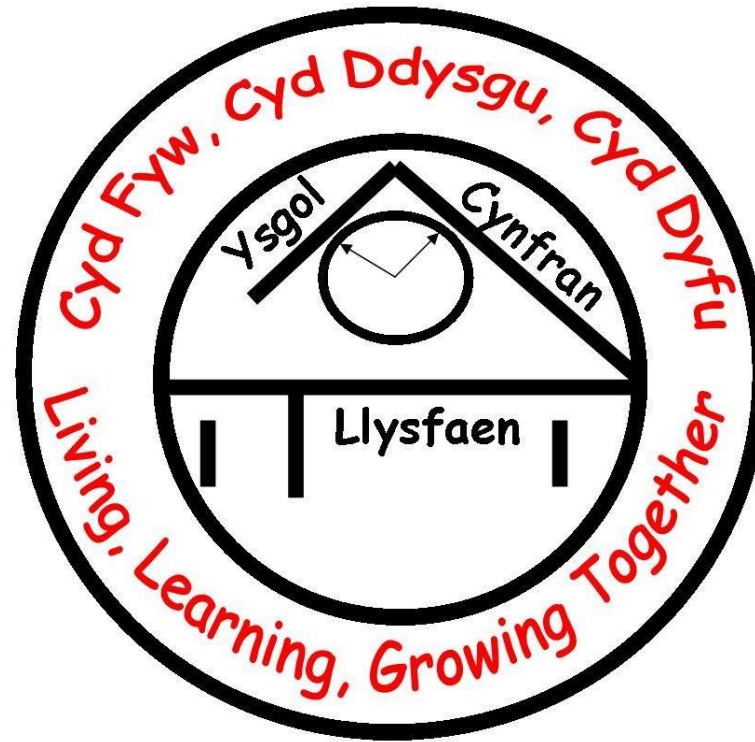




**Ysgol Cynfran Llysfaen  
Numeracy  
Overview of Strategies and  
Methods for Year 1 and 2**

# Addition

## Year 1

### Using place value

Count in 1s

e.g.  $45 + 1$

Count in 10s

e.g.  $45 + 10$  without counting on in 1s

|    |                                                                                   |    |
|----|-----------------------------------------------------------------------------------|----|
| 34 | 35                                                                                | 36 |
| 44 |  | 46 |
| 54 | 55                                                                                | 56 |

Add 10 to any given 2-digit number

### Counting on

Count on in 1s

e.g.  $8 + 3$  as 8, 9, 10, 11



Add, putting the larger number first

Count on in 10s

e.g.  $45 + 20$  as 45, 55, 65

## Year 2

### Using place value

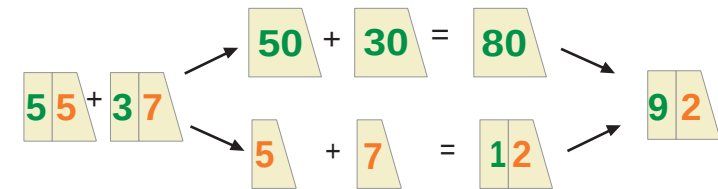
Know 1 more or 10 more than any number

e.g. 1 more than 67

e.g. 10 more than 85

Partitioning

e.g.  $55 + 37$  as  $50 + 30$  and  $5 + 7$ , then finally combine the two totals:  $80 + 12$



