# Year 2

## Visual calculation methods

# Mental Addition

# MA2a: Counting On

1 Ones

12 + 5 = 17

# MA3: Number Bonds

$$45 + 95 = 140$$

$$40 + 100 = 140$$

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# MA4: Double & Adjust

$$45 + 46 = 91$$

$$45 + 45 + 1$$

$$90 + 1 = 91$$

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# Addition

# A2b: Counting On

Bridging 10s Number


## 57 + 6 = 63

# A3a: Forwards Jump

## 57 + 25 = 82

# A4: Partitioning

$$43 + 24 = 67$$

$$40 + 20 = 60$$
$$3 + 4 = 7$$
$$67$$

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# (A6: Additional) Expanded Column) Addition

| | 10 | 1 |
|---|---|---|
| | 4 | 3 |
| + | 2 | 4 |
| | | 7 |
| | 6 | 0 |
| | 6 | 7 |

# Mental Subtraction

# MS3: Round & Adjust

$$84 - 29 = 55$$

$$84 - 30 + 1$$

$$54 + 1 = 55$$

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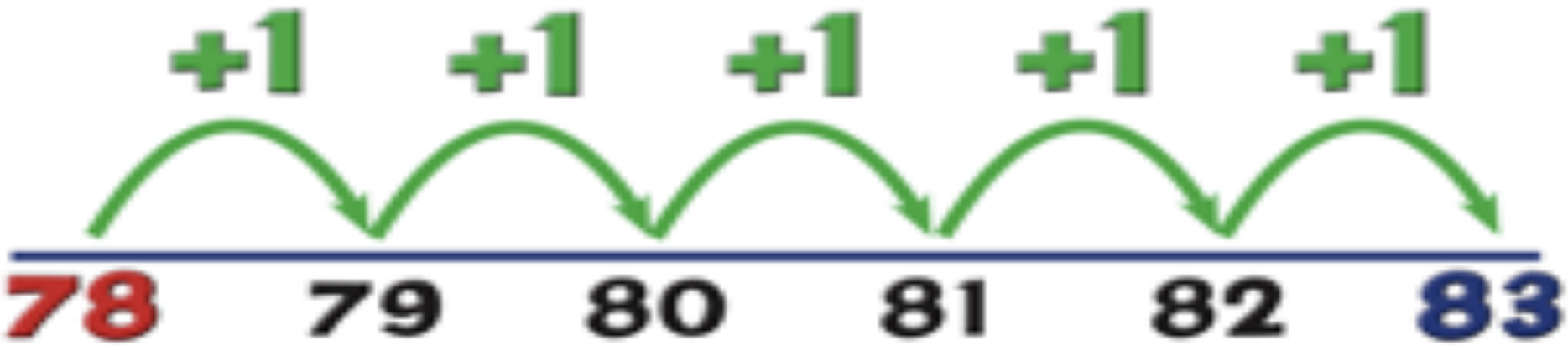
# Subtraction

# S4a: Counting On




# 83 - 78 = 5

"How many more is 83 than 78? What is the difference?"

