WILLIAM RUTHVEN
PRIMARY SCHOOL

Mathematics: Year 4

a

20 + 22 =

23 + 19 =

20 + 18 =

21 + 19 =

20 + 20 =

20 + 21 =

20 + 19 =

20 + 17 =

21 + 22 =

b

50 + 49 =

53 + 49 =

50 + 47 =

51 + 47 =

50 + 50 =

50 + 51 =

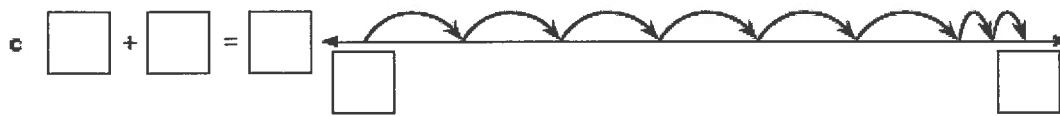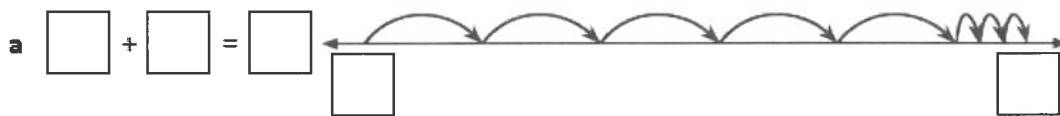52 + 49 =

51 + 49 =

50 + 46 =
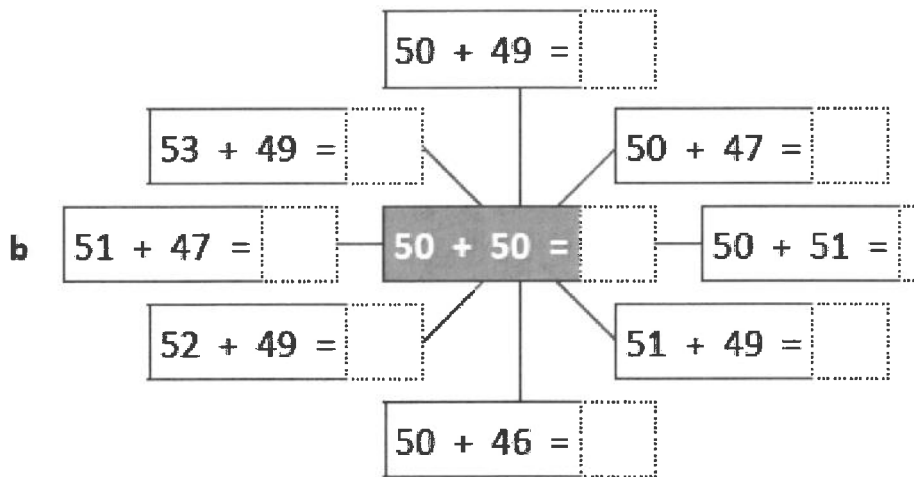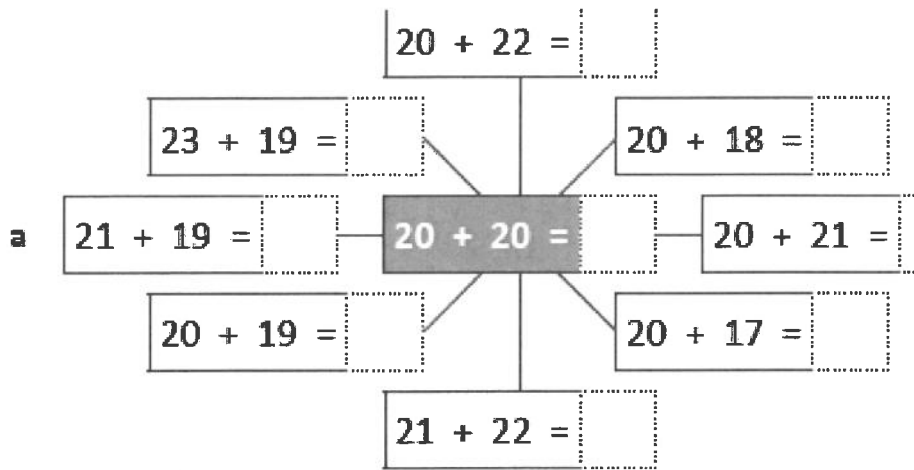
Below are some number lines that only show the jumps. Complete the number line for the problem that matches and then write the complete problem.