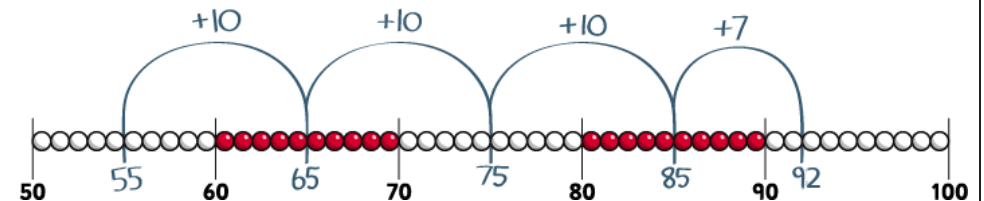
### Counting on

Add 10 and multiples of 10 to a given 1- or 2-digit number

e.g.  $76 + 20$  as 76, 86, 96 or in one hop:  $76 + 20 = 96$

Add two 2-digit numbers by counting on in 10s, then in 1s

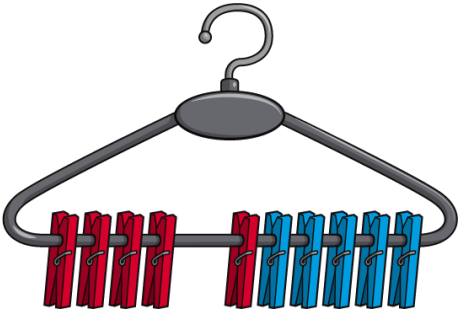
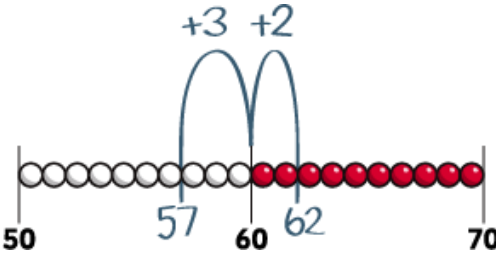
e.g.  $55 + 37$  as  $55 + 30$  (85) + 7 = 92



Add near multiples of 10

e.g.  $46 + 19$

e.g.  $63 + 21$

|                 | Year 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Year 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mental Addition | <p><b>Using number facts</b></p> <p>'Story' of 4, 5, 6, 7, 8 and 9</p> <p>e.g. <math>7 = 7 + 0</math>, <math>6 + 1</math>, <math>5 + 2</math>, <math>4 + 3</math></p> <p>Number bonds to 10</p> <p>e.g. <math>5 + 5</math>, <math>6 + 4</math>, <math>7 + 3</math>, <math>8 + 2</math>, <math>9 + 1</math>, <math>10 + 0</math></p>  <p><math>4 + 6 = 10</math></p> <p>Use patterns based on known facts when adding</p> <p>e.g. <math>4 + 3 = 7</math> so we know <math>24 + 3</math>, <math>44 + 3</math>, <math>74 + 3</math></p> | <p><b>Using number facts</b></p> <p>Know pairs of numbers which make the numbers up to and including 12</p> <p>e.g. <math>8 = 4 + 4</math>, <math>3 + 5</math>, <math>2 + 6</math>, <math>1 + 7</math>, <math>0 + 8</math></p> <p>e.g. <math>10 = 5 + 5</math>, <math>4 + 6</math>, <math>3 + 7</math>, <math>2 + 8</math>, <math>1 + 9</math>, <math>0 + 10</math></p> <p>Use patterns based on known facts when adding</p> <p>e.g. <math>6 + 3 = 9</math>, so we know <math>36 + 3 = 39</math>, <math>66 + 3 = 69</math>, <math>56 + 3 = 59</math></p>  <p>Bridging 10</p> <p>e.g. <math>57 + 5 = 57 + 3 (60) + 2 = 62</math></p>  <p>Add three or more 1-digit numbers, spotting bonds to 10 or doubles</p> <p>e.g. <math>3 + 5 + 3 = 6 + 5 = 11</math></p> <p>e.g. <math>8 + 2 + 4 = 10 + 4 = 14</math></p> |

# Subtraction

## Year 1

### Using place value

Count back in 1s

e.g. *Know*  $53 - 1$

Count back in 10s

e.g. *Know*  $53 - 10$  without counting back in 1s

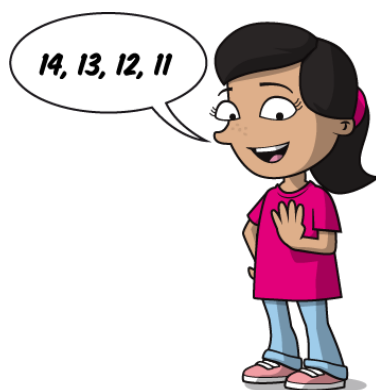
|    |    |    |
|----|----|----|
| 32 | 33 | 34 |
| 42 | 43 | 44 |
| 52 | 53 | 54 |