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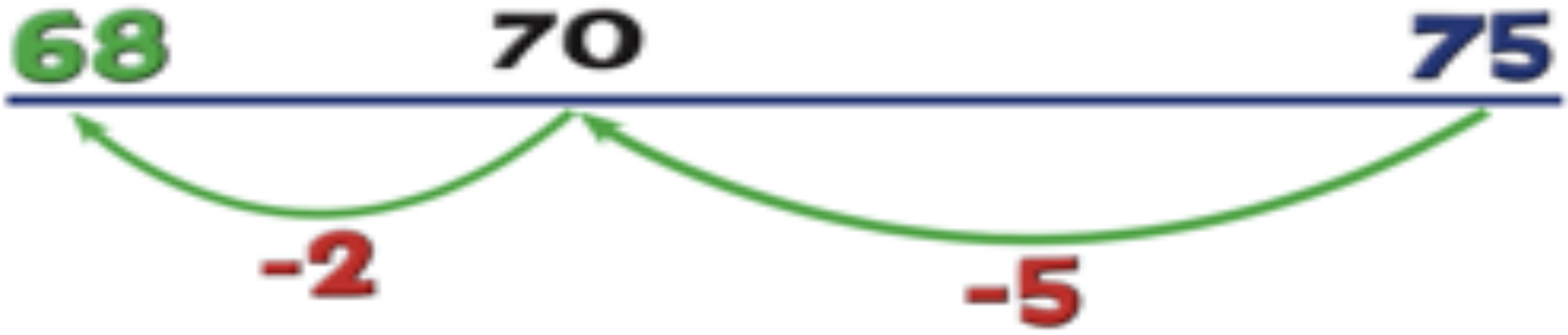
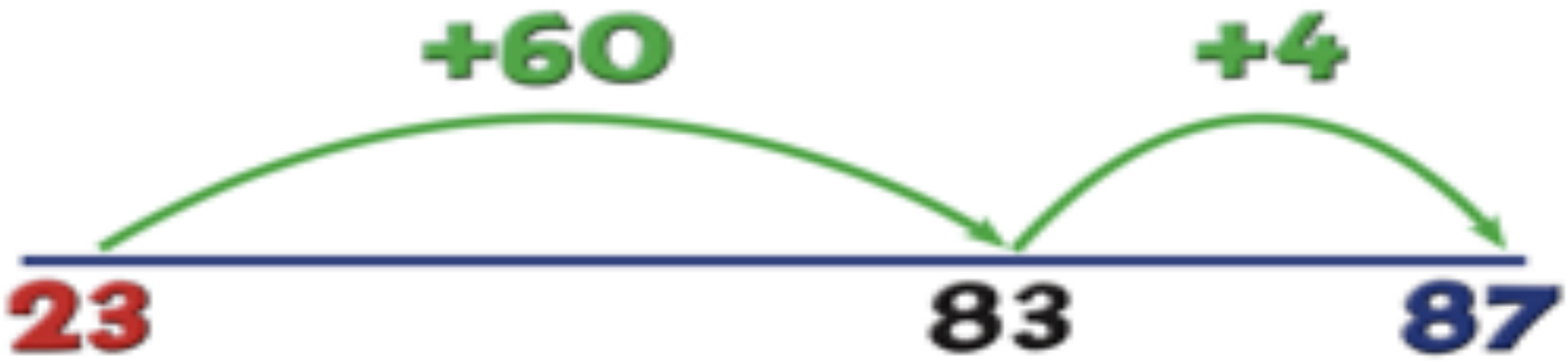
# S5: Backwards Boing




## 75 - 7 = 68

# (S9: Additional 10s Jump, 1s Jump!)




**87 - 23 = 64**

# (S11: Additional Column Subtraction)

| | 10 | 1 |
|---|---|---|
| | 8 | 7 |
| − | 2 | 3 |
| | 6 | 4 |

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# Mental Multiplication

# MM5: Doubling

Double 17 = 34

20 + 14 = 34

# Mx2: Table Facts

# 2x table

# Mx5: Table Facts

# 5x table

5

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

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

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# Mx10: Table Facts

# 10x table

**10**

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

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

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# Multiplication

# M1: Repeated Addition

## (Groups)

**5 x 3 = 5 + 5 + 5 = 15**

"5 multiplied by 3" means "5, 3 times", which gives "3 lots of 5"!

