

## Introduction

This book visually displays pictorial representations of arithmetic number sentences. This will allow maths learners in Year 1 to understand a range of arithmetic methods and strategies. There are no written methods, encouraging you and your child to discuss how the number sentences have been calculated. Your child can learn different methods and strategies through frequent practice, ensuring the development of their arithmetic understanding, knowledge and skills.

A variety of maths resources are pictorially represented.

- Place Value Chart
- Base 10
- Numicon
- Multilink Cubes
- Counters
- Tens Frame
- Number Lines
- Number Grids
- Part Whole Models
- Bar Models
- Groups of

**Concrete** - the use of objects that can be handled or manipulated to explain how to accurately calculate the number sentence.

**Pictorial** - the use of mathematical images to show representations of the accurate calculation of the number sentence.

**Abstract** - the use of efficient formal written methods applied to prove the accurate calculation of the number sentence.

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### Place Value

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### Adding

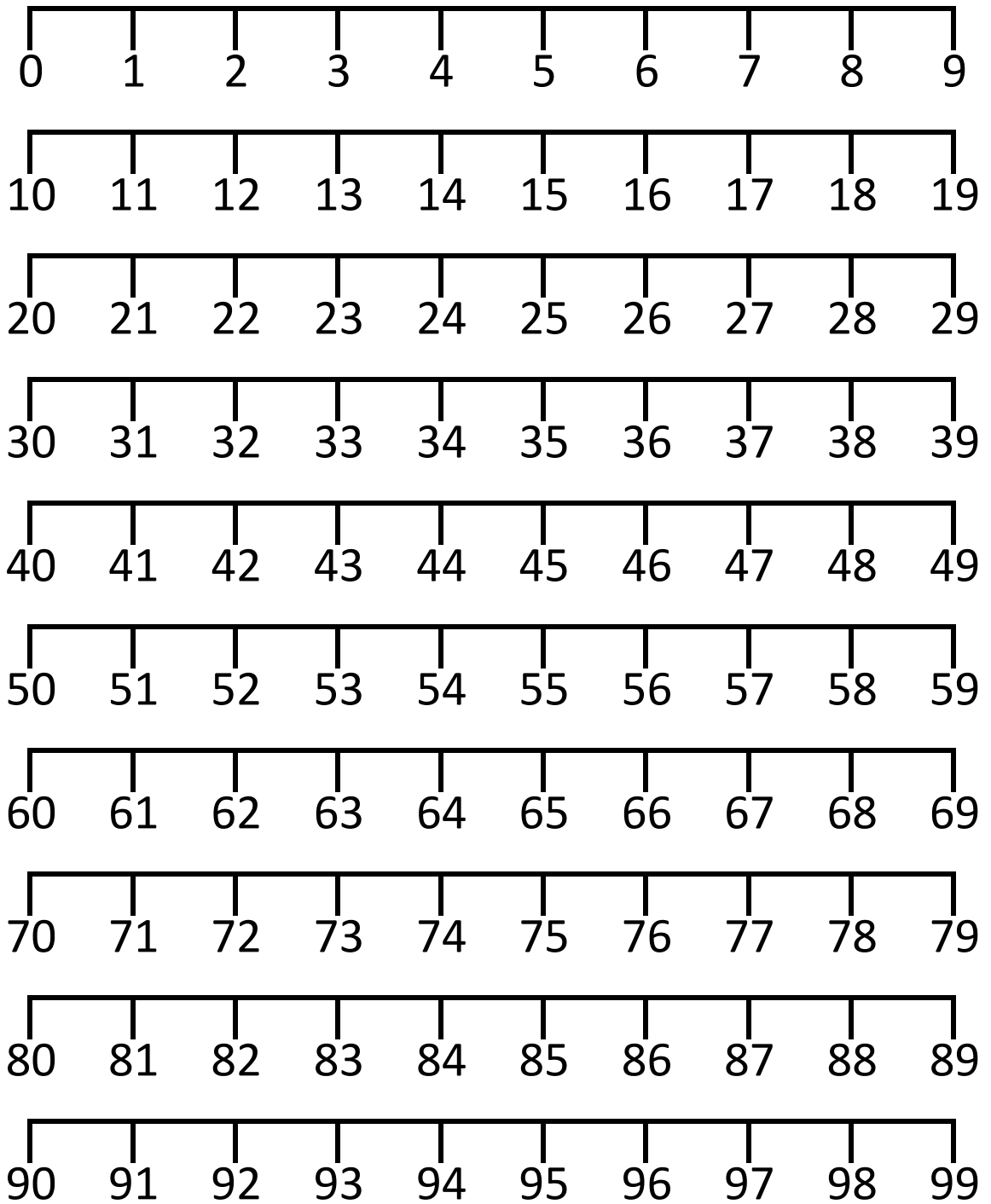
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# Number Line



## Number Grid

0	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	101	102	103	104	105	106	107	108	109
110	111	112	113	114	115	116	117	118	119
120	121	122	123	124	125	126	127	128	129
130	131	132	133	134	135	136	137	138	139
140	141	142	143	144	145	146	147	148	149

### 2x tables, counting on 2 more



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

### 3x tables, counting on 3 more

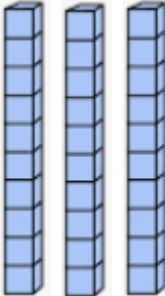

3	x	0	=	0
3	x	1	=	3 = 3
3	x	2	=	3+3 = 6
3	x	3	=	3+3+3 = 9
3	x	4	=	3+3+3+3 = 12
3	x	5	=	3+3+3+3+3 = 15
3	x	6	=	3+3+3+3+3+3 = 18
3	x	7	=	3+3+3+3+3+3+3 = 21
3	x	8	=	3+3+3+3+3+3+3+3 = 24
3	x	9	=	3+3+3+3+3+3+3+3+3 = 27
3	x	10	=	3+3+3+3+3+3+3+3+3+3 = 30
3	x	11	=	3+3+3+3+3+3+3+3+3+3+3 = 33
3	x	12	=	3+3+3+3+3+3+3+3+3+3+3+3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



How many 10s and 1s

Hundreds 100s	Tens 10s	Ones 1s
	1 	4 

14 (2-digits) = 1 tens (10s) and 4 ones (1s)

Hundreds 100s	Tens 10s	Ones 1s
	3 	2 

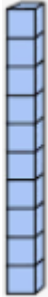

32 (2-digits) = 3 tens (10s) and 2 ones (1s)

Questions

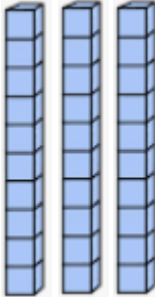

- 1) 15 =      3) 21 =      5) 45 =      7) 68 =  
2) 19 =      4) 34 =      6) 57 =      8) 89 =



## Value of each digit

Hundreds 100s	Tens 10s	Ones 1s
	1 	4 

**14** (2-digits) = **10** + **4**  
**1 tens** (10s) and **4 ones** (1s)

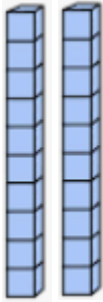

Hundreds 100s	Tens 10s	Ones 1s
	3 	2 

**32** (2-digits) = **30** + **2**  
**3 tens** (10s) and **2 ones** (1s)

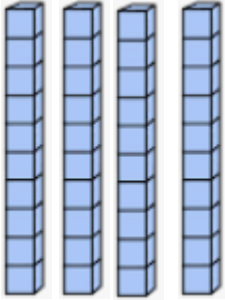

### Questions

- |         |         |         |         |
|---------|---------|---------|---------|
| 1) 15 = | 3) 21 = | 5) 45 = | 7) 68 = |
| 2) 19 = | 4) 34 = | 6) 57 = | 8) 89 = |

## Standard partitioning

Hundreds 100s	Tens 10s	Ones 1s
	2	5
		

$$25 \text{ (2-digits)} = 20 + 5$$

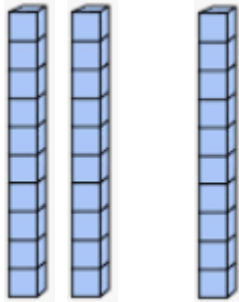

Hundreds 100s	Tens 10s	Ones 1s
	4	4
		

$$44 \text{ (2-digits)} = 40 + 4$$

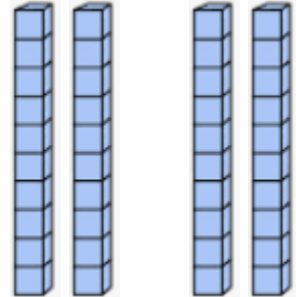

### Questions

- |         |         |         |         |
|---------|---------|---------|---------|
| 1) 14 = | 3) 21 = | 5) 53 = | 7) 82 = |
| 2) 18 = | 4) 45 = | 6) 67 = | 8) 93 = |

## Non-Standard partitioning

Hundreds 100s	Tens 10s	Ones 1s
	3	5
		

$$\begin{aligned}
 35 \text{ (2-digits)} &= 30 + 3 + 2 \\
 &= 20 + 10 + 5 \\
 &= 20 + 10 + 3 + 2
 \end{aligned}$$

Hundreds 100s	Tens 10s	Ones 1s
	4	4
		

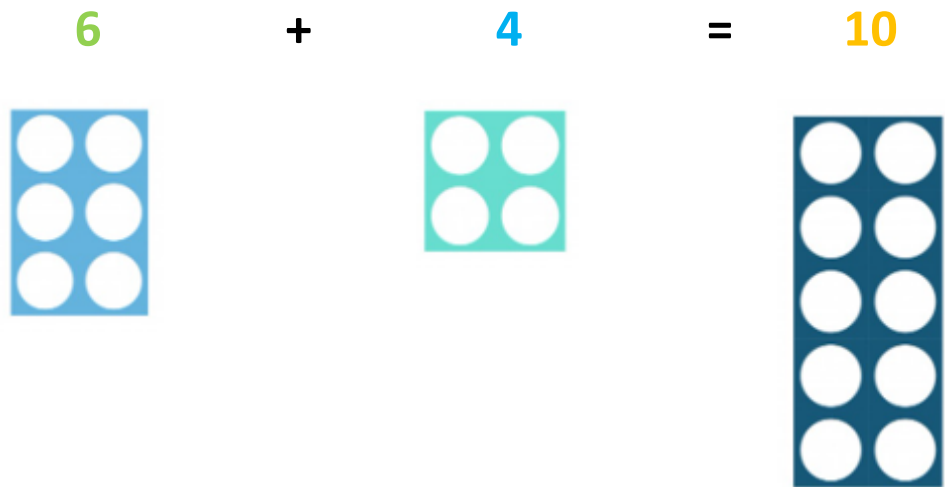
$$\begin{aligned}
 44 \text{ (2-digits)} &= 40 + 3 + 1 \\
 &= 20 + 20 + 4 \\
 &= 20 + 20 + 3 + 1
 \end{aligned}$$

### Questions

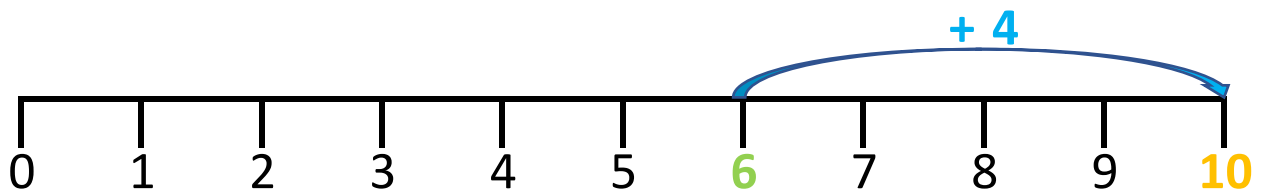
- |         |         |         |         |
|---------|---------|---------|---------|
| 1) 14 = | 3) 21 = | 5) 53 = | 7) 82 = |
| 2) 18 = | 4) 45 = | 6) 67 = | 8) 93 = |

# Number bonds to 10

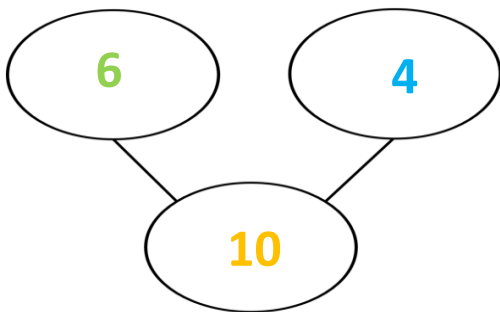
Numicon



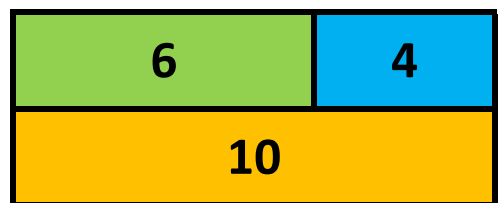
Number Line



Part Whole Model



Bar Model



Questions

1)  $0 + 10 =$

3)  $7 + \underline{\quad} = 10$

5)  $\underline{\quad} + 5 = 10$

2)  $2 + 8 =$

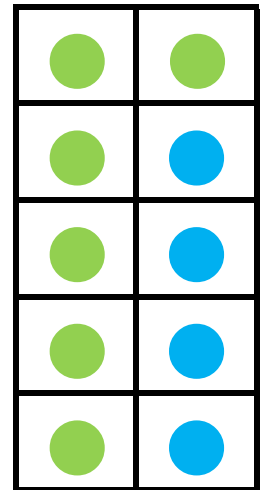
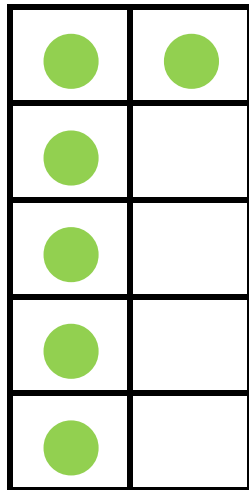
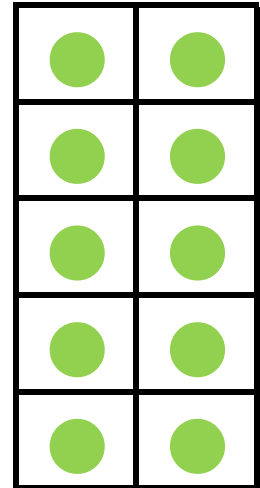
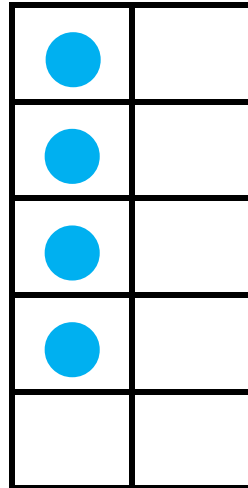
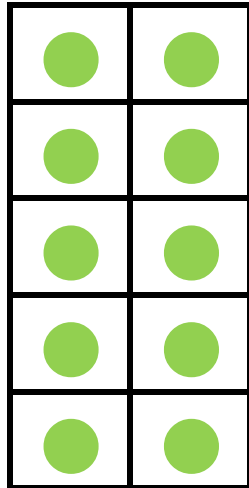
4)  $8 + \underline{\quad} = 10$