### Taking away

Count back in 1s

e.g.  $11 - 3$  as 11, 10, 9, 8

e.g.  $14 - 3$  as 14, 13, 12, 11



Count back in 10s

e.g.  $53 - 20$  as 53, 43, 33

## Year 2

### Using place value

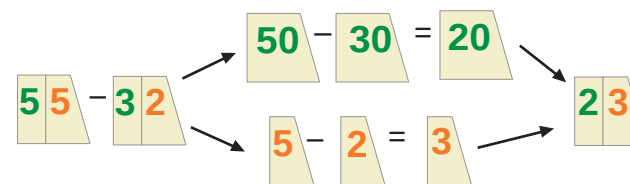
Know 1 less or 10 less than any number

e.g. 1 less than 74

e.g. 10 less than 82

Partitioning

e.g.  $55 - 32$  as  $50 - 30$  and  $5 - 2$  and combine the answers:  $20 + 3$



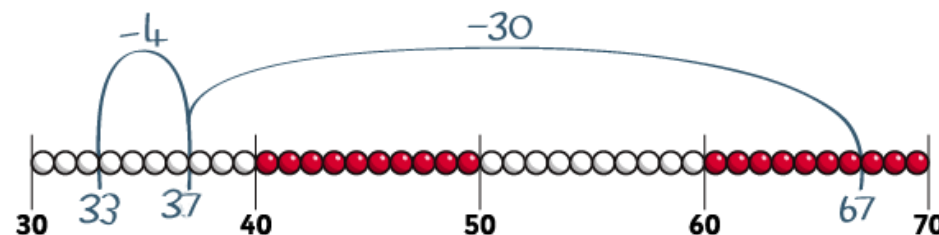
### Taking away

Subtract 10 and multiples of 10

e.g.  $76 - 20$  as 76, 66, 56 or in one hop:  $76 - 20 = 56$

Subtract two 2-digit numbers by counting back in 10s, then in 1s

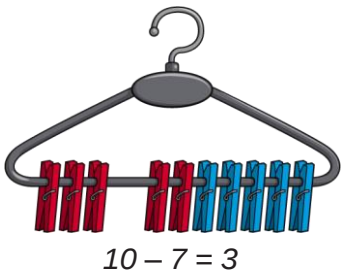
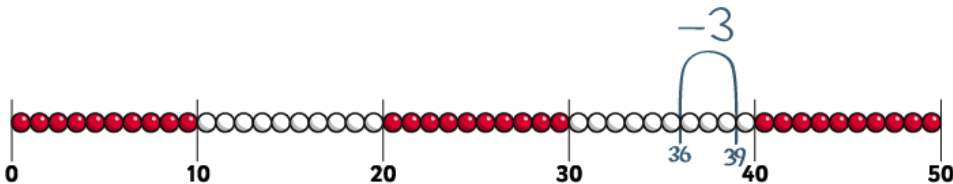
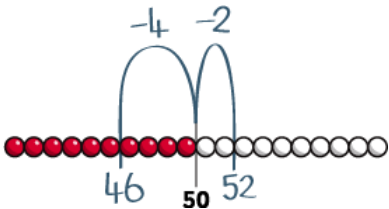
e.g.  $67 - 34$  as 67 subtract 30 (37) then count back 4 (33)