187 + 54   179 + 62   78 + 53

a ☐ + ☐ = ☐

b ☐ + ☐ = ☐

c ☐ + ☐ = ☐

	Cupcake sales			
Day	Red velvet	Lemon drop	Coconut	Chocolate
Saturday	165	82	55	135
Sunday	43	98	65	36

Use the jump strategy to add these:

a How many red velvet cupcakes were sold over the weekend?

☐ + ☐ = ☐ ◄――――――――――――――――►

b How many lemon drop and coconut cupcakes were sold on Saturday?

☐ + ☐ = ☐ ◄――――――――――――――――►

c How many chocolate cupcakes were sold over the weekend?

☐ + ☐ = ☐ ◄――――――――――――――――►

When adding large numbers in our heads, it can be easier to split one of the numbers into parts and add each part separately.

$$112 + 46 \begin{cases} 40 \\ 6 \end{cases} \longrightarrow 112 + 40 = 152 \longrightarrow 152 + 6 = 158$$

1 Practise separating these numbers into tens and units. The first one has been done for you.

a 48 ⟨ 40 / 8   **b** 63 ⟨ ☐ / ☐   **c** 52 ⟨ ☐ / ☐   **d** 27 ⟨ ☐ / ☐
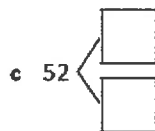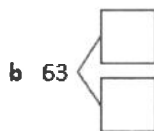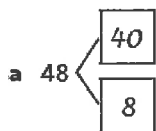
2 Practise adding the tens to these numbers:

+	20	50	30	70	60
123					
214					

Use the split strategy with these problems. The first one has been done for you.

a 48 + 53

50
3

48 + 50 = 98 → 98 + 3 = 101

b 65 + 38

c 112 + 25

1 Complete these addition wheels with the split strategy:

a

55 | 31
26 (212 +) 46
52 | 68

b

34 | 78
14 (128 +) 61
31 | 27
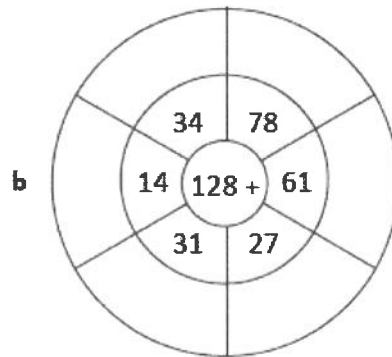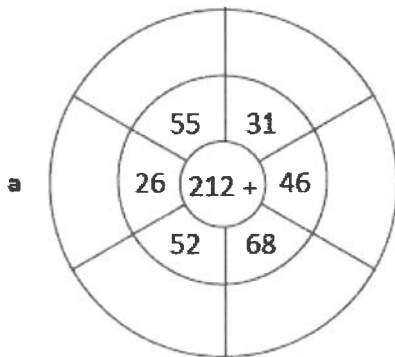
The split strategy is useful when adding three 2 digit numbers.

Try adding tens, then the units and recording it this way:

61 + 43 + 44 = 14 tens + 8 units = 140 + 8 = 148

2 Record these place value amounts:

a 8 tens =

b 17 tens =

c 15 tens =

d 5 units =

e 12 tens =

f 16 units =

Sometimes we round one number in the problem to make it easier to do in our heads. Then we adjust our answer to compensate:

$$23 + 19 \quad = \boxed{42}$$

$$23 + 20 \;(-1) \qquad \text{I rounded up by 1,}$$

$$43 \;(-1) \quad = \quad 42 \quad \text{so I subtract 1.}$$

1 Practise rounding:

a $148 \longrightarrow \boxed{}$ b $39 \longrightarrow \boxed{}$ c $47 \longrightarrow \boxed{}$

d $109 \longrightarrow \boxed{}$ e $96 \longrightarrow \boxed{}$ f $199 \longrightarrow \boxed{}$