6)  $\underline{\quad} + 1 = 10$

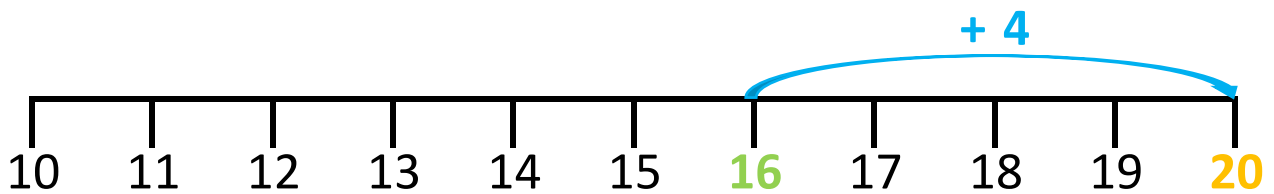
# Number bonds to 20

Tens Frame

$$16 + 4 = 20$$



Number Line



Questions

1)  $0 + 20 =$

3)  $3 + \underline{\quad} = 20$

5)  $\underline{\quad} + 15 = 20$

2)  $12 + 8 =$

4)  $8 + \underline{\quad} = 20$

6)  $\underline{\quad} + 11 = 20$

# Number bonds to 30

Numicon

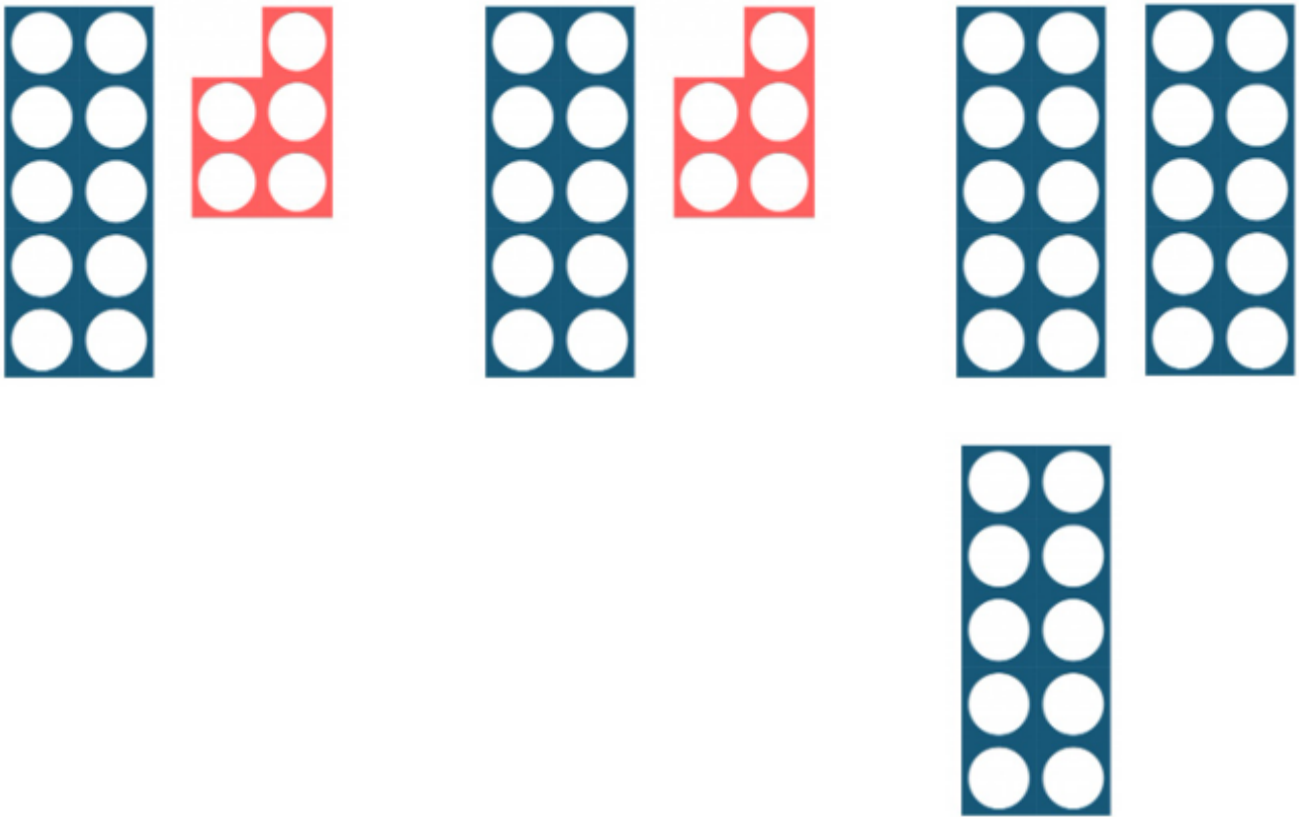
15

+

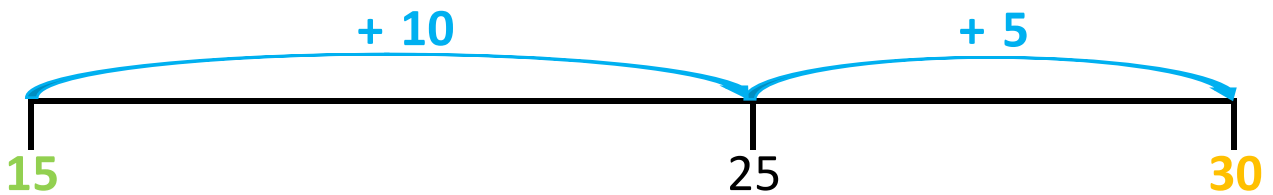
15

=

30



Number Line



Questions

1)  $0 + 30 =$

3)  $13 + \underline{\quad} = 30$

5)  $\underline{\quad} + 25 = 30$

2)  $22 + 8 =$

4)  $18 + \underline{\quad} = 30$

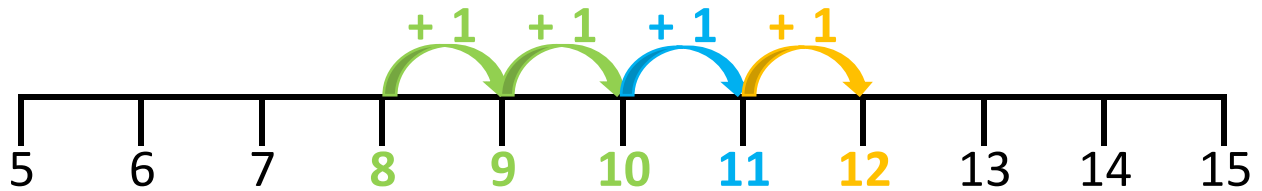
6)  $\underline{\quad} + 11 = 30$

## Number patterns of 1s

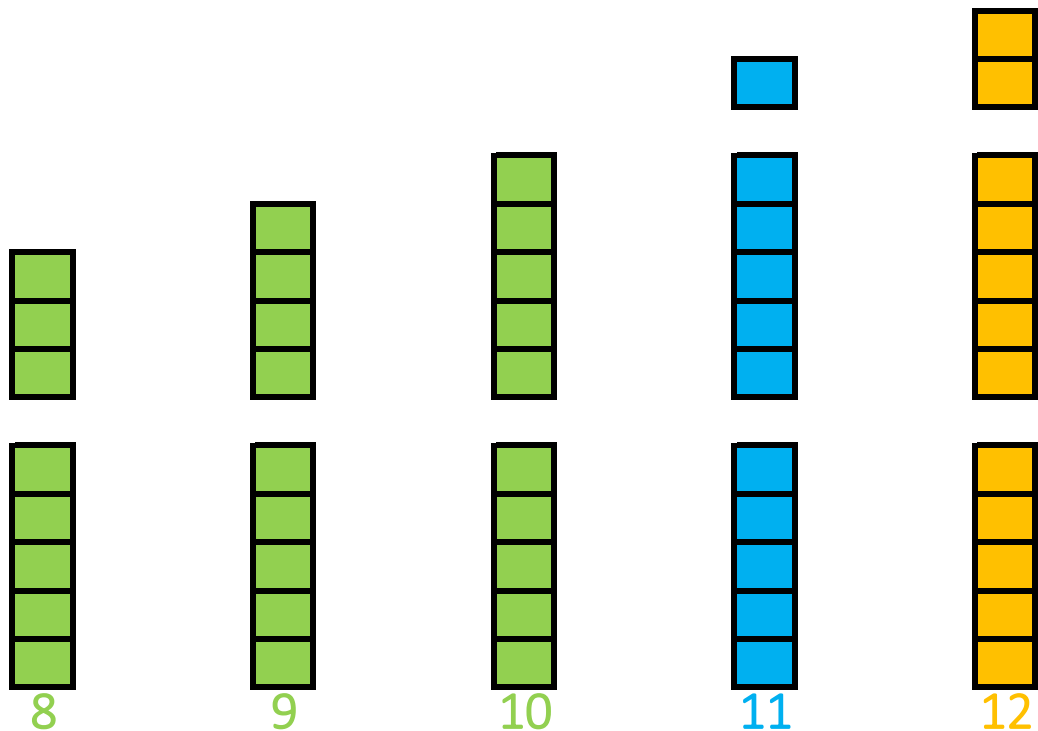
Number Sentence

$$8, 9, 10, ?, ? = 8, 9, 10, 11, 12$$

Number Line



Multilink Cubes



Questions

- 1) 2, 3, 4,         ,           
2) 5, 6, 7,         ,

- 3) 13, 14, 15,         ,           
4) 20, 21, 22,         ,

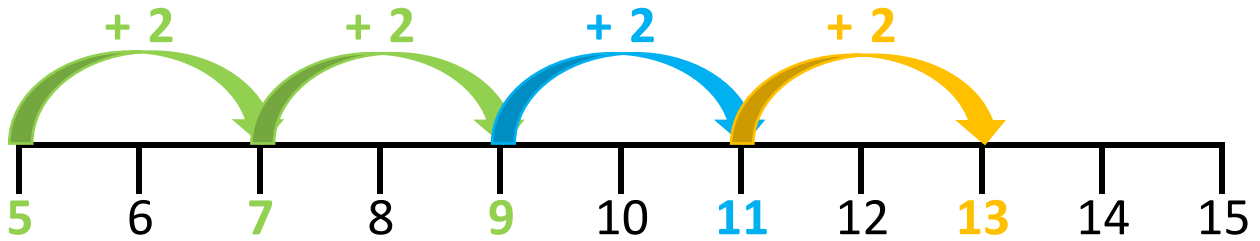
- 5) 51, 52, 53,         ,           
6) 96, 97, 98,         ,

## Number patterns of 2s

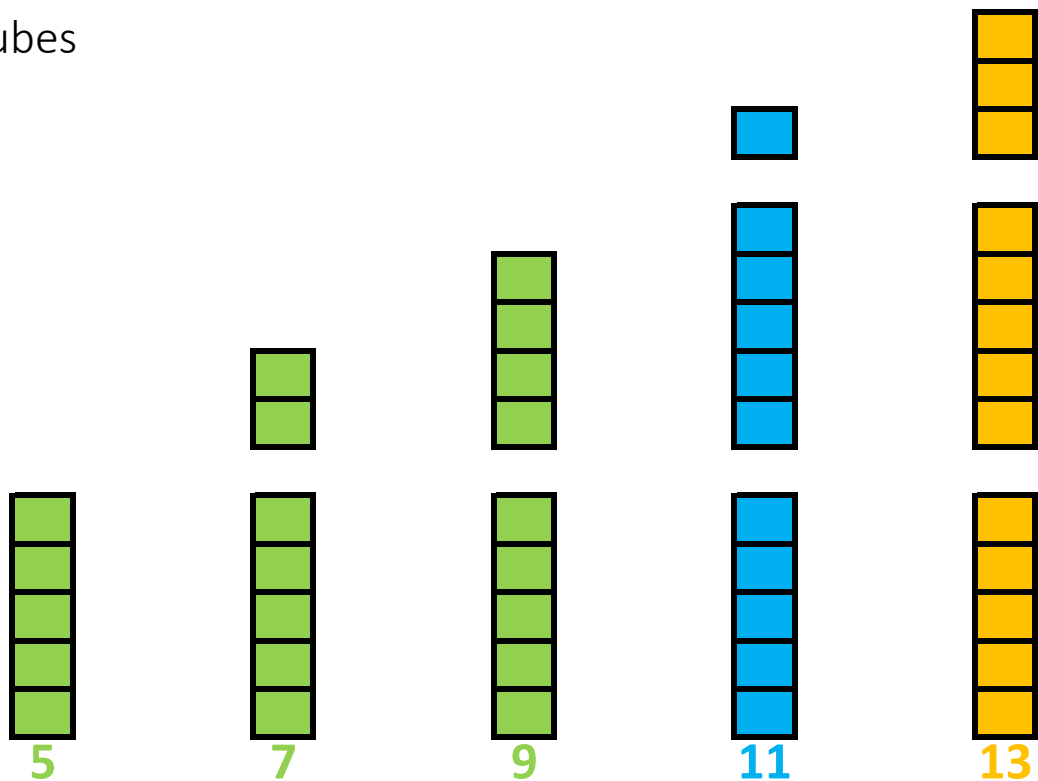
Number Sentence

$$\underline{5}, \underline{7}, \underline{9}, \underline{?}, \underline{?} = \underline{5}, \underline{7}, \underline{9}, \underline{11}, \underline{13}$$

Number Line



Multilink Cubes



Questions

1) 0, 2, 4,         ,           
2) 10, 12, 14,         ,         

3) 18, 20, 22,         ,           
4) 20, 22, 24,         ,         

5) 32, 34, 36,         ,           
6) 68, 70, 72,         ,

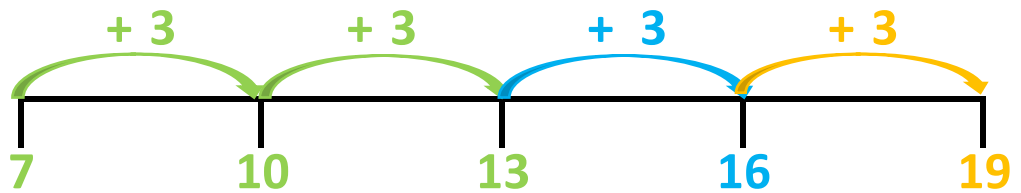


## Number patterns of 3s

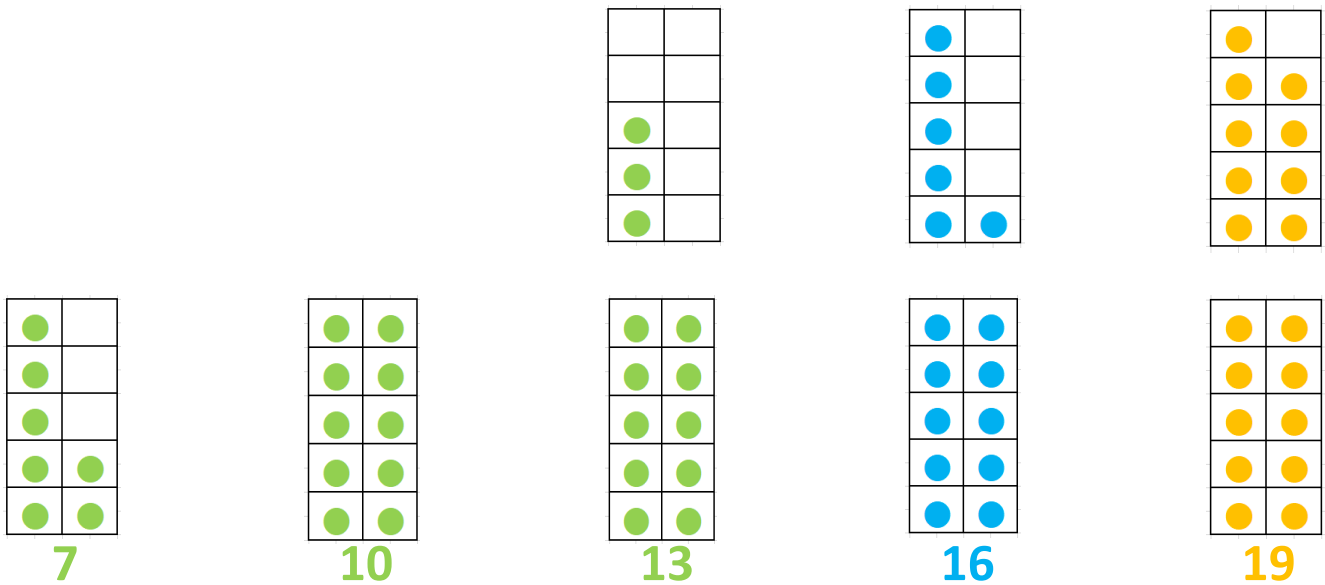
Number Sentence

$$7 \quad 10 \quad 13 \quad ?, \quad ? \quad = \quad 7 \quad 10 \quad 13 \quad 16 \quad 19$$

