>17.1.22<br>Addition by making 10, subtraction not crossing 10 | **Operations**<br>24.1.22<br>Subtraction by crossing 10, related facts, comparing number sentences<br>WRM mini assessment. | **Number**<br>31.1.22<br>Numbers to 50 (tens and ones, representing numbers, counting forwards and backwards) | **Number**<br>7.2.22<br>Numbers to 50 (one more and one less, comparing and ordering) | **Number**<br>14.2.22<br>Counting in 2s, counting in 5s<br>WRM mini assessment. | |

# YEAR 1 - LTP

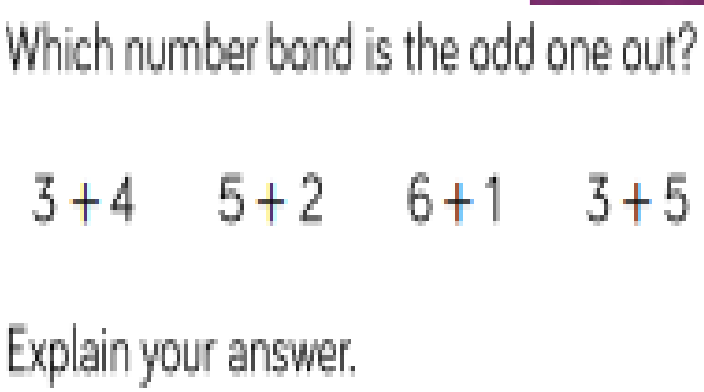
| | | | | | | |
|---|---|---|---|---|---|---|
| **Spring 2**<br>Calculation focus – as above plus questions including measurement | **Measurement**<br>28.2.22<br>Measurement (length and heights) | **Measurement**<br>7.3.22<br>Measurement (length and heights including addition and subtraction)<br>WRM mini assessment. | **Measurement**<br>14.3.22<br>Measurement (weight and mass) | **Measurement**<br>21.3.22<br>Measurement (capacity and volume)<br>WRM mini assessment. | **Operations**<br>28.3.22<br>Counting in 2s, 5s and 10s and making equal groups | 4.4.22<br>Activity/ Consolidation week |
| **Summer 1**<br>As above plus also include fractions, multiplication and division. Begin to looking at money and time weekly | **Operations**<br>25.4.22<br>Multiplication (making equal groups and arrays) | **Operations**<br>2.5.22<br>Multiplication and division (grouping and sharing)<br>WRM mini assessment. | **Fractions**<br>9.5.22<br>Fractions (making and finding a half) | **Fractions**<br>16.5.22<br>Fractions (making and finding a quarter)<br>WRM mini assessment | **Measurement**<br>23.5.22<br>Describing turns and position<br>WRM mini assessment | |
| **Summer 2**<br>As above plus comparing and ordering within 100 | **Number**<br>6.6.22<br>Numbers to 100 (counting forwards and backwards, 100 squares, partitioning) | **Number**<br>13.6.22<br>Numbers to 100 (comparing and ordering, one more and one less)<br>WRM mini assessment | **Money**<br>20.6.22<br>Money (recognising coins and notes)<br>WRM mini assessment | **Measurement**<br>27.6.22<br>Time (before and after, time to the hour)<br>WRM mini assessment | **Measurement**<br>4.7.22<br>Time (time to the half hour, writing time, comparing time)<br>WRM mini assessment | 11.7.22<br>Activity/ Consolidation week |

# TIME TABLES

- In Year 1 we practise counting in 2s, 5s and 10s
- We will teach multiplication and division from the end of this half term and Summer 1.
- 2019 – new times tables test for Year 4 pupils. Expected to know 12 x 12.
- It focuses on the fluent recall of multiplication facts. This is included in the national curriculum (2014) statutory programme of study for mathematics at key stage 1 (KS1) and KS2.

# USING AND APPLYING

- We regularly use reasoning and problem solving questions within lessons to allow children to apply their understanding of the four operations. Children are encouraged to explain and prove their understanding verbally and their beginning to record their thought processes.