Subtract near multiples of 10

e.g.  $74 - 21$

e.g.  $57 - 19$

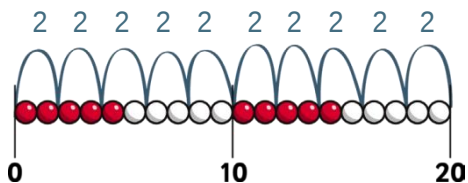
|                    | Year 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Year 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|--------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Mental Subtraction | <p><b>Using number facts</b></p> <p>'Story' of 4, 5, 6, 7, 8 and 9</p> <p>e.g. 'Story' of 7 is <math>7 - 1 = 6</math>, <math>7 - 2 = 5</math>, <math>7 - 3 = 4</math></p> <p>Number bonds to 10</p> <p>e.g. <math>10 - 1 = 9</math>, <math>10 - 2 = 8</math>, <math>10 - 3 = 7</math></p>  <p><math>10 - 7 = 3</math></p> <p>Subtract using patterns of known facts</p> <p>e.g. <math>7 - 3 = 4</math> so we know <math>27 - 3 = 24</math>, <math>47 - 3 = 44</math>, <math>77 - 3 = 74</math></p> | <p><b>Using number facts</b></p> <p>Know pairs of numbers which make the numbers up to and including 12 and derive related subtraction facts</p> <p>e.g. <math>10 - 6 = 4</math>, <math>8 - 3 = 5</math>, <math>5 - 2 = 3</math></p> <p>Subtract using patterns of known facts</p> <p>e.g. <math>9 - 3 = 6</math>, so we know <math>39 - 3 = 36</math>, <math>69 - 3 = 66</math>, <math>89 - 3 = 86</math></p>  <p>Bridging 10</p> <p>e.g. <math>52 - 6</math> as <math>52 - 2 (50) - 4 = 46</math></p>  <p><b>Counting up</b></p> <p>Find a difference between two numbers on a line where the numbers are close together</p> <p>e.g. <math>51 - 47</math></p> |