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# M2: Repeated Addition

## (Number Line)

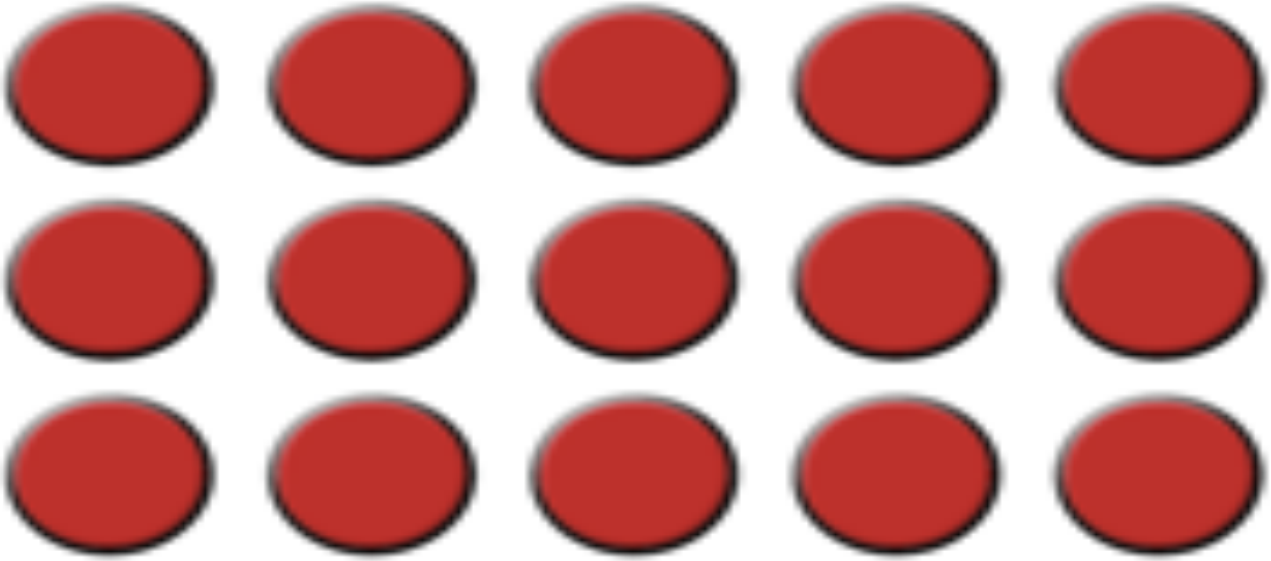

$$5 \times 3 = 5 + 5 + 5 = 15$$

"5 times 3" means "5, 3 times!"

# (M3: Arrays)

"2 groups of 5 counters" or "5 groups of 2 counters" - "10 counters altogether"

# M3: Arrays



**3 x 5 = 15 or 5 x 3 = 15**

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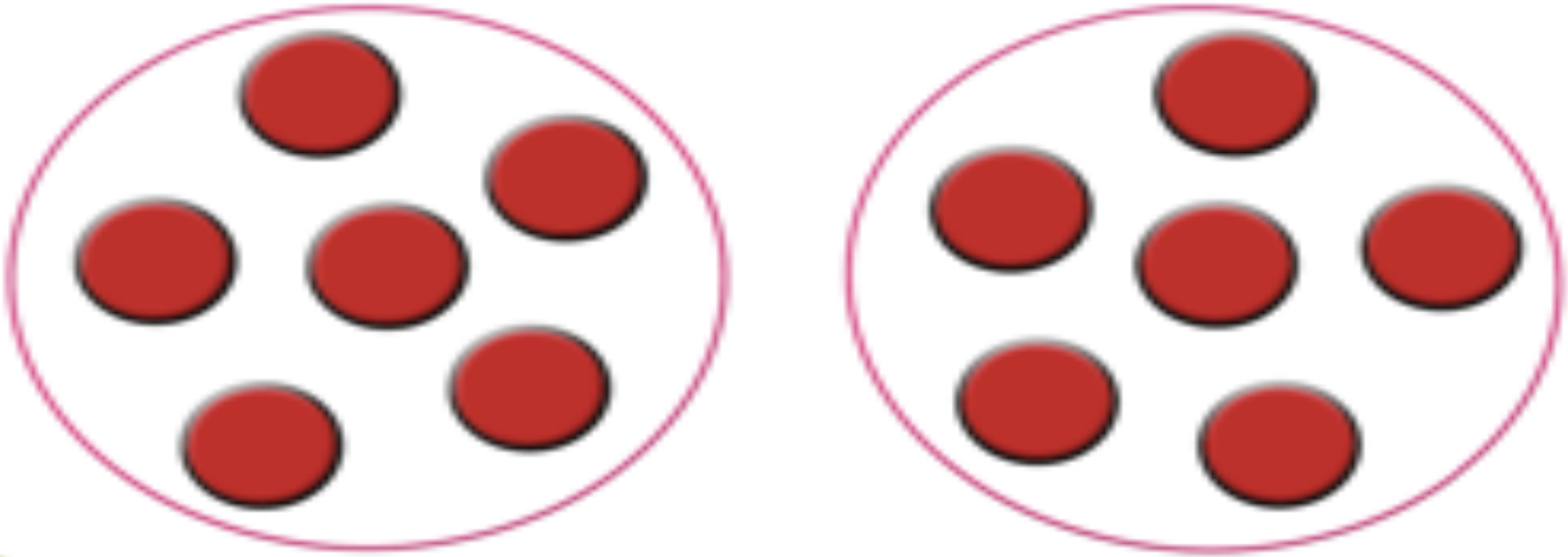
# Division