# HOME HELP

- Technology (Mathletics, apps – White Rose Maths 1 minute maths)
- Homework
- Time
- **Number bonds**
- Times tables
- Doubling and halving
- Mental maths calculations
- https://www.topmarks.co.uk/maths-games/5-7-years/addition-and-subtraction

# IMPORTANCE OF READING

- Real life problems involve being able to read.
- Trend of poor readers = poor mathematicians.

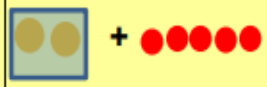
Using the numbers 0 – 9, how many ways can you fill in the boxes to make the calculation correct?
You can only use each number once.

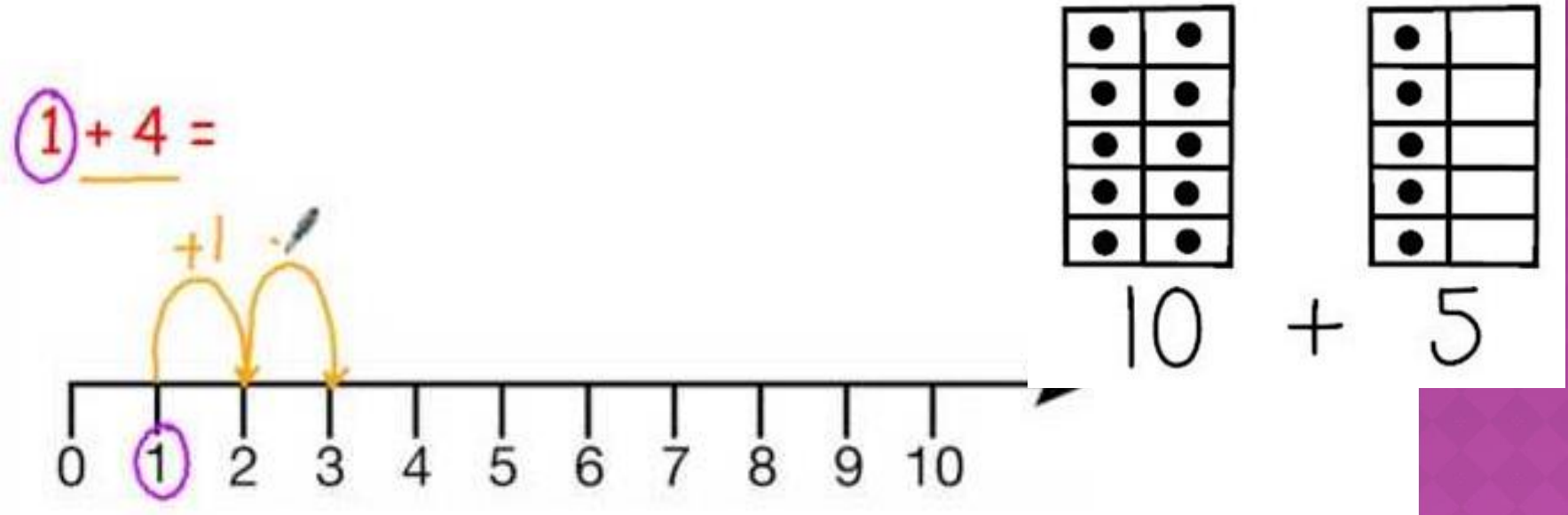
How many different calculations are there?

# ADDITION

## Year 1 Addition

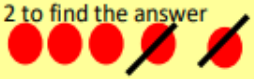
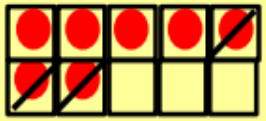
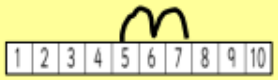
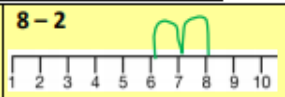
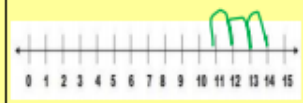
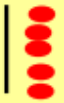
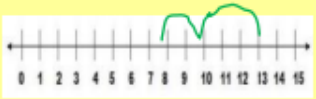
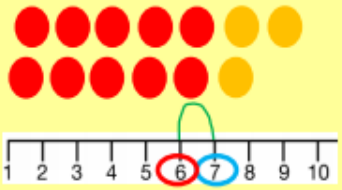
### Steps to success