Number Line



Tens Frame



Questions

1) 0, 3, 6,           ,             
 2) 15, 18, 21,           ,           

3) 24, 27, 30,           ,             
 4) 33, 36, 39,           ,           

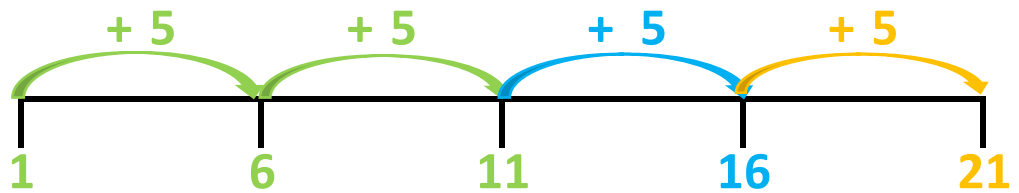
5) 42, 45, 48,           ,             
 6) 63, 66, 69,           ,

## Number patterns of 5s

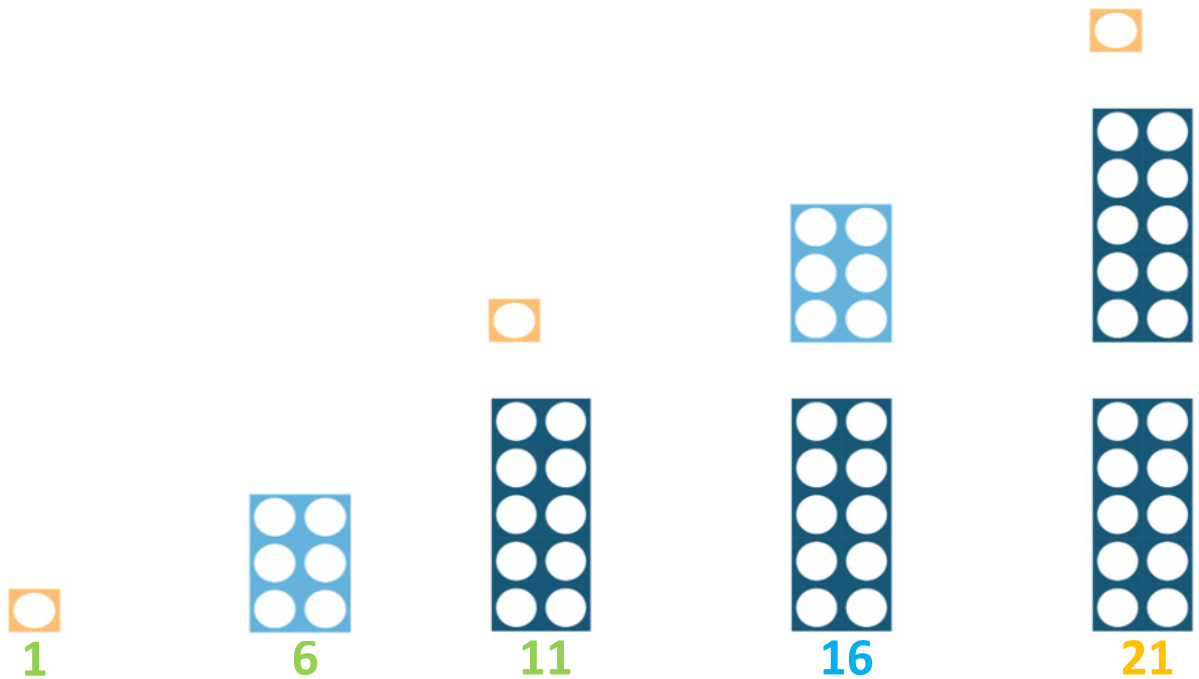
Number Sentence

$$1, 6, 11, ?, ? = 1, 6, 11, 16, 21$$

Number Line



Numicon



Questions

1) 0, 5, 10,         ,           
2) 15, 20, 25,         ,         

3) 30, 35, 40,         ,           
4) 35, 40, 45,         ,         

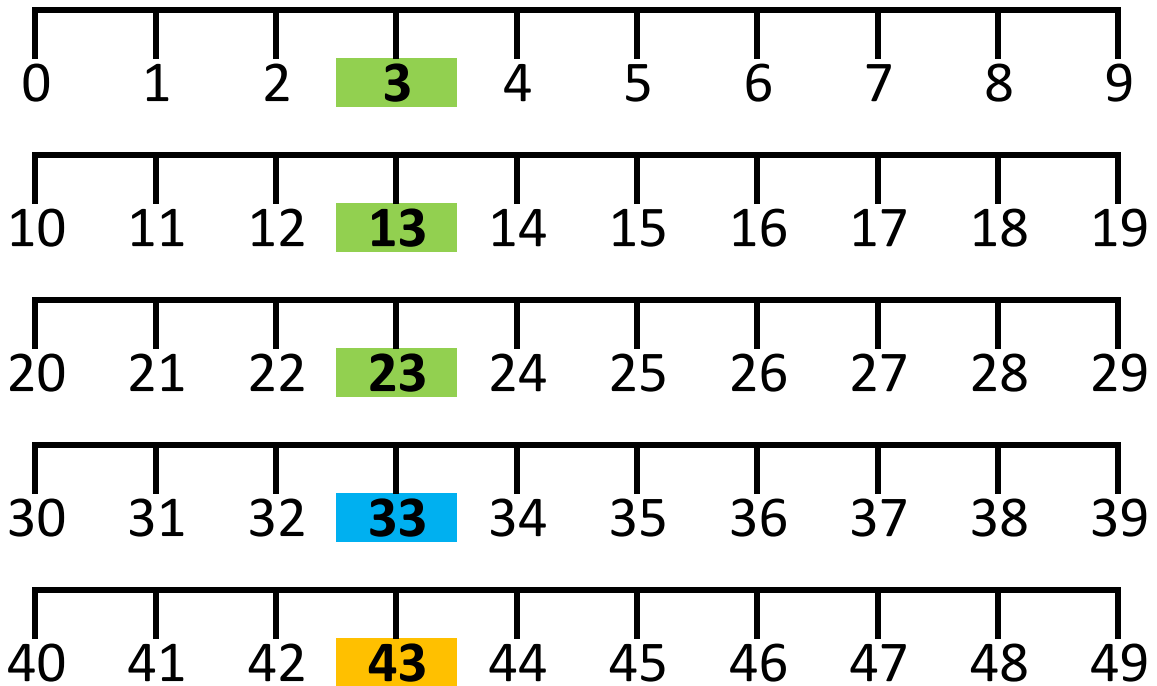
5) 45, 45, 50,         ,           
6) 55, 60, 65,         ,

## Number patterns of 10s

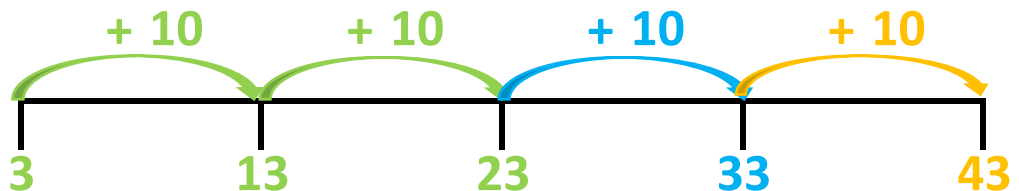
Number Sentence

$$3, 13, 23, ?, ? = 3, 13, 23, 33, 43$$

Number Line



Number Line



Questions

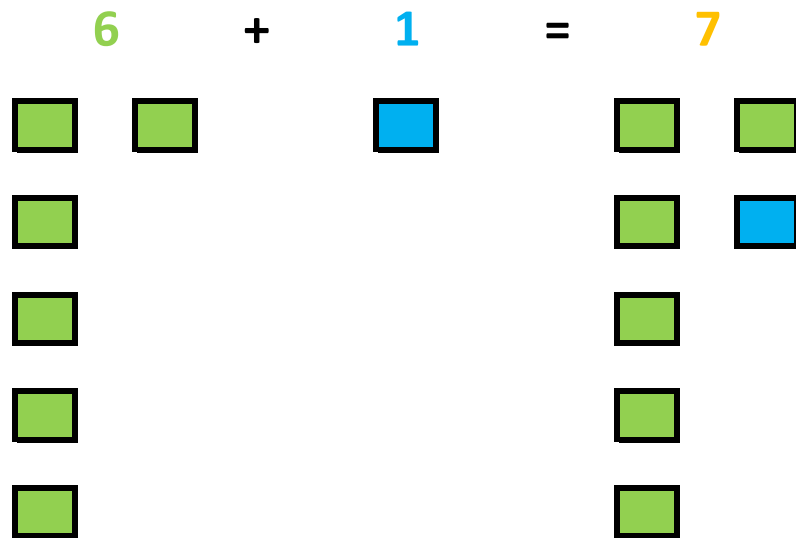
1) 0, 10, 20,       ,         
2) 40, 50, 60,       ,       

3) 50, 60, 70,       ,         
4) 70, 80, 90,       ,       

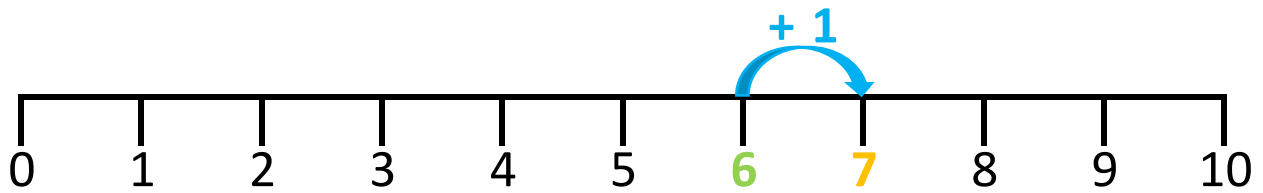
5) 90, 100, 110,       ,         
6) 120, 130, 140,       ,

# 1 More

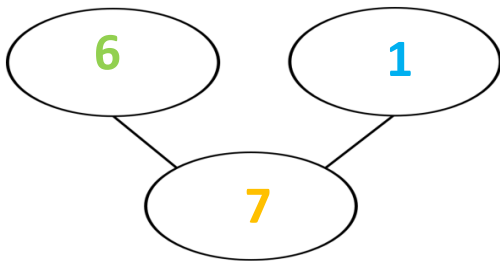
## Multilink Cubes



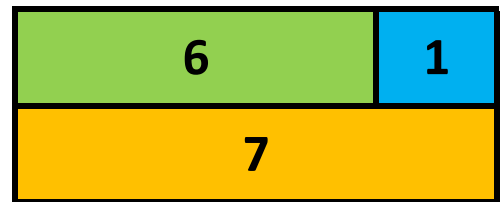
## Number Line



## Part Whole Model



## Bar Model



## Questions

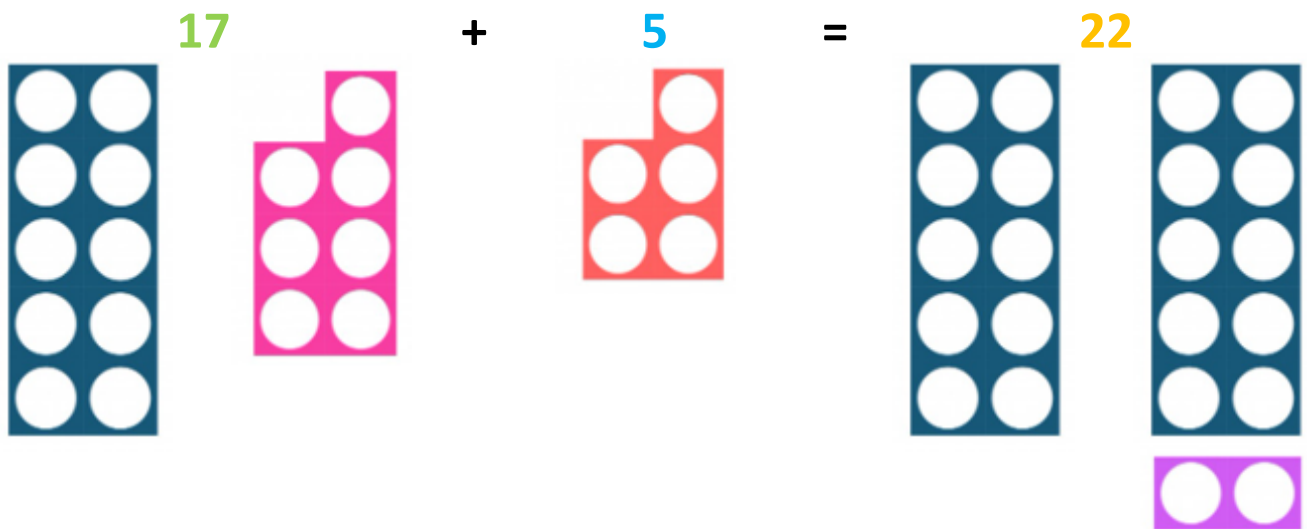
1)  $5 + 1 =$   
2)  $12 + 1 =$

3)  $19 + 1 =$   
4)  $23 + 1 =$

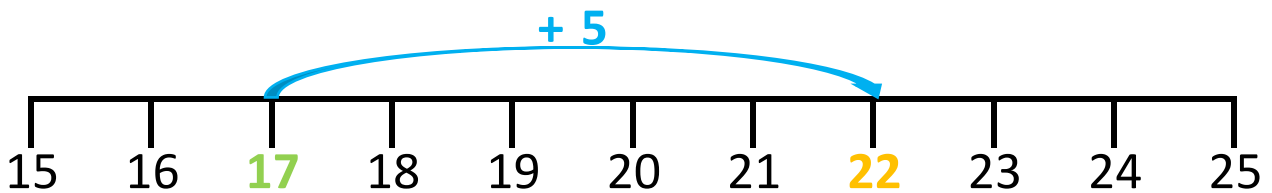
5)  $37 + 1 =$   
6)  $46 + 1 =$

# More than 1

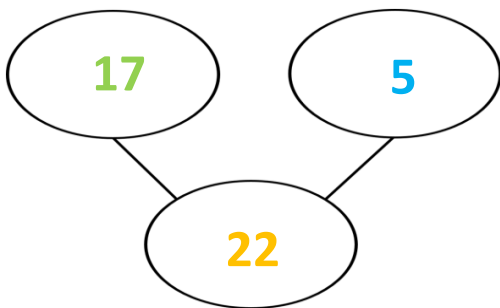
Numicon



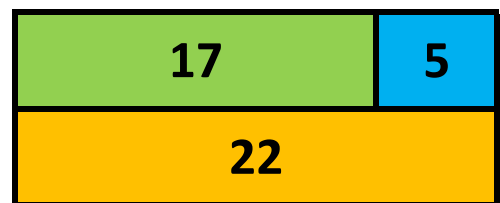
Number Line



Part Whole Model



Bar Model



Questions

1)  $3 + 5 =$

3)  $14 + 5 =$

5)  $4 + 21 =$

2)  $9 + 6 =$

4)  $16 + 3 =$

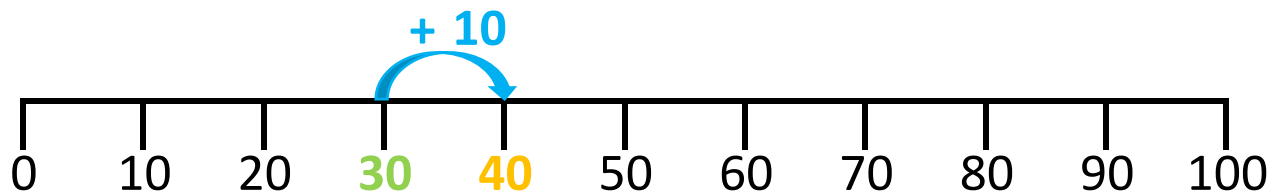
6)  $57 + 7 =$

## 10 More

Number Sentence

$$30 + 10 = 40$$

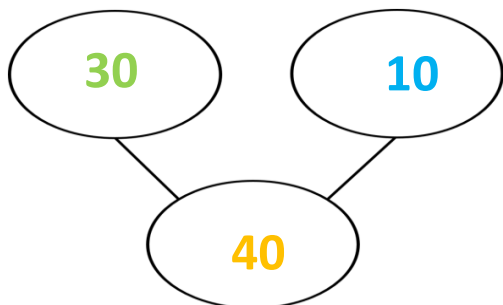
Number Line



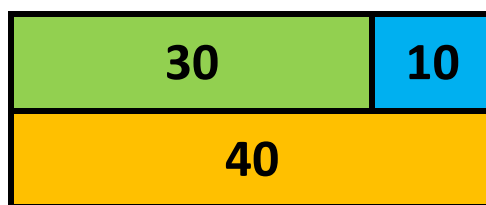
Number Grid

20	21	22	23	24	25	26	27	28	29
<b>30</b>	31	32	33	34	35	36	37	38	39
<b>40</b>	41	42	43	44	45	46	47	48	49