# D3: Division as Sharing

## 12 ÷ 2 = 6

"If I share 12 into 2 equal amounts, how many in each group?" Answer: 6



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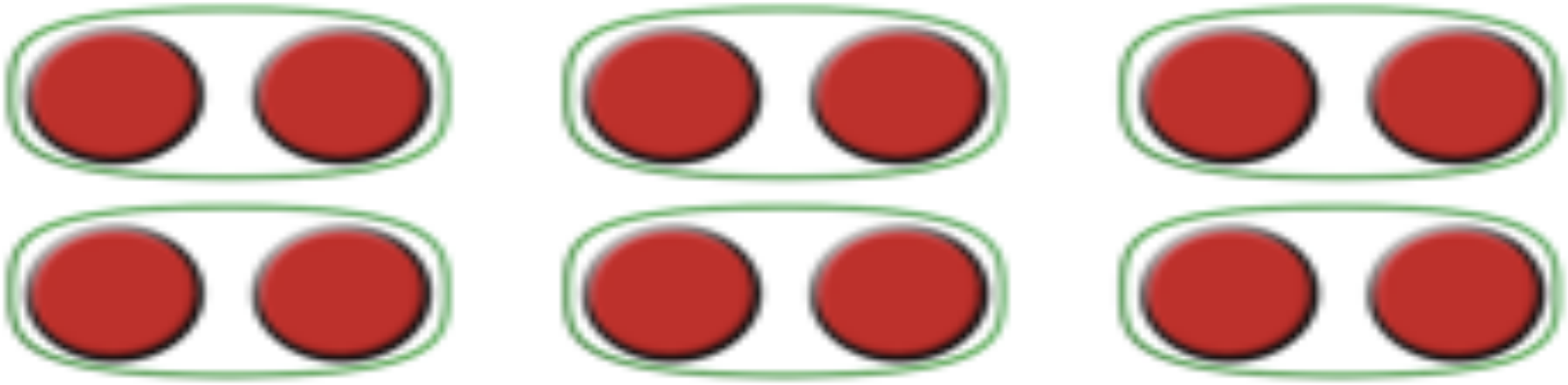
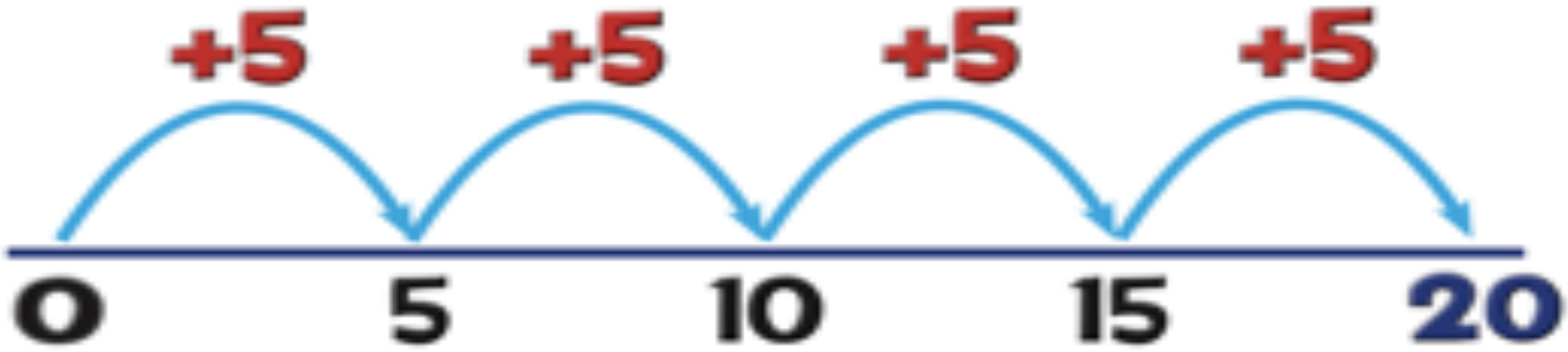
# D4: Division as Grouping

## 12 ÷ 2 = 6

"How many groups of 2 can I fit into 12?"
Answer: 6



# D5: Grouping on a Number Line




"How many 5s in 20?"
Answer: 4

$$20 \div 5 = 4$$

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# D5a: Grouping on a Number Line

## Remainders


"How many 5s in 17?"
Answer: 3 remainder 2

**17 ÷ 5 = 3r2**