| EYFS to Year 1 | 2 + 5 =  Count out each set then find the total | **2 + 5 =**  Count on from first number (Cover first number or display as numeral ) | **2 + 5** Leading to 5 +  5 + 2 (without counters) Recognise the biggest number in the calculation and count on from it (using objects for smaller number if necessary) | 2 + 5<br>5 + 8<br>4 + 13<br>11 + 7  Recognise the biggest number in the calculation and count on from it mentally or using number line | 6 + 8 becomes 8 + 2 + 4  Partitioning the smaller number and use the tens number to bridge calculation<br><br>5 + 17 becomes 17 + 3 + 2 |
|---|---|---|---|---|---|



# SUBTRACTION

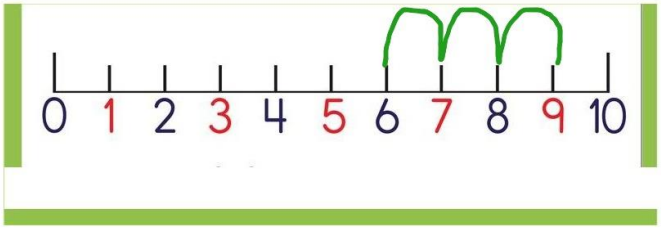
## Year 1 Subtraction Steps to success

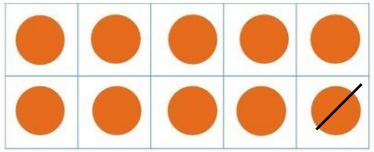
| EYFS to Year 1 | 5 – 2 | 7 – 2 | 8 – 2 | 15 – 5 | Difference or distance between |
|---|---|---|---|---|---|
| **Add and subtract one-digit and two-digit numbers to 20, including zero**<br><br>Read, write and interpret number sentences with - and = signs. | Count out 5 and remove 2 to find the answer<br>  <br>**7 – 3**<br>Using a 10 frame to subtract - The children may subitise how many are remaining without having to count them all.<br>  | Count back on the number line by saying start on 7, count back 1,2, what number are you on?<br>  |  <br>**14 – 3**<br>  <br>Count backwards mentally or using a number line. | Use tens and ones when the calculation doesn't bridge 10<br>  <br>**13 – 5**<br>  <br>becomes **13 – 3 – 2**<br><br>Partitioning the number being subtracted through the multiple of 10 mentally or using a number line | **Difference or distance between** 7 – 6 or find the difference between 7 and 6<br>  <br>This will be introduced practically with the language ' **find the distance between'** and **"how many more?"** in a range of familiar contexts. |

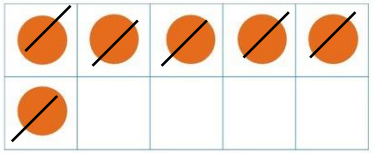
9 – 3 = 6

Core Lesson

16 – 7 = ?

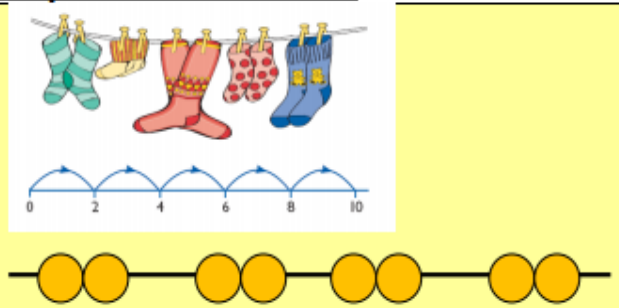
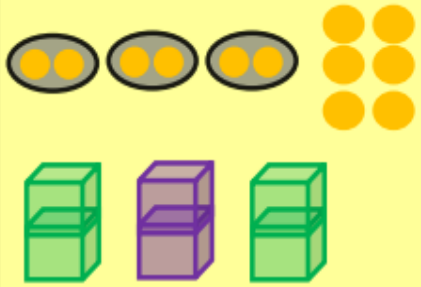





# MULTIPLICATION

## Year 1 Multiplication

### Steps to success

| | | | |
|---|---|---|---|
| **Year 1**<br>Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. | Count in multiples of twos, fives and tens from any number<br>Present practical problem solving activities involving counting equal sets or groups, as above. |  | **There are two apples on one plate. How many apples on 3 plates?**<br>  |

How many socks are there?