Part Whole Model



Bar Model



Questions

1)  $0 + 10 =$

3)  $60 + 10 =$

5)  $21 + 10 =$

2)  $30 + 10 =$

4)  $13 + 10 =$

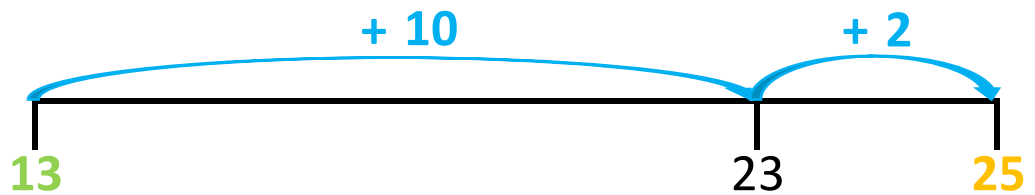
6)  $73 + 10 =$

# More than 10

Number Sentence

$$13 + 12 = 25$$

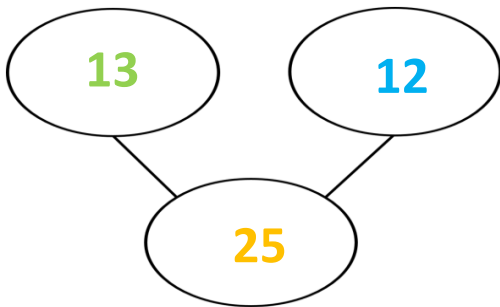
Number Line



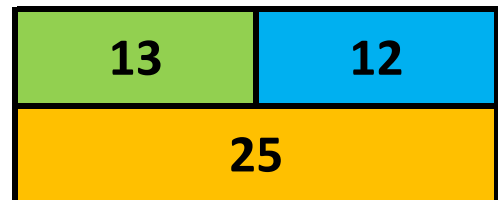
Number Grid

10	11	12	13	14	15	16	17	18	19
20	21	22	23	24	25	26	27	28	29

Part Whole Model



Bar Model



Questions

1)  $18 + 11 =$

3)  $27 + 14 =$

5)  $65 + 29 =$

2)  $26 + 16 =$

4)  $47 + 21 =$

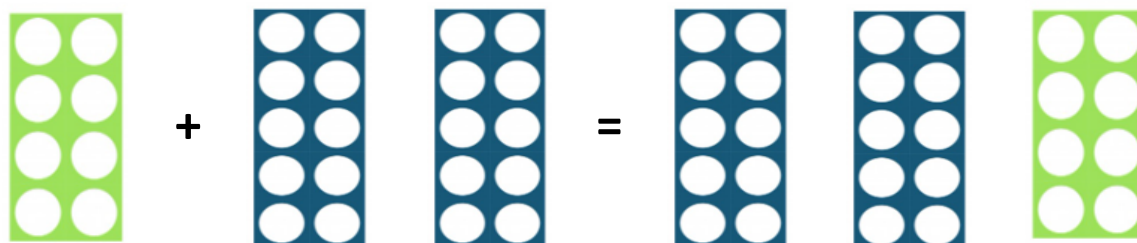
6)  $75 + 14 =$

# Multiples of 10

Number Sentence

$$8 + 20 = 28$$

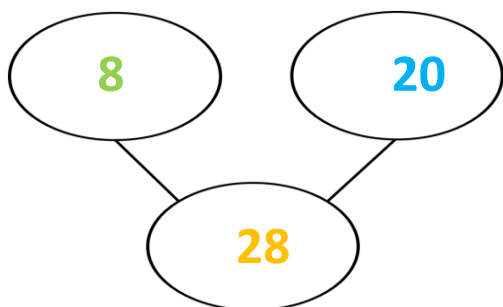
Numicon



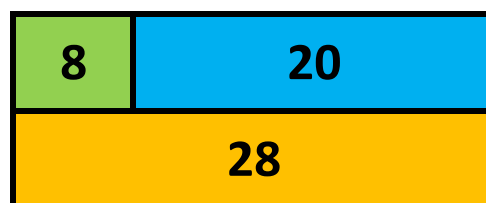
Number Grid

0	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

Part Whole Model



Bar Model



Questions

1)  $9 + 20 =$

3)  $24 + 30 =$

5)  $47 + 40 =$

2)  $16 + 20 =$

4)  $32 + 30 =$

6)  $58 + 40 =$

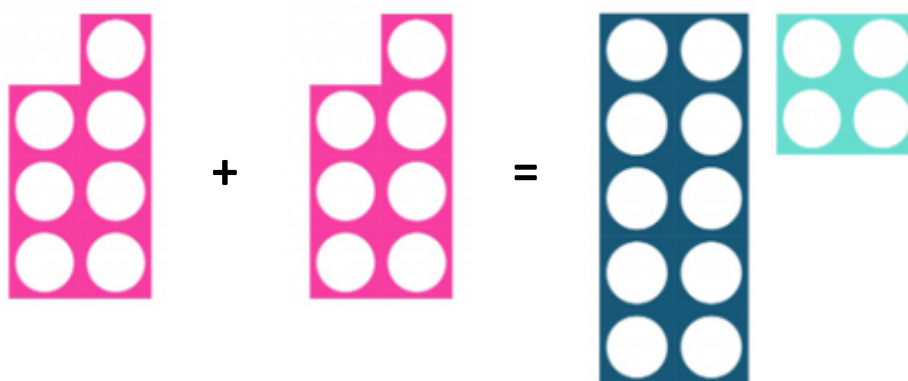


# Doubling

Number Sentence

$$7 + 7 = 14$$

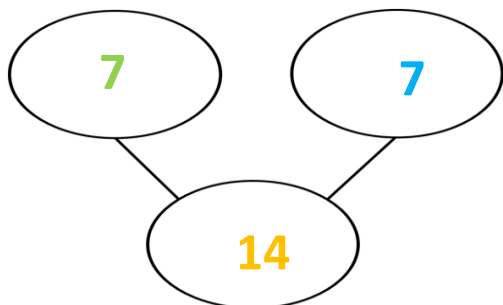
Numicon



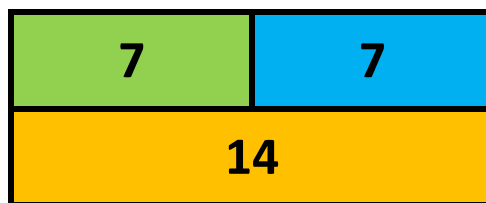
Number Grid

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19

Part Whole Model



Bar Model



Questions

1)  $2 + 2 =$

3)  $5 + 5 =$

5)  $21 + 4 + 4 =$

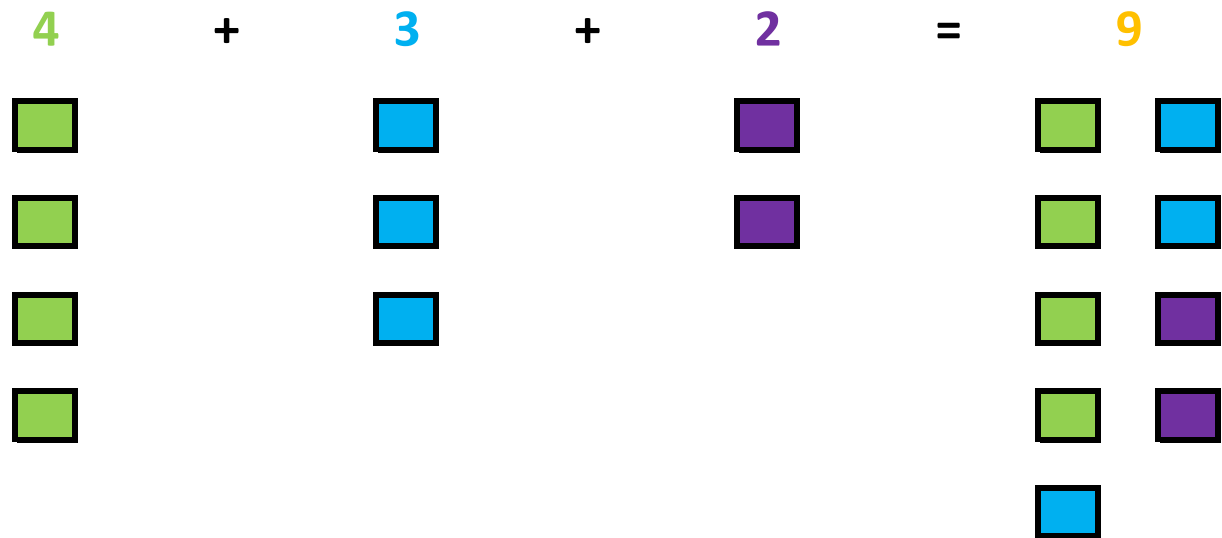
2)  $4 + 4 =$

4)  $6 + 6 =$

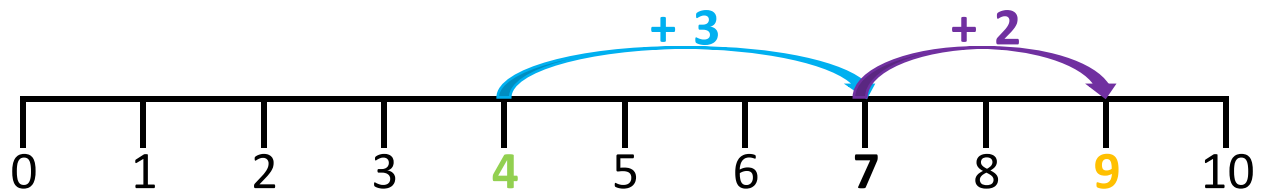
6)  $58 + 2 + 2 =$

# Three numbers

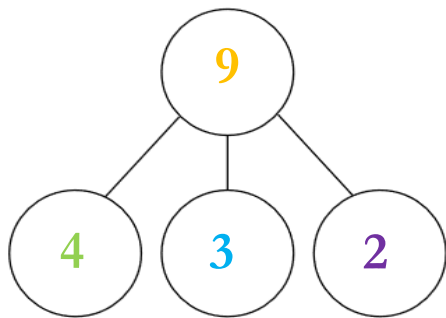
## Multilink Cubes



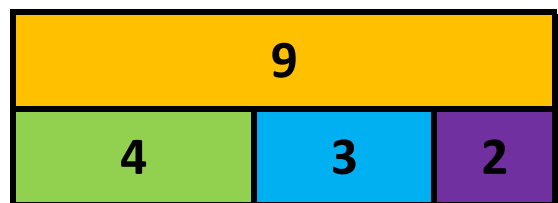
## Number Line



## Part Whole Model



## Bar Model



## Questions

- 1)  $3 + 2 + 4 =$
- 2)  $8 + 3 + 9 =$

- 3)  $10 + 40 + 20 =$
- 4)  $20 + 30 + 50 =$

# Column addition

Number Sentence

$$23 + 6 = 29$$

Step 1

$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 2 \quad 3 \\ + \quad 6 \\ \hline \hline \end{array}$$

Step 2

$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 2 \quad 3 \\ + \quad 6 \\ \hline \quad 9 \\ \hline \end{array}$$

Step 3

$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 2 \quad 3 \\ + \quad 6 \\ \hline 2 \quad 9 \\ \hline \end{array}$$

Step 1	Step 2	Step 3

Questions

1)  $13 + 4 =$

3)  $31 + 7 =$

5)  $55 + 4 =$

2)  $25 + 3 =$

4)  $43 + 6 =$

6)  $60 + 5 =$

## Column addition

Number Sentence

$$15 + 12 = 27$$

Step 1

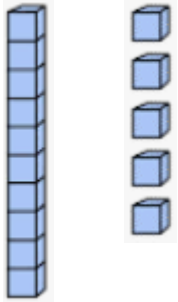
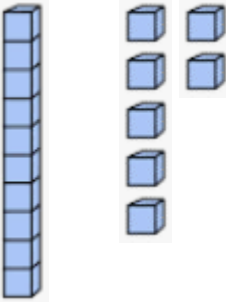
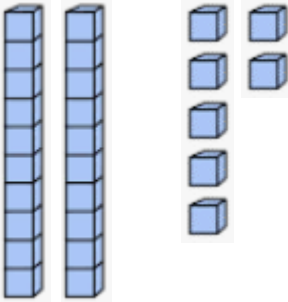
$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 1 \quad 5 \\ + 1 \quad 2 \\ \hline \hline \end{array}$$

Step 2

$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 1 \quad 5 \\ + 1 \quad 2 \\ \hline \quad 7 \end{array}$$

Step 3

$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 1 \quad 5 \\ + 1 \quad 2 \\ \hline 2 \quad 7 \end{array}$$