# Multiplication

## Year 1

### Counting in steps ('clever' counting)

Count in 2s



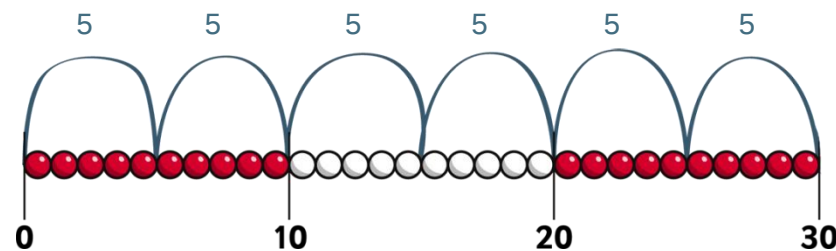
Count in 10s

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

## Year 2

### Counting in steps ('clever' counting)

Count in 2s, 5s and 10s

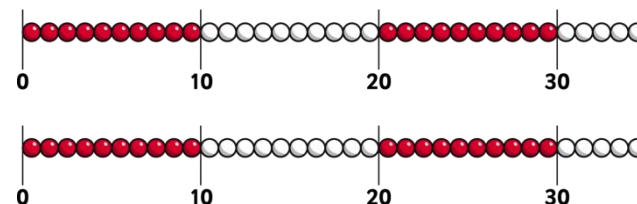


Begin to count in 3s

### Doubling and halving

Begin to know doubles of multiples of 5 to 100

e.g. *double 35 is 70*

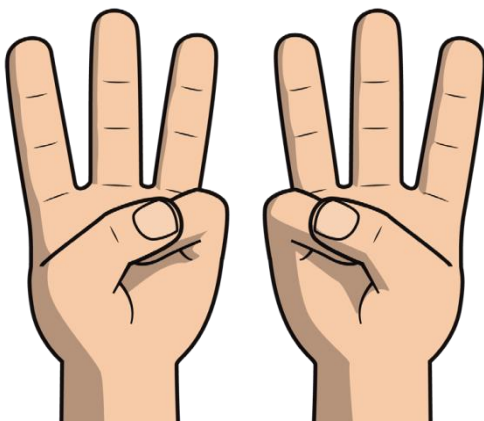


Begin to double 2-digit numbers less than 50 with 1s digits of 1, 2, 3, 4 or 5

## Year 1

### Doubling and halving

Find doubles to double 5 using fingers  
e.g. *double 3*



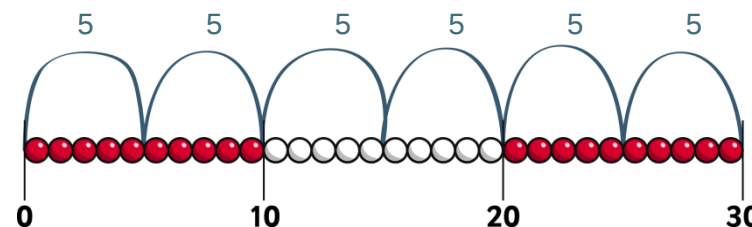
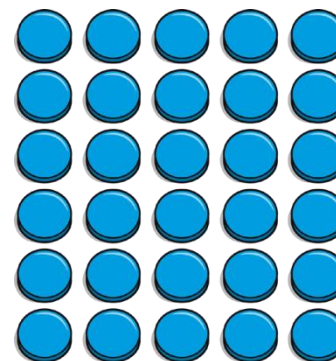
## Year 2

### Grouping

Use arrays to find answers to multiplication and relate to 'clever' counting

e.g.  $3 \times 4$  as *three lots of four things*

e.g.  $6 \times 5$  as *six steps in the 5s count as well as six lots of five*



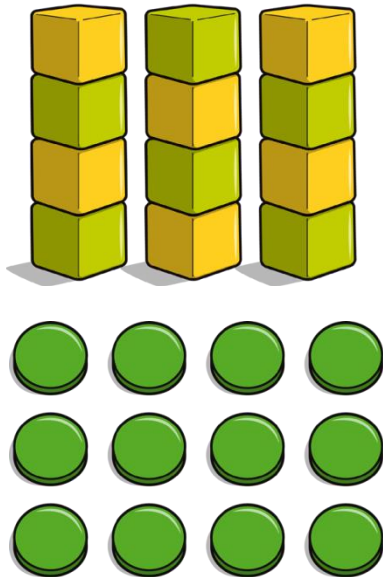
Understand that  $5 \times 3$  can be worked out as three 5s or five 3s

## Year 1

### Grouping

Begin to use visual and concrete arrays and sets of objects to find the answers to 'three lots of four' or 'two lots of five'

e.g. *three lots of four*

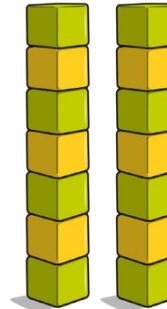


## Year 2

### Using number facts

Know doubles to double 20

e.g. *double 7 is 14*



Start learning  $\times 2$ ,  $\times 5$ ,  $\times 10$  tables, relating these to 'clever' counting in 2s, 5s, and 10s