There are ___ socks in total.

How many gloves are there?

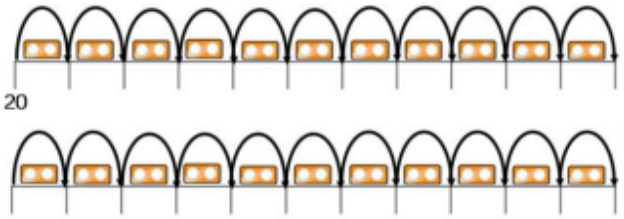
There are ___ gloves in total.

Represent the gloves using ten frames.

Continue colouring in 2s on the grid. What do you notice?

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 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 |

Complete the number lines by counting in 2s.

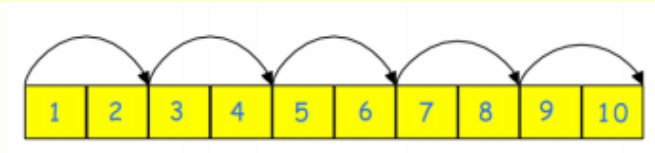


# DIVISION

**Year 1**
Solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.

**Group and share small quantities**

Using objects, diagrams and pictorial representations to solve problems involving **both grouping and sharing**.

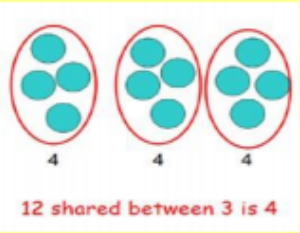



Pupils should
Be able to count in multiples of 2s, 5s and 10s
Find **half** of a group of objects by sharing into 2 equal groups

Understand the difference between „grouping" objects (How many groups of 2 can you make?) and „sharing" (Share these sweets between2people)

**Grouping**

**Sharing**

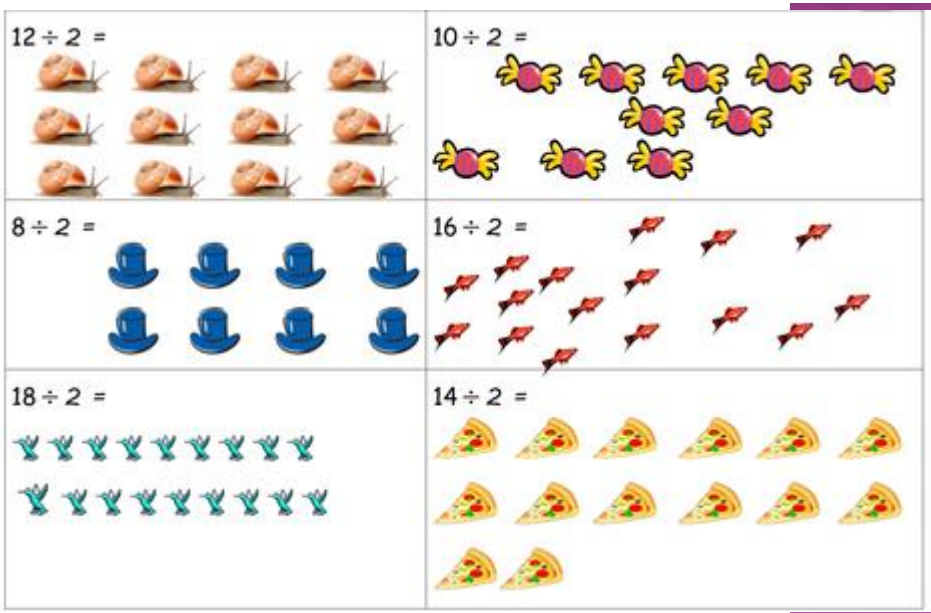



**Example division problem in a familiar context:**

There are 6 pupils on this table and there are 18 pieces of fruit to share between us. If we share them equally, how many will we each get?

Can they work it out and give a division statement… ?

"18 shared between 6 people gives you 3 each."



# ACTIVITIES

- Board games involving addition and subtraction
- Snakes and ladders
- Word problems and concrete resources
- Reasoning and problem solving
- Addition using number lines
- Subtraction using number lines