Step 1	Step 2	Step 3
<p>10s    1s</p> 	<p>10s    1s</p> 	<p>10s    1s</p> 

Questions

1)  $18 + 11 =$

3)  $34 + 13 =$

5)  $54 + 21 =$

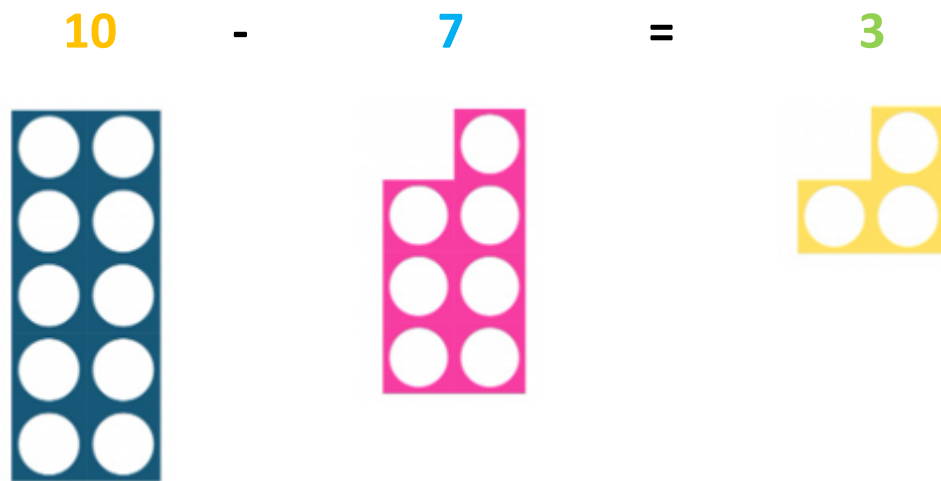
2)  $26 + 12 =$

4)  $42 + 22 =$

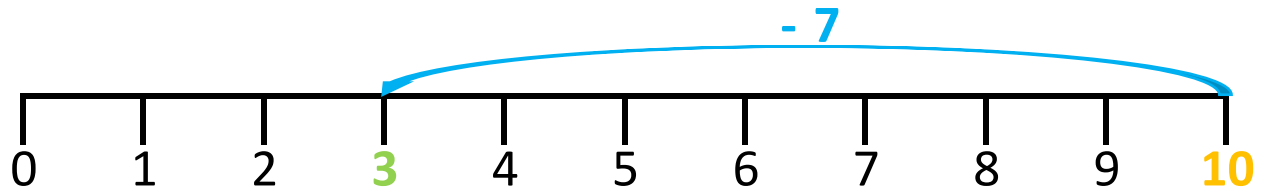
6)  $62 + 34 =$

# Number bonds to 10

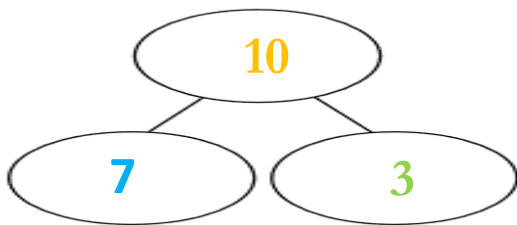
Numicon



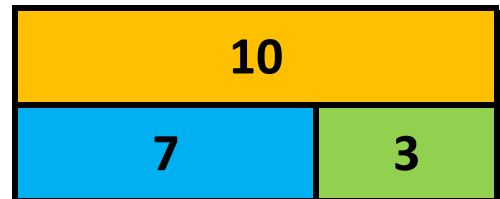
Number Line



Part Whole Model



Bar Model



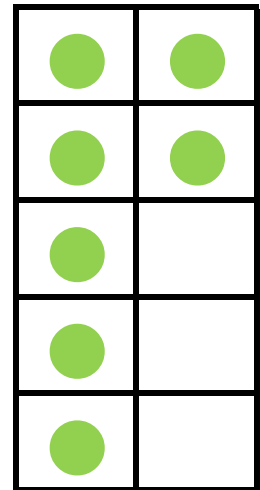
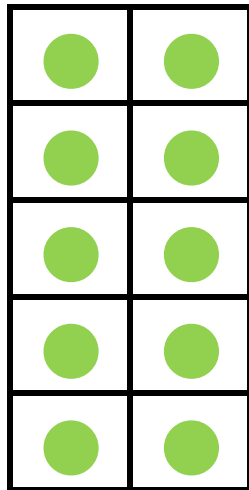
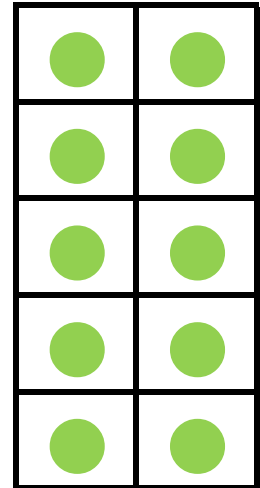
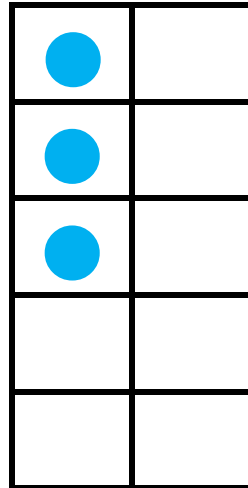
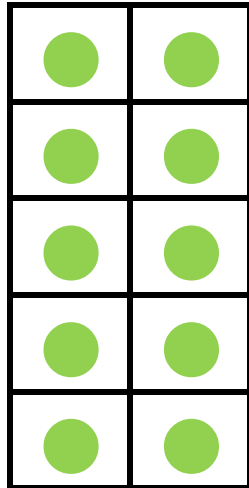
Questions

- 1)  $10 - 10 =$       3)  $10 - 7 =$       5)  $10 - 5 =$   
2)  $10 - 6 =$       4)  $10 - 2 =$       6)  $10 - 1 =$

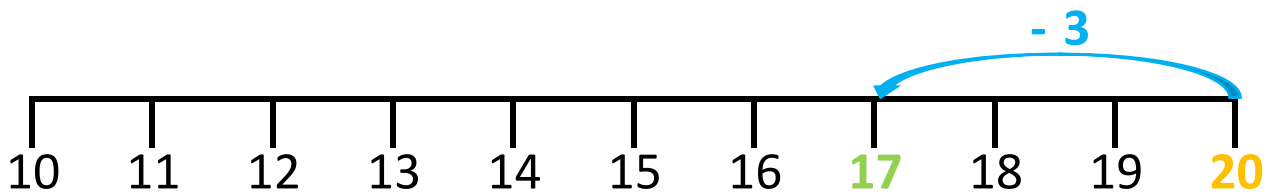
# Number bonds to 20

Tens Frame

$$20 - 3 = 17$$



Number Line



Questions

- 1)  $20 - 20 =$
- 2)  $20 - 16 =$

- 3)  $20 - 14 =$
- 4)  $20 - 12 =$

- 5)  $20 - 15 =$
- 6)  $20 - 11 =$

# Number bonds to 30

Numicon

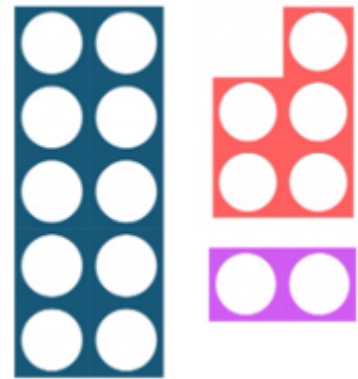
30

-

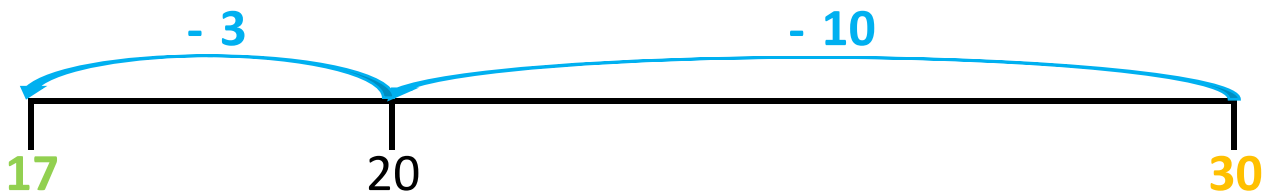
13

=

17



Number Line



Questions

1)  $30 - 30 =$

3)  $30 - \underline{\quad} = 13$

5)  $30 - 25 = 30$

2)  $30 - 18 =$

4)  $30 - \underline{\quad} = 4$

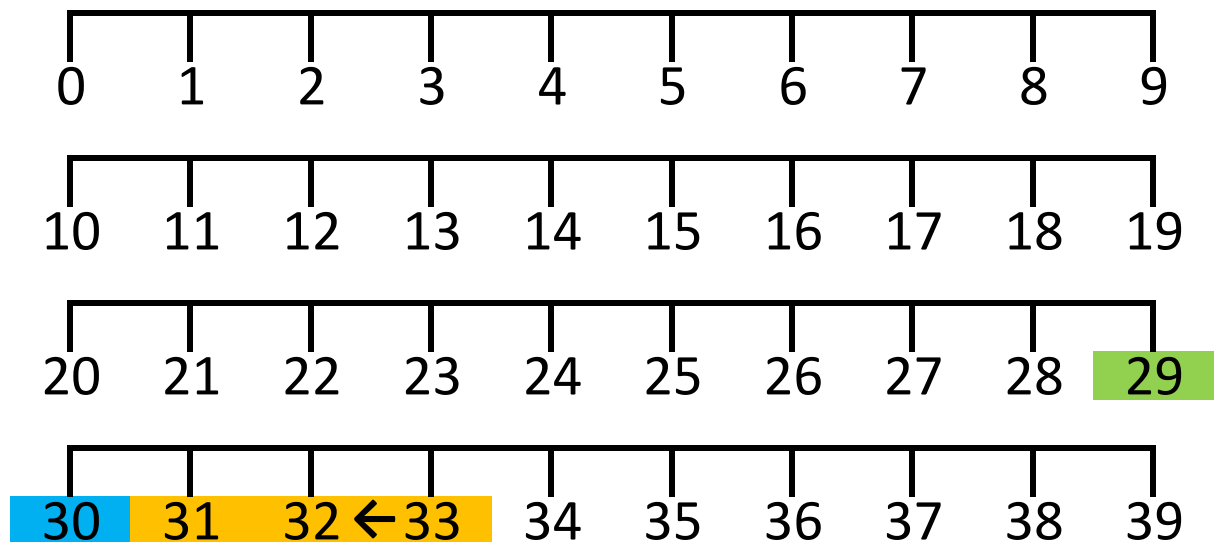
6)  $30 - 11 = 30$

## Number patterns of 1s

Number Sentence

$$33, 32, 31, ?, ? = 33, 32, 31, 30, 29$$

Number Line



Number Grid

0	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

Questions

1) 5, 4, 3,     ,       
 2) 18, 17, 16,     ,     

3) 30, 29, 28,     ,       
 4) 39, 38, 37,     ,     

5) 41, 40, 39,     ,       
 6) 56, 55, 54,     ,

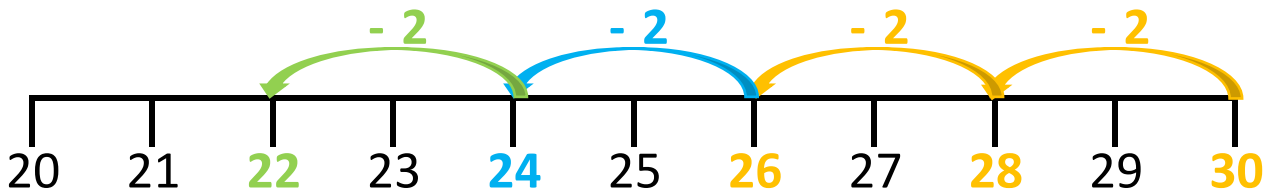


## Number patterns of 2s

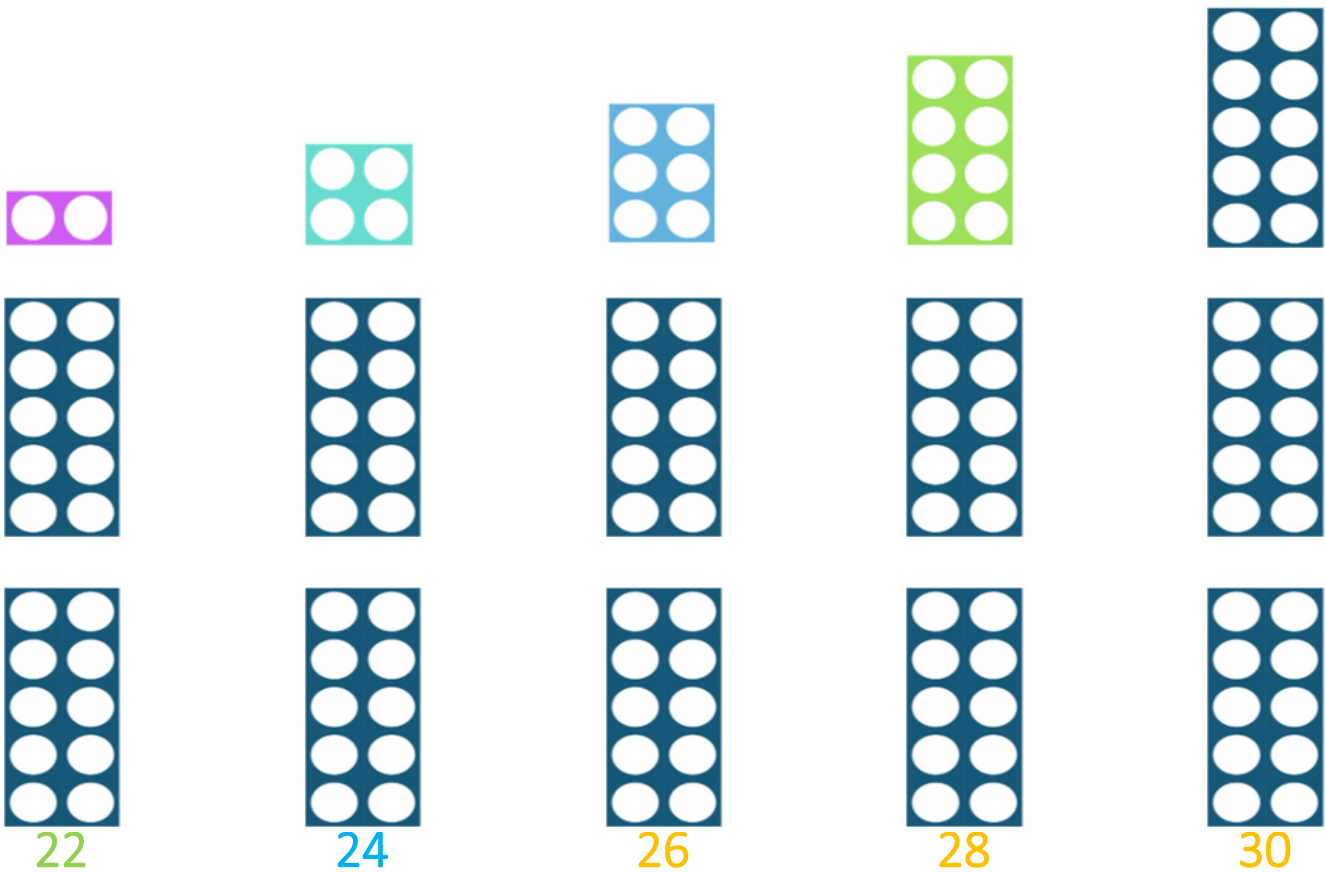
Number Sentence

$$30, 28, 26, \underline{?}, \underline{?} = 30, 28, 26, \underline{24}, \underline{22}$$

Number Line



Numicon



Questions

1) 10, 8, 6,       ,         
2) 12, 10, 8,       ,       

3) 20, 18, 16,       ,         
4) 28, 26, 24,       ,       

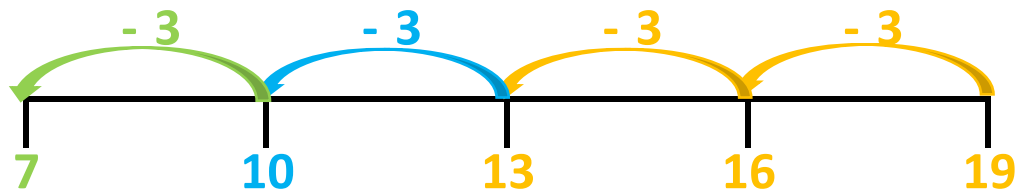
5) 40, 38, 36,       ,         
6) 60, 58, 56,       ,