e.g.  $5 \times 10 = 50$ , and five steps in the 10s count = 10, 20, 30, 40, 50

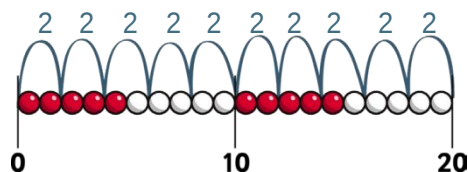


Division

## Year 1

### Counting in steps ('clever' counting)

Count in 2s

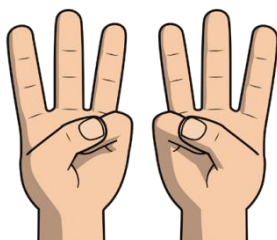


Count in 10s

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

### Doubling and halving

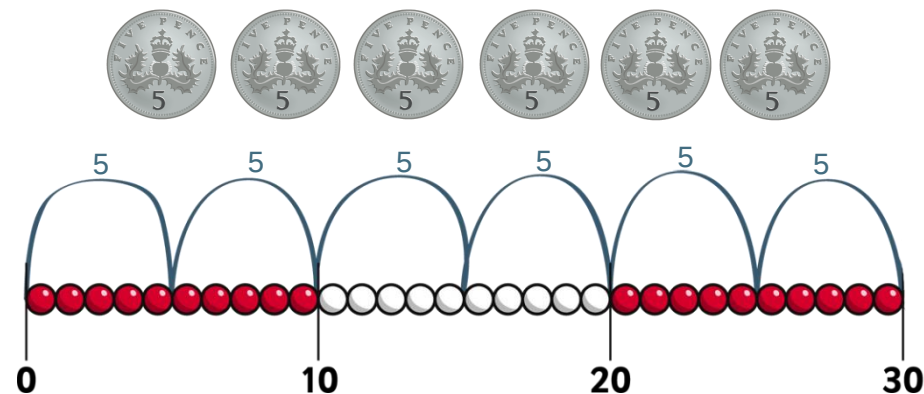
Find half of even numbers up to 12, including realising that it is hard to halve an odd number



## Year 2

### Counting in steps ('clever' counting)

Count in 2s, 5s and 10s

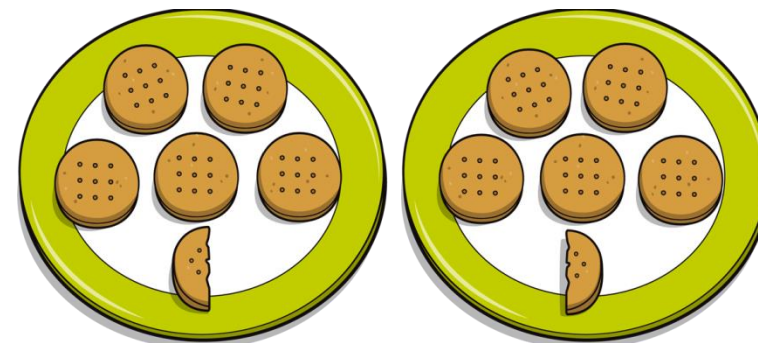


Begin to count in 3s

### Doubling and halving

Find half of numbers up to 40, including realising that half of an odd number gives a remainder of 1 or an answer containing a  $\frac{1}{2}$

e.g.  $\frac{1}{2}$  of 11 =  $5 \frac{1}{2}$



Begin to know half of multiples of 10 to 100

e.g. half of 70 is 35

## Year 1

### Grouping

Begin to use visual and concrete arrays and 'sets of' objects to find the answers to questions such as *'How many towers of three can I make with twelve cubes?'*

### Sharing

Begin to find half of a quantity using sharing

e.g. *find half of 16 cubes by giving one each repeatedly to two children*

## Year 2

### Grouping

Relate division to multiplication by using arrays or towers of cubes to find answers to division

e.g. *'How many towers of five cubes can I make from twenty cubes?'* as  $\_ \times 5 = 20$  and also as  $20 \div 5 = \_$



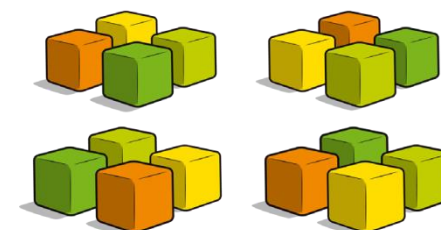
Relate division to 'clever' counting and hence to multiplication

e.g. *'How many fives do I count to get to twenty?'*

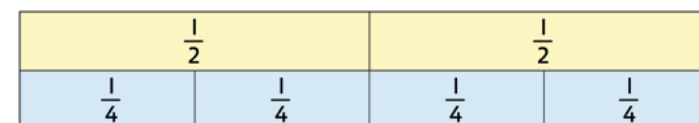
### Sharing

Begin to find half or a quarter of a quantity using sharing

e.g. *find a quarter of 16 cubes by sorting the cubes into four piles*



Find  $\frac{1}{4}$ ,  $\frac{1}{2}$ ,  $\frac{3}{4}$  of small quantities



### Using number facts

Know half of even numbers to 24

Know  $\times 2$ ,  $\times 5$  and  $\times 10$  division facts

Begin to know  $\times 3$  division facts