2 Use the compensation method with these problems. Round the second number up to the closest ten. Compensate by subtracting.

a $32 + 29 \qquad = \boxed{}$

$32 + 30 \quad \bigcirc$

$\underline{} \; \bigcirc = \boxed{}$

b $55 + 38 \qquad = \boxed{}$

$55 + 40 \quad \bigcirc$

$\underline{} \; \bigcirc = \boxed{}$

Mathematics – Subtraction – Grade 4

Knowing one addition fact means you also know two related subtraction facts.
Because 7 + 3 = 10 you know that 10 − 7 = 3 and 10 − 3 = 7

1 Make a group of facts for each pair of numbers. The first one has been done for you.

a [15] [35]

15 + 35 = 50

50 − 15 = 35

50 − 35 = 15

b [45] [55]

c [73] [27]

d [105] [15]

e [120] [10]

f [135] [10]

Complete each number trail:

a [150] →+10→ [ ] →−15→ [ ] →+50→ [ ] →+30→ ( )

b [200] →−50→ [ ] →+25→ [ ] →−30→ [ ] →+55→ ( )

c [99] →+11→ [ ] →+50→ [ ] →+50→ [ ] →−20→ ( )

d [76] →+24→ [ ] →+35→ [ ] →+15→ [ ] →−25→ ( )

3 Use counting on to complete these:

a 32 − 29 = [ ]   b 33 − 28 = [ ]   c 34 − 27 = [ ]

d 71 − 68 = [ ]   e 82 − 76 = [ ]   f 73 − 69 = [ ]

g 83 − 77 = [ ]   h 112 − 109 = [ ]   i 201 − 196 = [ ]

Complete this cross number puzzle. Using complements to 100 will help.

1			2			3		
		4			5			6
	7			8			9	
10			11			12		

Across

1 $100 - 80 =$ ☐

2 $100 - 89 =$ ☐

3 $100 - 5 =$ ☐

4 $100 - 28 =$ ☐

5 $100 - 22 =$ ☐

7 $100 - 64 =$ ☐

8 $100 - 49 =$ ☐

9 $100 - 61 =$ ☐

10 $100 - 52 =$ ☐

11 $100 - 66 =$ ☐

12 $100 - 75 =$ ☐

Down

1 $100 - 78 =$ ☐

2 $100 - 88 =$ ☐

3 $100 - 2 =$ ☐

4 $100 - 24 =$ ☐

5 $100 - 29 =$ ☐

6 $100 - 11 =$ ☐

7 $100 - 62 =$ ☐

8 $100 - 46 =$ ☐

9 $100 - 65 =$ ☐

Use your knowledge of doubles and near doubles to complete these subtraction tables. The first one in each has been done for you.

a

See	Think
$19 - 9 =$ ☐	$(18 - 9) + 1$
$201 - 100 =$ ☐	
$141 - 70 =$ ☐	
$71 - 35 =$ ☐	

b

See	Think
$15 - 8 =$ ☐	$(16 - 8) - 1$
$31 - 16 =$ ☐	
$99 - 50 =$ ☐	
$87 - 44 =$ ☐	

c

See	Think
$26 - 12 =$ ☐	$(24 - 12) + 2$
$52 - 25 =$ ☐	
$68 - 33 =$ ☐	
$104 - 51 =$ ☐	

d

See	Think
$24 - 13 =$ ☐	$(26 - 13) - 2$
$48 - 25 =$ ☐	
$70 - 36 =$ ☐	
$78 - 40 =$ ☐	

When we subtract, we can use the jump strategy to help us. Look at 99 – 42:

1 First we jump back by the tens.

2 Then we jump back by the units.

Start

−2   −10   −10   −10   −10

57 59   69   79   89   99

99 − 42 = 57
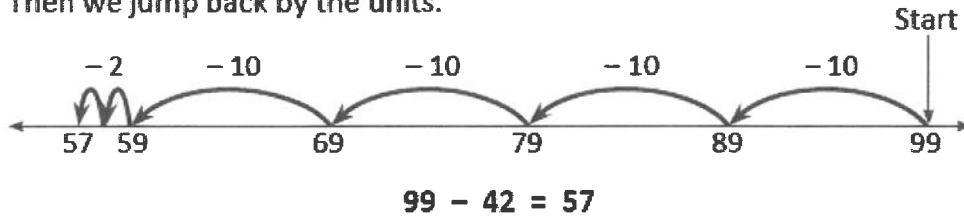
1 **Solve these using the jump strategy:**