## Number patterns of 3s

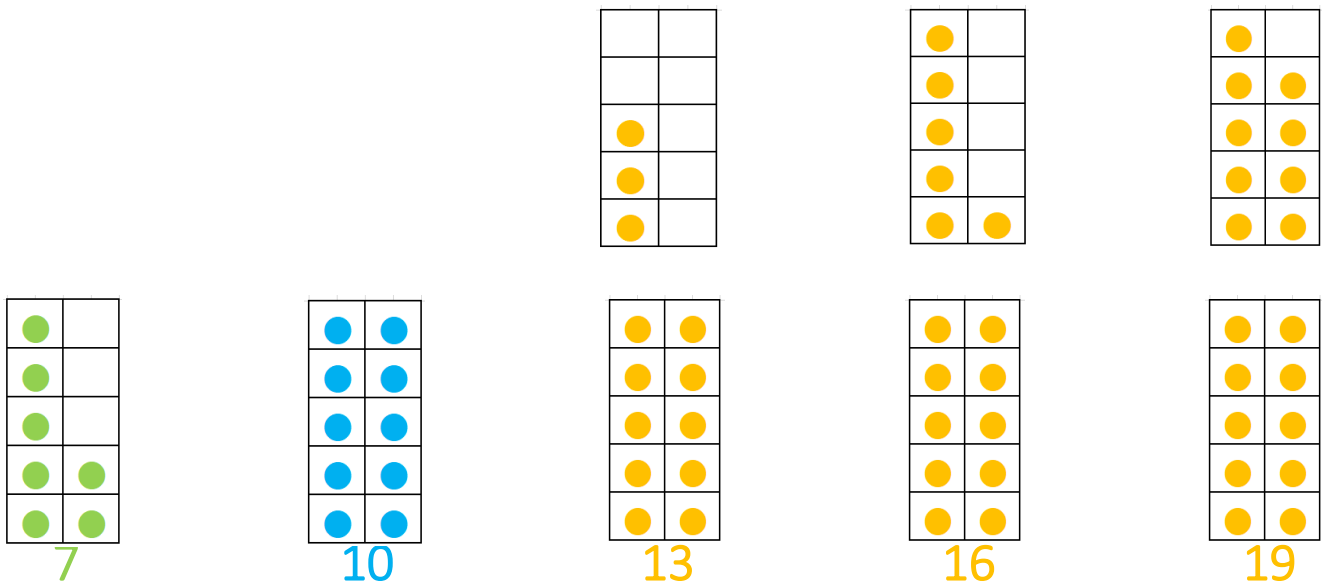
Number Sentence

$$19, 16, 13, ?, ? = 19, 16, 13, 10, 7$$

Number Line



Tens Frame



Questions

1) 18, 15, 12,           ,             
 2) 27, 24, 21,           ,           

3) 36, 33, 30,           ,             
 4) 42, 39, 36,           ,           

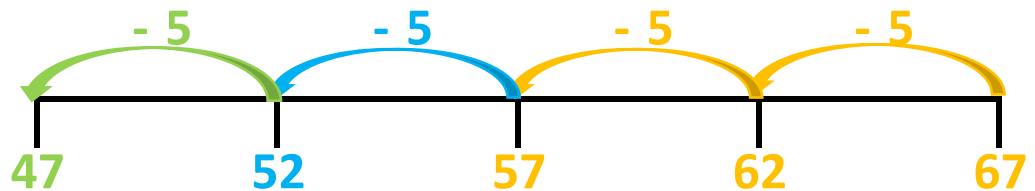
5) 72, 69, 66,           ,             
 6) 93, 90, 87,           ,

## Number patterns of 5s

Number Sentence

$$67, 62, 57, ?, ? = 67, 62, 57, 52, 47$$

Number Line



Number Grid

0	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

Questions

1) 20, 15, 10,         ,           
 2) 25, 20, 15,         ,         

3) 30, 25, 20,         ,           
 4) 50, 45, 40,         ,         

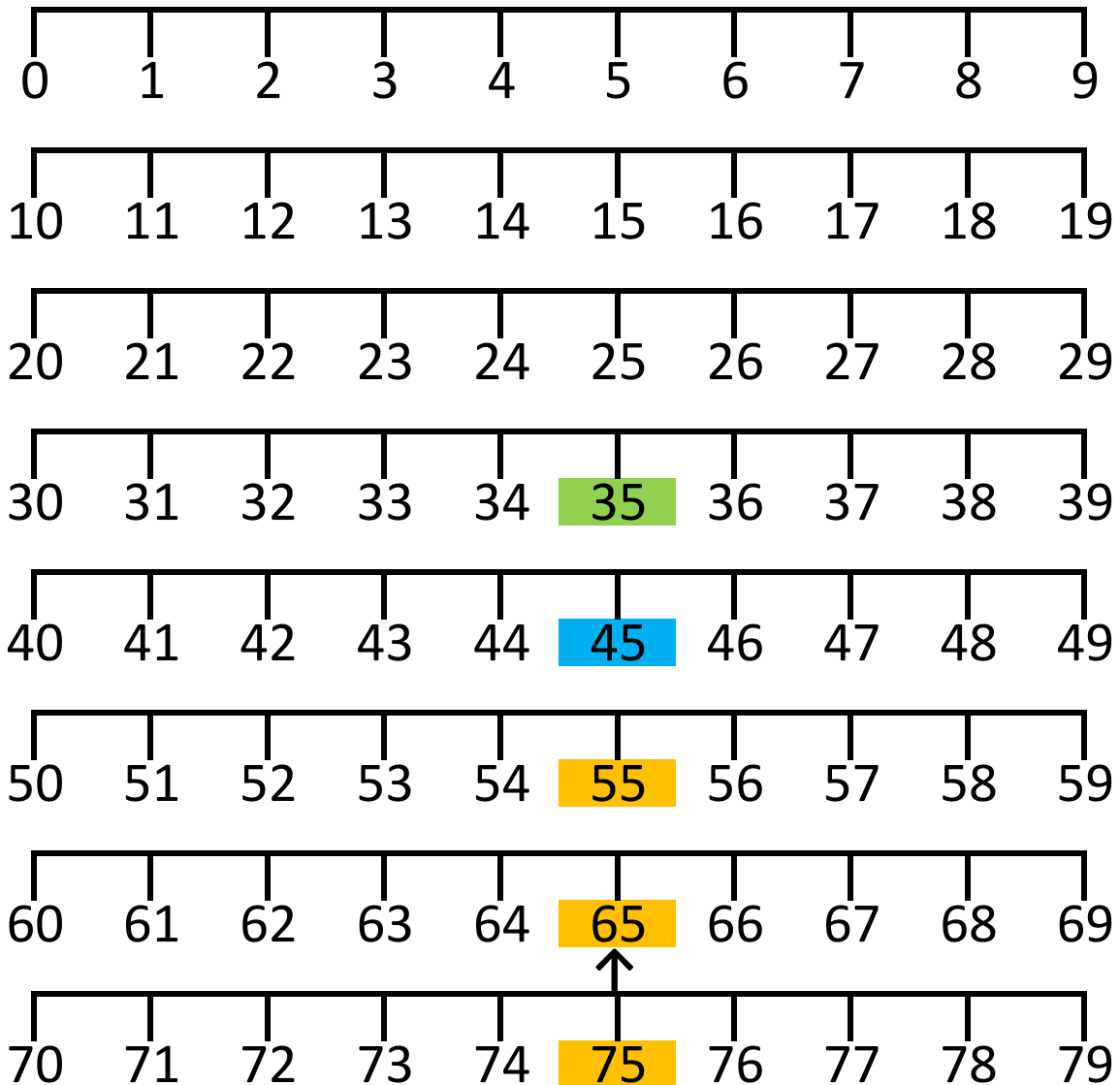
5) 60, 55, 50,         ,           
 6) 85, 80, 75,         ,

## Number patterns of 10s

Number Sentence

$$75, 65, 55, ?, ? = 75, 65, 55, 45, 35$$

Number Line

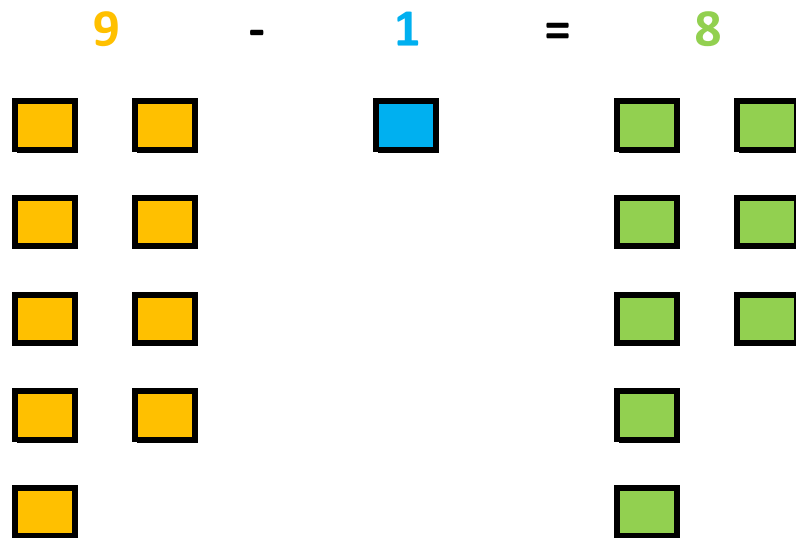


Questions

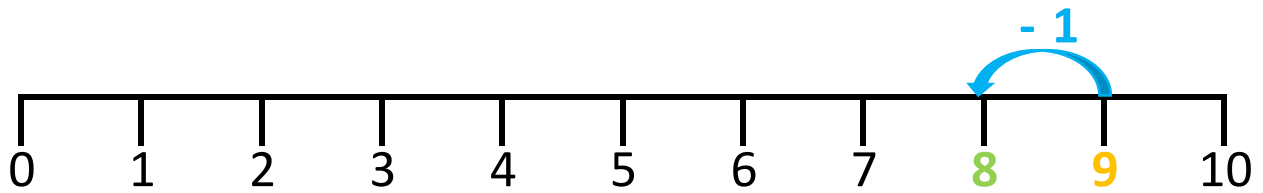
- 1) 40, 30, 20,         ,               3) 75, 65, 55,         ,               5) 100, 90, 80,         ,           
2) 50, 40, 30,         ,               4) 55, 45, 35,         ,               6) 200, 190, 180,

# 1 Less

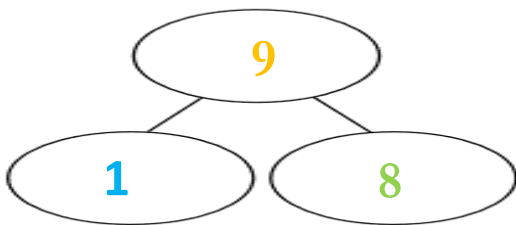
## Multilink Cubes



## Number Line



## Part Whole Model



## Bar Model

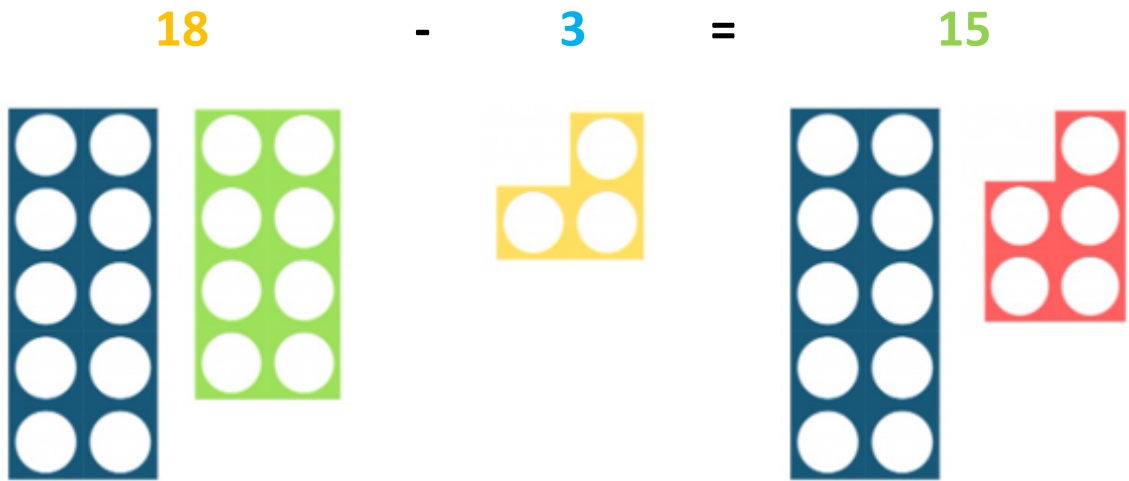


## Questions

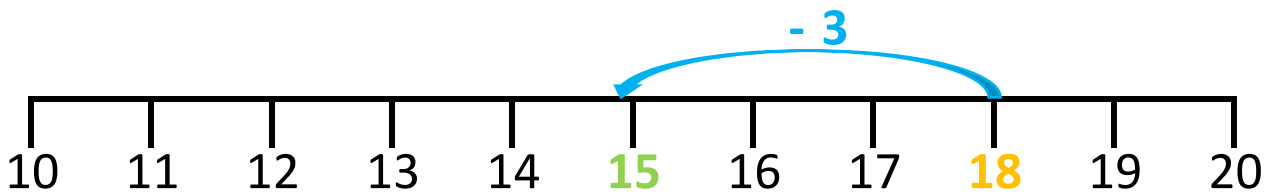
- 1)  $5 - 1 = \underline{\quad}$       3)  $19 - 1 = \underline{\quad}$       5)  $57 - 1 = \underline{\quad}$   
2)  $12 - 1 = \underline{\quad}$       4)  $33 - 1 = \underline{\quad}$       6)  $86 - 1 = \underline{\quad}$