a 125 − 42 = ☐

b 168 − 36 = ☐

b 168 − 36 = ☐

c 335 − 54 = ☐

d 245 − 45 = ☐

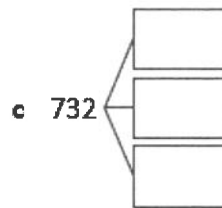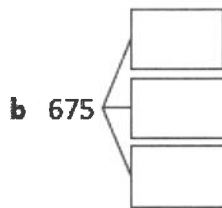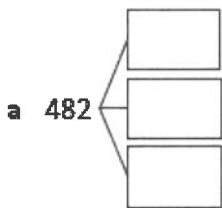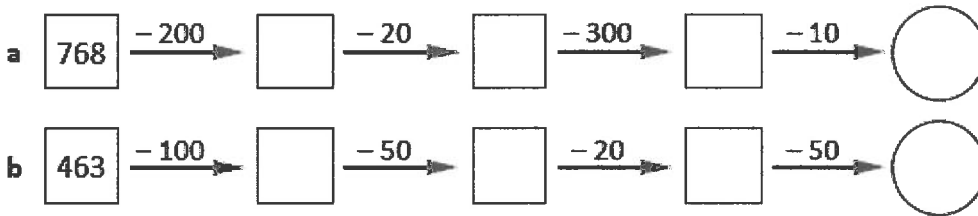When subtracting large numbers in our heads it can be easier to split the number to be subtracted into parts and work with each part separately.

255 − 132 ⟨ 100 / 30 / 2 → 255 − 100 = 155 → 155 − 30 = 125 → 125 − 2 = 123

255 − 132 = 123
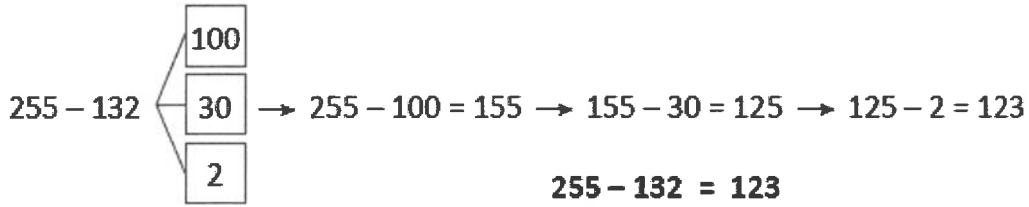
1 **Practise splitting numbers into hundreds, tens and ones:**

a 482 ⟨ ☐ ☐ ☐   b 675 ⟨ ☐ ☐ ☐   c 732 ⟨ ☐ ☐ ☐   d 834 ⟨ ☐ ☐ ☐
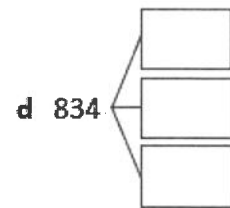
2 **Complete these subtraction trails:**

a | 768 | −200→ ☐ −20→ ☐ −300→ ☐ −10→ ◯

b | 463 | −100→ ☐ −50→ ☐ −20→ ☐ −50→ ◯

Answer these subtraction problems to solve the riddle below:

What swirls, loops, and circles on your fingertips, yet never moves?

a   65 − 29 = F   b 145 − 32 = U   c 175 − 61 = E

d   86 − 59 = O   e 180 − 48 = I   f 150 − 32 = N

g   96 − 42 = R   h   75 − 33 = G   i 155 − 49 = Y

j 166 − 55 = P   k 185 − 19 = T   l 370 − 28 = S

☐ ☐ ☐ ☐   ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

106 27 113 54   36 132 118 42 114 54 111 54 132 118 166 342

Factors are numbers that you multiply together to give a multiple.

$3 \times 6 = 18$

$2 \times 9 = 18$

These arrays show some of the factors of 18: 3, 6, 2 and 9.

Can you think of any other factors of 18?

1 **Complete the number sentence for each set of arrays and then list the factors.**

a ☐ × ☐ = ☐

b ☐ × ☐ = ☐

c ☐ × ☐ = ☐

d The factors of 12 are:

_____

Use patterns to solve these:

a $14 \times 1 =$ ☐ $14 \times 10 =$ ☐ $14 \times 100 =$ ☐

b $25 \times 1 =$ ☐ $25 \times 10 =$ ☐ $25 \times 100 =$ ☐

c $82 \times 1 =$ ☐ $82 \times 10 =$ ☐ $82 \times 100 =$ ☐

Keep doubling to get the × 4 and × 8 facts. Here are some tables to help you. The first one has been done for you.

a

$12 \times 4 =$	48
Double 12 once	24
Double 12 twice	48

b

$15 \times 4 =$	☐
Double 15 once	
Double 15 twice	

c

$18 \times 4 =$	☐
Double 18 once	
Double 18 twice	

d

$22 \times 4 =$	☐
Double 22 once	
Double 22 twice	

e

$16 \times 8 =$	☐
Double 16 once	
Double 16 twice	
Double 16 three times	

f

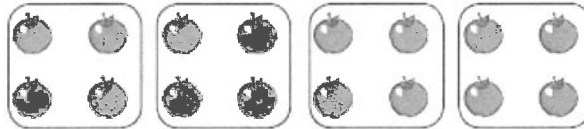| $35 \times 8 =$	☐
Double 35 once	
Double 35 twice	
Double 35 three times	

Division can mean sharing *or* grouping.

There are 12 lollies shared between 4 kids. How many are in each share?
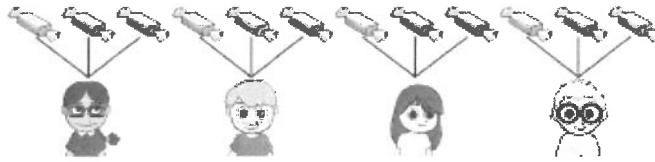
$12 \div 4 = 3$

There are 16 apples and 4 go into each basket. How many baskets do I need?

$16 \div 4 = 4$

1 Solve these sharing and grouping questions:

a There are 9 cupcakes and 3 kids are sharing. How many are in each share?

$\boxed{} \div \boxed{} = \boxed{}$

b 12 lollies are shared between a group of kids so they each get 2. How many kids are sharing?

$\boxed{} \div \boxed{} = \boxed{}$

CHECK

a Divide 16 lollies between 4 girls. How many does each girl get?

$\boxed{} \div \boxed{} = \boxed{}$

sharing / grouping

b From a packet of 24 pencils, each person will get 6. How many people are sharing the pencils?

$\boxed{} \div \boxed{} = \boxed{}$

sharing / grouping

c 48 eggs are laid by 6 hens. If they all laid the same amount, how many did each hen lay?

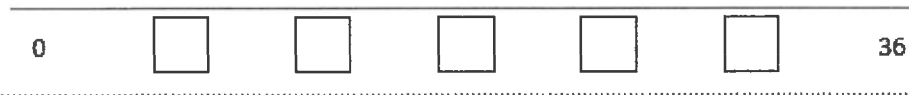$\boxed{} \div \boxed{} = \boxed{}$

sharing / grouping

Division can also be thought of as repeated subtraction.

Look at 30 ÷ 5 = [?] This question is asking how many groups of 5 there are in 30.

Jump in 5s along the number line and then count the jumps.