# More than 1 Less

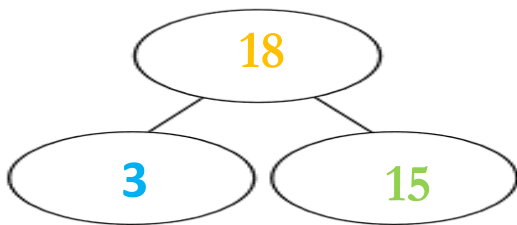
Number Sentence



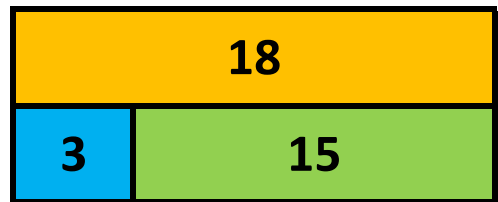
Number Line



Part Whole Model



Bar Model



Questions

1)  $5 - 3 =$

3)  $14 - 5 =$

5)  $21 - 4 =$

2)  $9 - 6 =$

4)  $16 - 3 =$

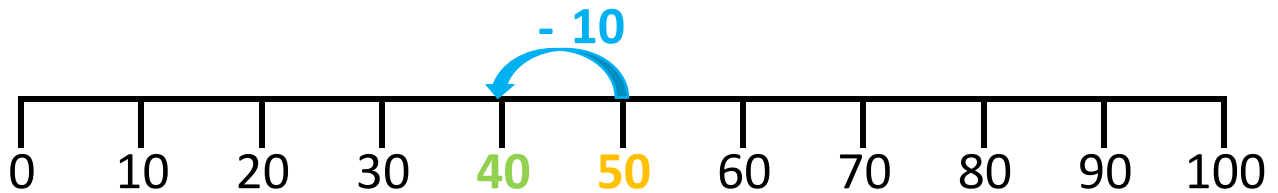
6)  $57 - 7 =$

# 10 Less

Number Sentence

$$50 - 10 = 40$$

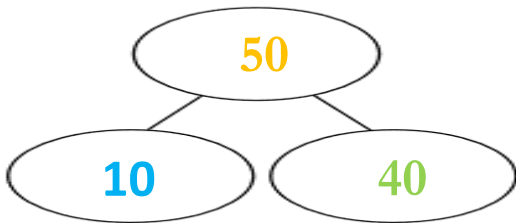
Number Line



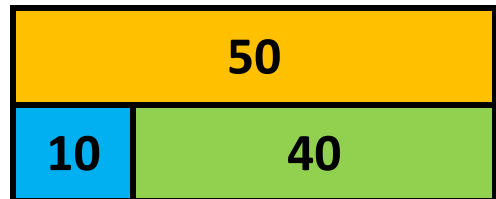
Number Grid

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

Part Whole Model



Bar Model



Questions

1)  $20 - 10 =$

3)  $60 - 10 =$

5)  $21 - 10 =$

2)  $30 - 10 =$

4)  $13 - 10 =$

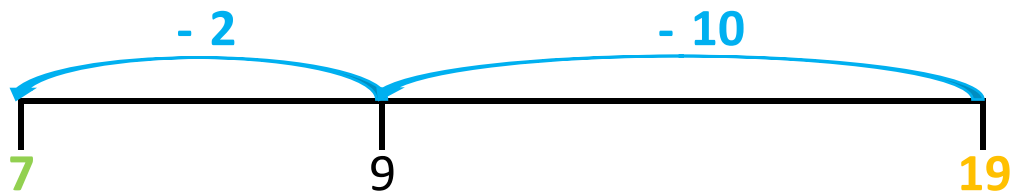
6)  $73 - 10 =$

## More than 10 less

Number Sentence

$$19 - 12 = 7$$

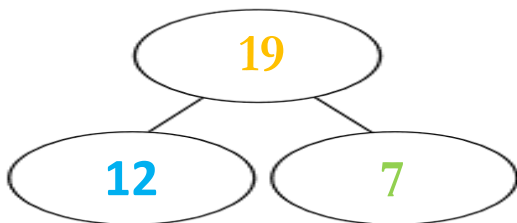
Number Line



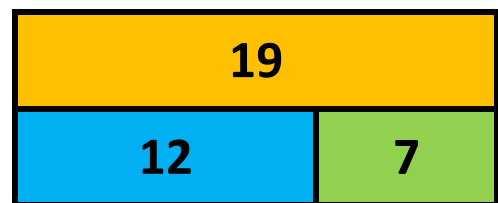
Number Grid

0	1	2	3	4	5	6	7	8	9
10	11	12	13	14	15	16	17	18	19

Part Whole Model



Bar Model



Questions

1)  $18 - 11 =$

3)  $27 - 14 =$

5)  $65 - 29 =$

2)  $26 - 16 =$

4)  $47 - 21 =$

6)  $75 - 14 =$

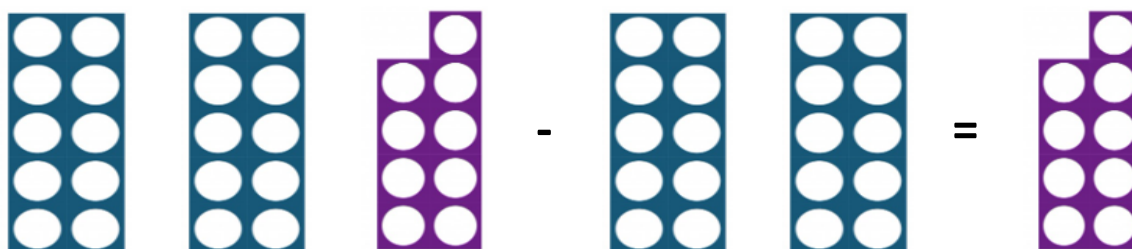


## Multiples of 10s

Number Sentence

$$29 - 20 = 9$$

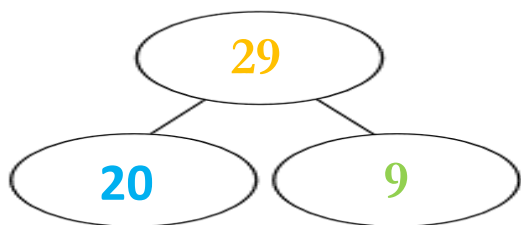
Numicon



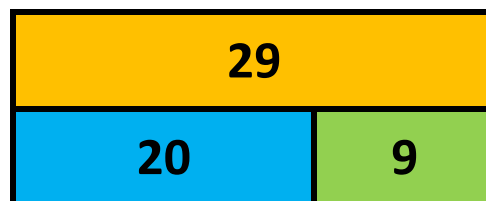
Number Grid

0	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

Part Whole Model



Bar Model



Questions

1)  $88 - 20 =$

3)  $54 - 40 =$

5)  $97 - 60 =$

2)  $76 - 50 =$

4)  $62 - 30 =$

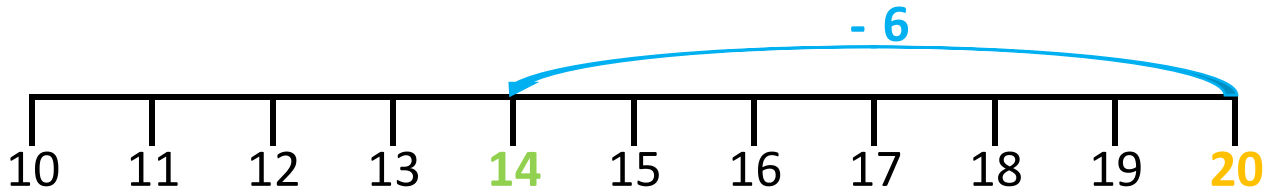
6)  $108 - 90 =$

# Doubling

Number Sentence

$$20 - 3 - 3 = 14$$

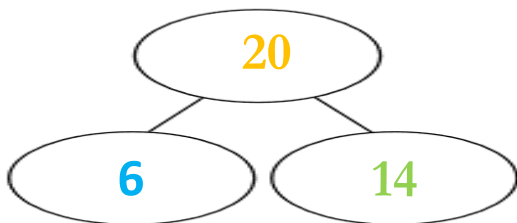
Number Line



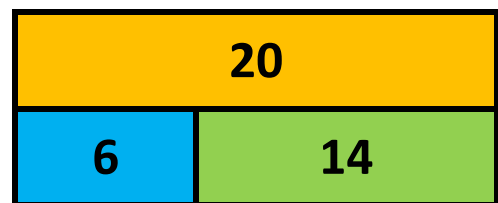
Number Grid

0	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

Part Whole Model



Bar Model



Questions

1)  $6 - 2 - 2 =$

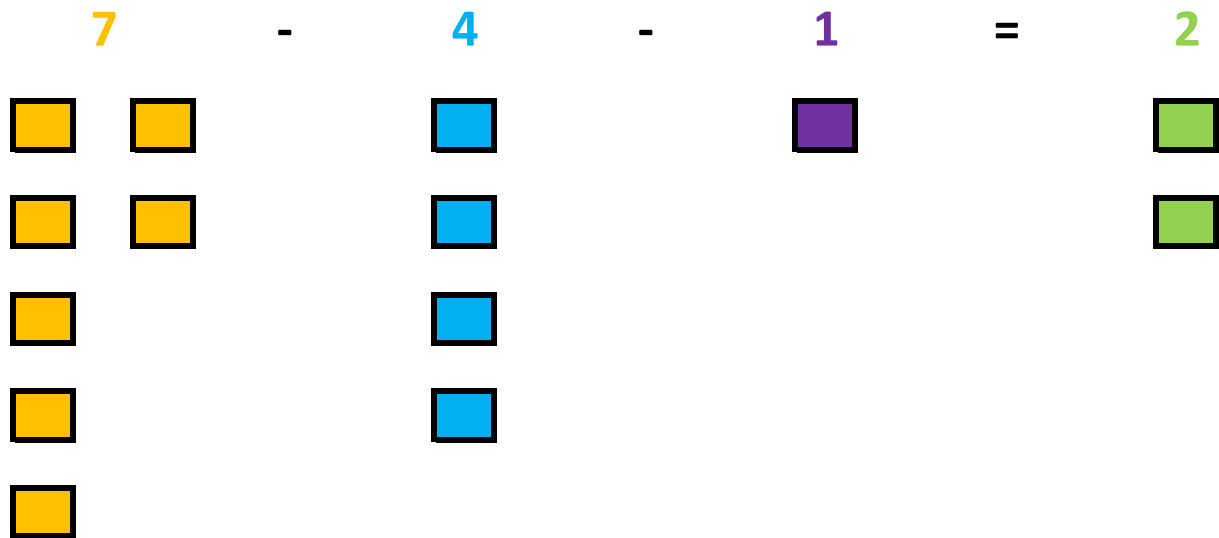
2)  $9 - 3 - 3 =$

3)  $25 - 7 - 7 =$

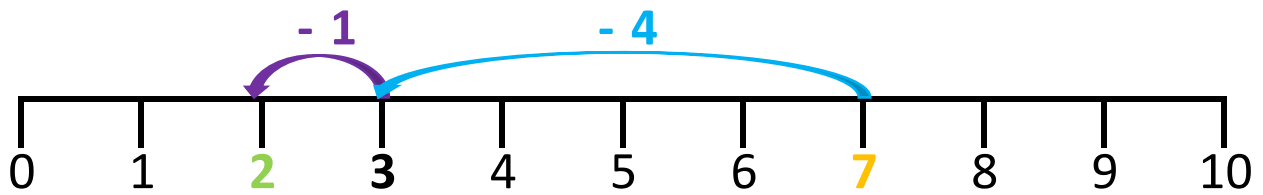
4)  $56 - 6 - 6 =$

# Three numbers

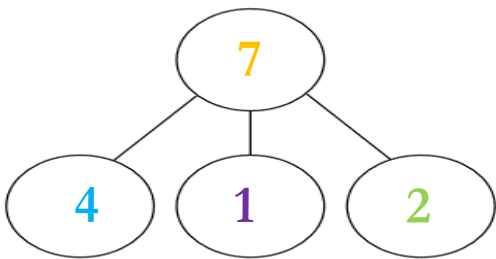
## Multilink Cubes



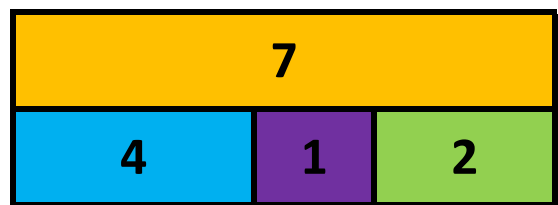
## Number Line



## Part Whole Model



## Bar Model



## Questions

- 1)  $11 - 2 - 4 =$   
2)  $18 - 5 - 2 =$

- 3)  $48 - 6 - 3 =$   
4)  $67 - 4 - 5 =$

# Column subtraction

Number Sentence

$$28 - 6 = 22$$

Step 1

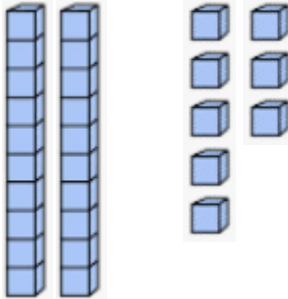
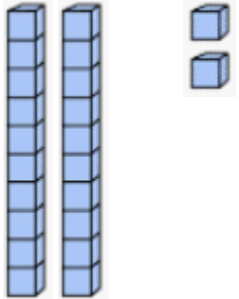
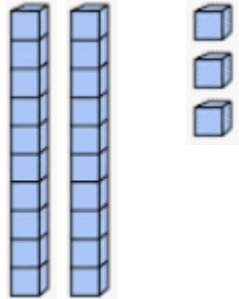
$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 2 \quad 8 \\ - \quad 6 \\ \hline \\ \hline \end{array}$$

Step 2

$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 2 \quad 8 \\ - \quad 6 \\ \hline \quad 2 \\ \hline \end{array}$$

Step 3

$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 2 \quad 8 \\ - \quad 6 \\ \hline 2 \quad 2 \\ \hline \end{array}$$

<p><b>Step 1</b></p> <p><b>10s</b>      <b>1s</b></p> 	<p><b>Step 2</b></p> <p><b>10s</b>      <b>1s</b></p> 	<p><b>Step 3</b></p> <p><b>10s</b>      <b>1s</b></p> 
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Questions

1)  $26 - 5 =$

3)  $56 - 4 =$

5)  $78 - 6 =$

2)  $49 - 8 =$

4)  $77 - 3 =$

6)  $99 - 7 =$

# Column subtraction

Number Sentence

$$29 - 13 = 16$$

Step 1

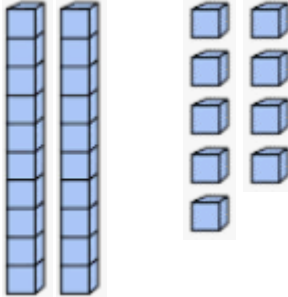
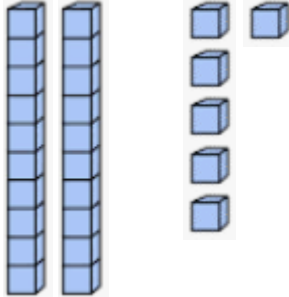
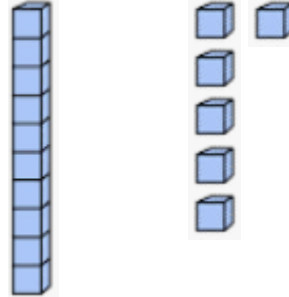
$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 29 \\ - 13 \\ \hline \end{array}$$

Step 2

$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 29 \\ - 13 \\ \hline 6 \end{array}$$

Step 3

$$\begin{array}{r} \underline{10s} \quad \underline{1s} \\ 29 \\ - 13 \\ \hline 16 \end{array}$$

<p><b>Step 1</b></p> <p><b>10s</b>      <b>1s</b></p> 	<p><b>Step 2</b></p> <p><b>10s</b>      <b>1s</b></p> 	<p><b>Step 3</b></p> <p><b>10s</b>      <b>1s</b></p> 
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Questions

1)  $36 - 17 =$

3)  $52 - 15 =$

5)  $78 - 49 =$

2)  $47 - 19 =$

4)  $77 - 48 =$

6)  $86 - 58 =$

## Addition Fact Family

**Addition Sentence**       $\rightarrow$       **Inverse Sentence**

$3 + 5 = 8$

$8 - 5 = 3$

**Commutative Sentence**      **Related Sentence**

$5 + 3 = 8$

$8 - 3 = 5$

## Subtraction Fact Family

**Subtraction Sentence**       $\rightarrow$       **Inverse Sentence**

$7 - 3 = 4$

$4 + 3 = 7$

**Related Sentence**      **Commutative Sentence**

$7 - 4 = 3$

$3 + 4 = 7$

### Questions

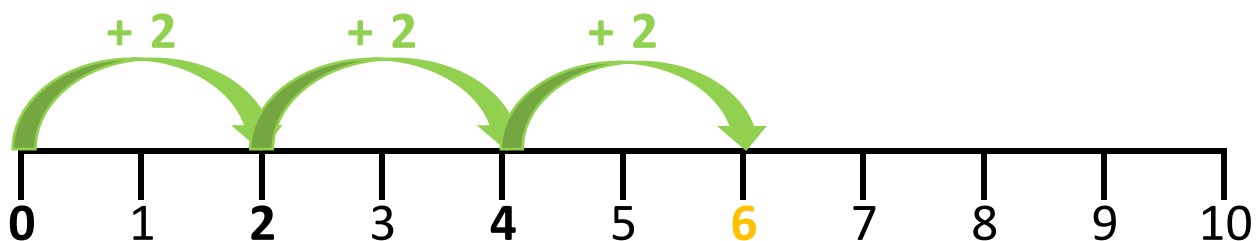
- 1)  $5 + 3 = 8$       3)  $14 + 5 = 19$       5)  $21 - 4 = 23$   
2)  $9 + 6 = 15$       4)  $16 - 3 = 13$       6)  $57 - 7 = 50$