6	5	4	3	2	1
–5	–5	–5	–5	–5	–5
0	5	10	15	20	25	30

So, 30 ÷ 5 = 6
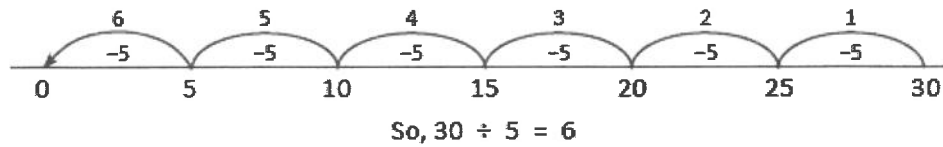
1 Show these division facts as repeated subtraction. First label the number lines and then show the jumps.
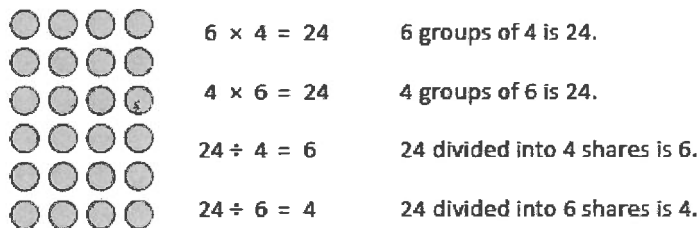
a 36 ÷ 6 = [ ]

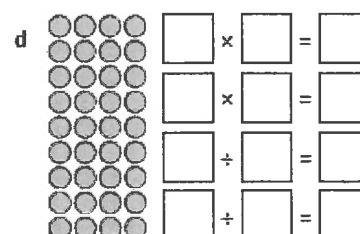0 [ ] [ ] [ ] [ ] [ ] 36

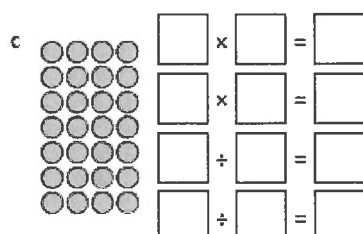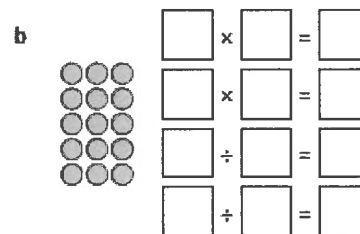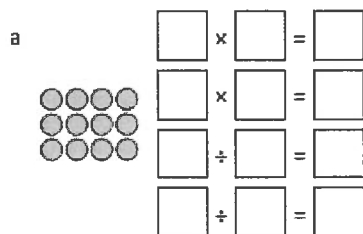b 21 ÷ 3 = [ ]

0 [ ] [ ] [ ] [ ] [ ] [ ] 21

Division – linking multiplication and division facts

Knowing multiplication facts will help with division facts. This is because they are opposites. Look at how we can describe this array:

6 × 4 = 24   6 groups of 4 is 24.

4 × 6 = 24   4 groups of 6 is 24.

24 ÷ 4 = 6   24 divided into 4 shares is 6.

24 ÷ 6 = 4   24 divided into 6 shares is 4.

1 Describe each of these arrays using two multiplication and two division facts:

a [ ] × [ ] = [ ]
   [ ] × [ ] = [ ]
   [ ] ÷ [ ] = [ ]
   [ ] ÷ [ ] = [ ]

b [ ] × [ ] = [ ]
   [ ] × [ ] = [ ]
   [ ] ÷ [ ] = [ ]
   [ ] ÷ [ ] = [ ]

c [ ] × [ ] = [ ]
   [ ] × [ ] = [ ]
   [ ] ÷ [ ] = [ ]
   [ ] ÷ [ ] = [ ]

d [ ] × [ ] = [ ]
   [ ] × [ ] = [ ]
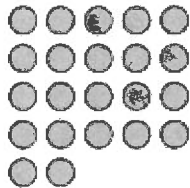   [ ] ÷ [ ] = [ ]
   [ ] ÷ [ ] = [ ]

Sometimes division is not exact.
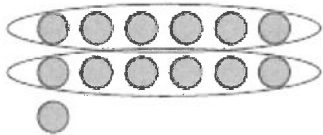
From 13, we can make 2 fair shares of 6 with 1 left over. We call the left over the remainder.
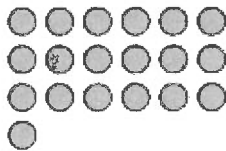
13 ÷ 6 = 2 remainder 1

1 In each array, ring the fair shares to see the remainder:

a

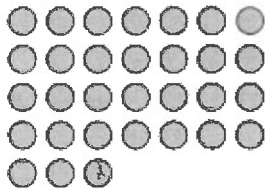22 ÷ 5 = ☐ remainder ☐

b

19 ÷ 6 = ☐ remainder ☐

c

31 ÷ 7 = ☐ remainder ☐