## Repeated Addition

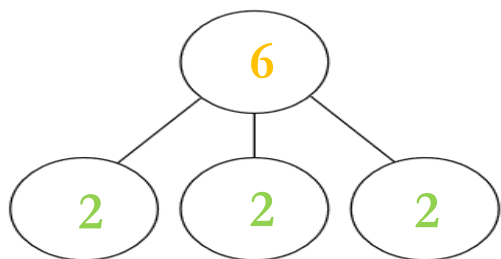
Number Sentence

$$\begin{array}{l} 2 \times 3 = 6 \\ \text{or} \\ 2 + 2 + 2 = 6 \end{array}$$

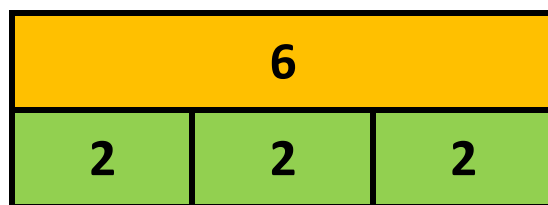
Number Line



Part Whole Model



Bar Model



Questions

1)  $2 \times 4 =$

2)  $10 \times 3 =$

3)  $5 \times 4 =$

4)  $2 \times 8 =$

5)  $10 \times 5 =$

6)  $5 \times 6 =$

## Repeated Subtraction

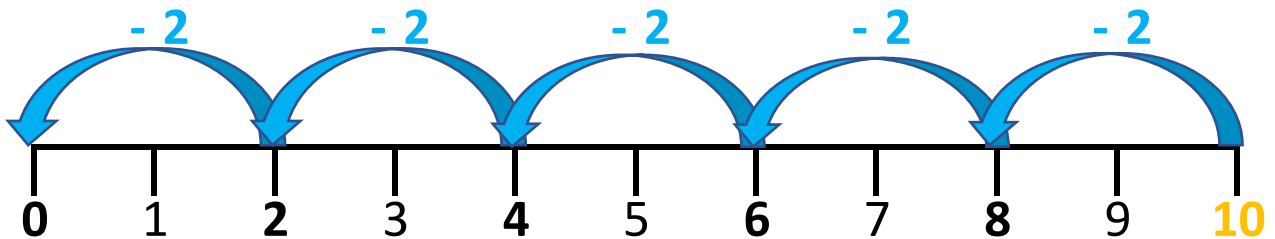
Number Sentence

$$\text{or } 10 \div 2 = 5$$

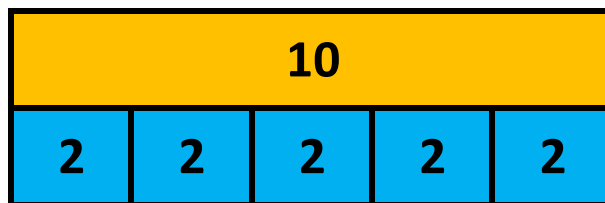
or

$$10 - 2 - 2 - 2 - 2 - 2 = 0$$

Number Line



Bar Model



Questions

1)  $10 \div 2 =$

2)  $22 \div 2 =$

3)  $60 \div 5 =$

4)  $80 \div 10 =$

5)  $100 \div 10 =$

6)  $120 \div 10 =$



## Multiplication Fact Family

**Multiplication Sentence**       $\rightarrow$       **Inverse Sentence**

$2 \times 3 = 6$

$6 \div 3 = 2$

**Commutative Sentence**      **Related Sentence**

$3 \times 2 = 6$

$6 \div 2 = 3$

## Division Fact Family

**Division Sentence**      **Inverse Sentence**

$10 \div 5 = 2$

$2 \times 5 = 10$

**Related Sentence**      **Commutative Sentence**

$10 \div 2 = 5$

$5 \times 2 = 10$

### Questions

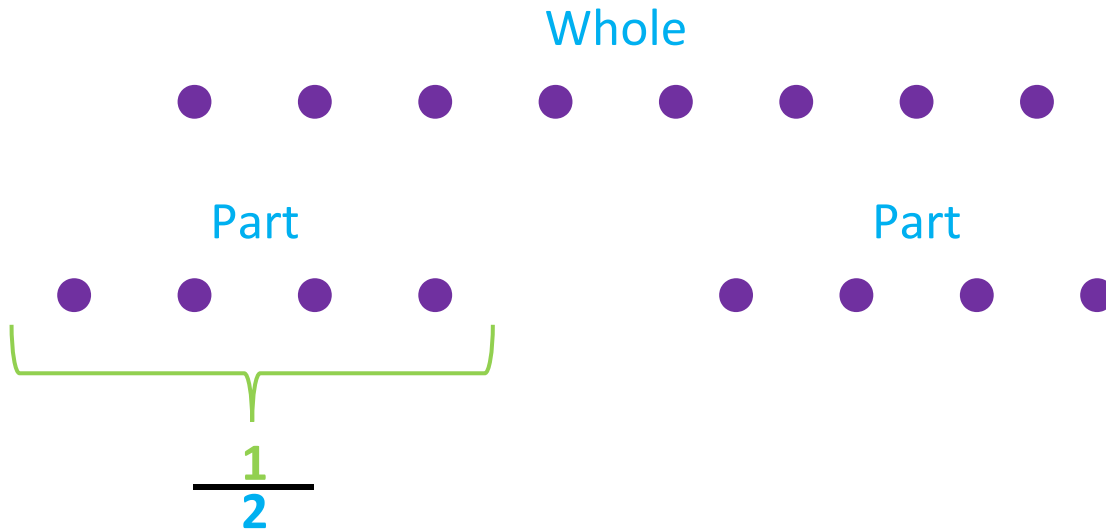
- 1)  $2 \times 6 = 12$       3)  $5 \times 3 = 15$       5)  $25 \div 5 = 5$   
2)  $3 \times 4 = 12$       4)  $20 \div 2 = 10$       6)  $40 \div 10 = 4$

# Half of a Quantity

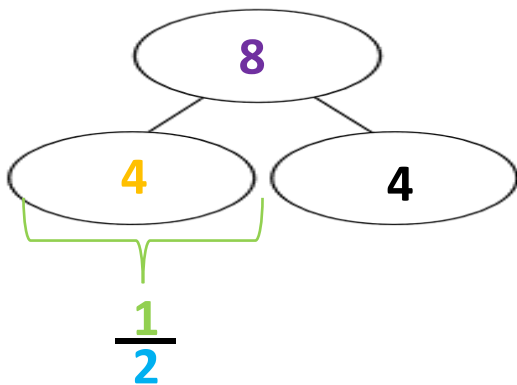
Number Sentence

$$\frac{1}{2} \text{ of } 8 = 4$$

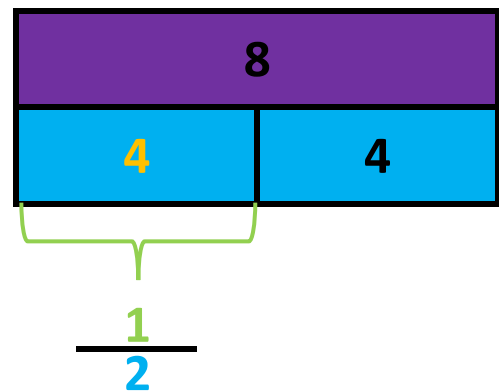
Counters



Part Whole Model



Bar Model



Questions

1)  $\frac{1}{2}$  of 16 =

2)  $\frac{1}{2}$  of 36 =

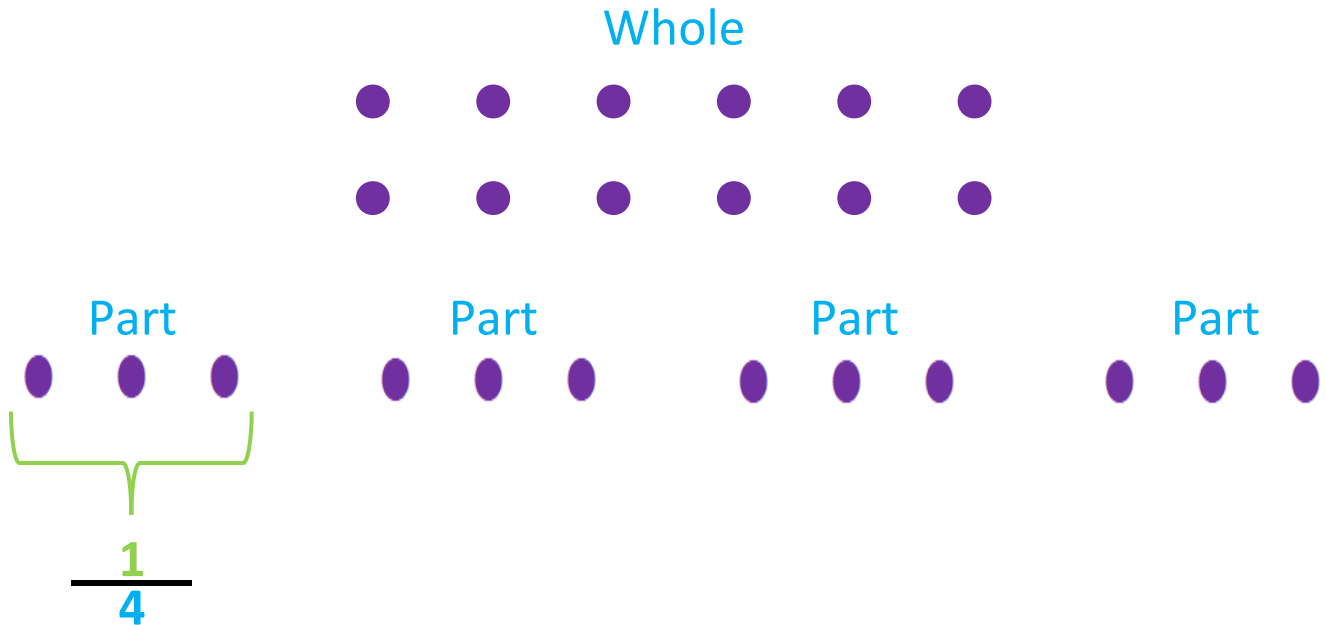
3)  $\frac{1}{2}$  of 40 =

# Quarter of a Quantity

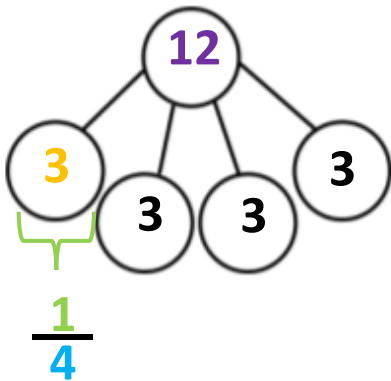
Number Sentence

$$\frac{1}{4} \text{ of } 12 = 3$$

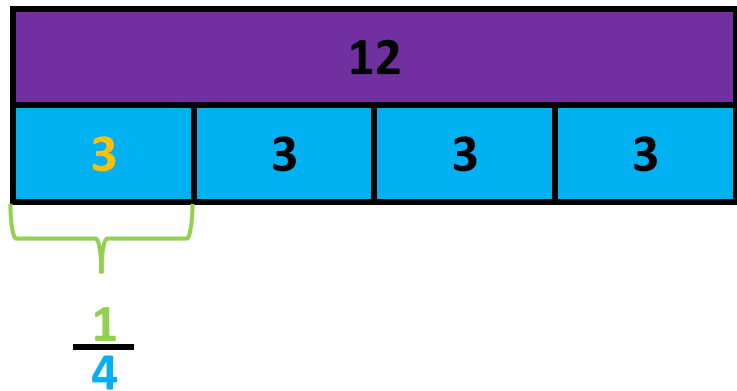
Counters



Part Whole Model



Bar Model



Questions

1)  $\frac{1}{4}$  of 12 =

2)  $\frac{1}{4}$  of 20 =

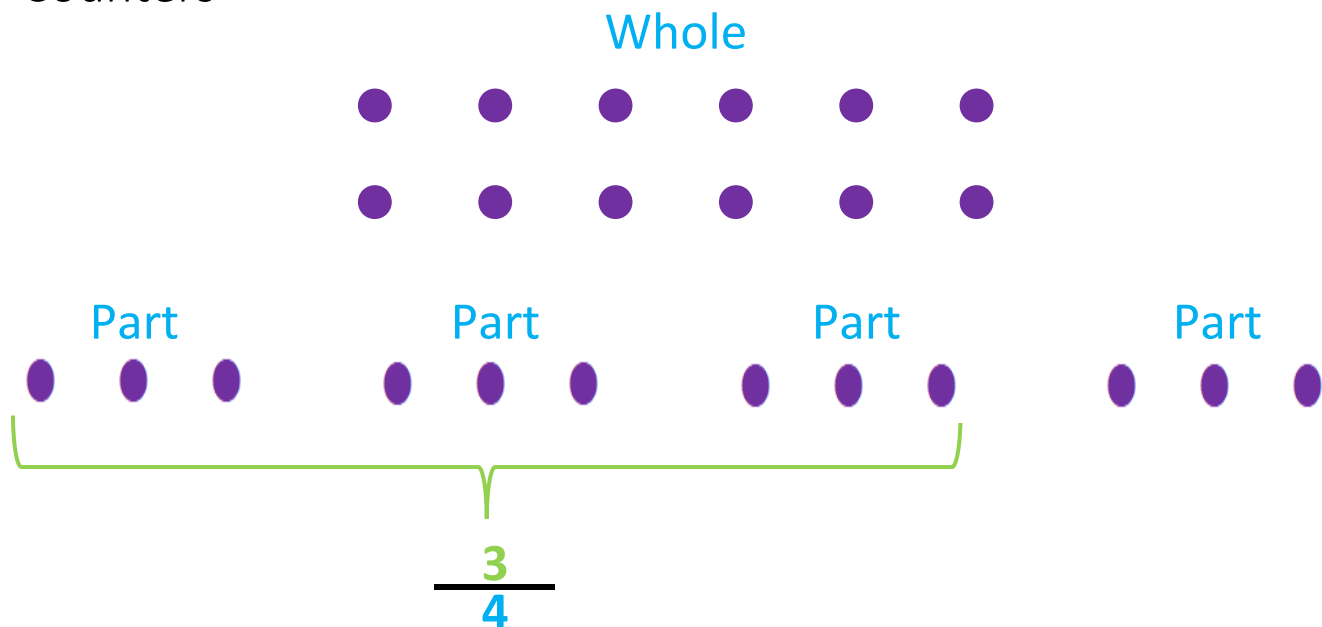
3)  $\frac{1}{4}$  of 32 =

# Three-Quarters of a Quantity

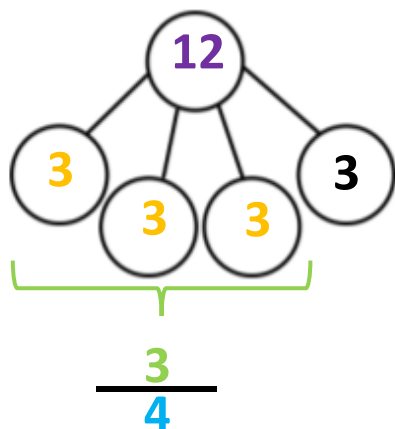
Number Sentence

$$\frac{3}{4} \text{ of } 12 = 9$$

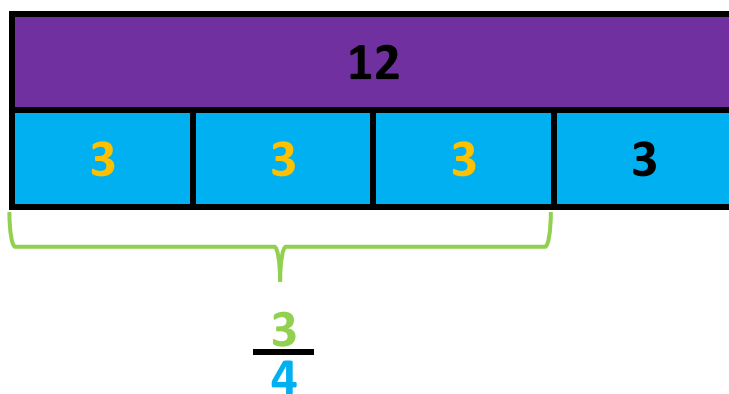
Counters



Part Whole Model



Bar Model



Questions

1)  $\frac{3}{4}$  of 12 =

2)  $\frac{3}{4}$  of 20 =

3)  $\frac{3}{4}$  of 32 =