

# 4 Number Pictures

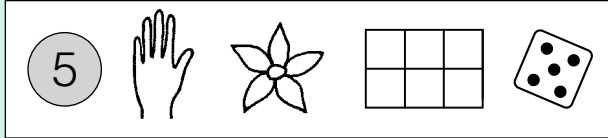


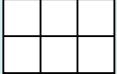
Numbers up to 20

## A One does not belong

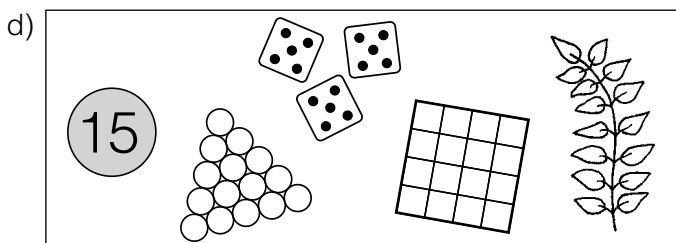
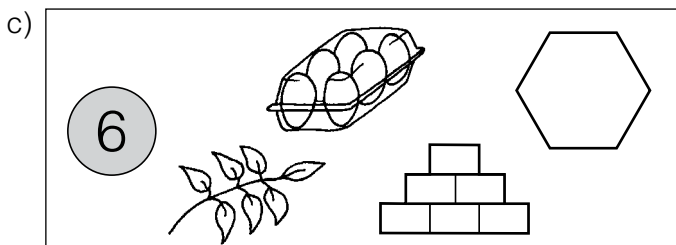
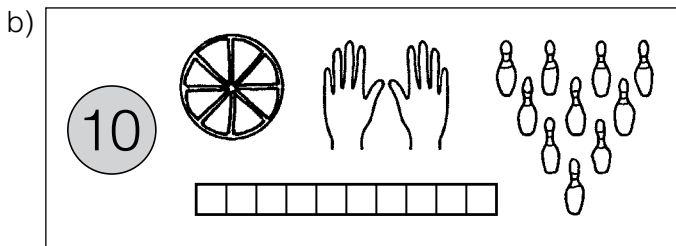
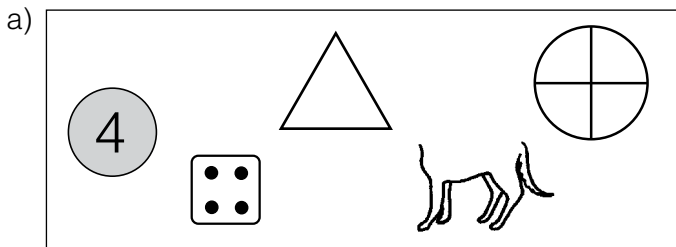
Example :

One picture in this box does not belong. It does not show the number 5. Colour red the picture that does not belong.



Answer :  This picture does not belong. It shows 6. It should be coloured red.

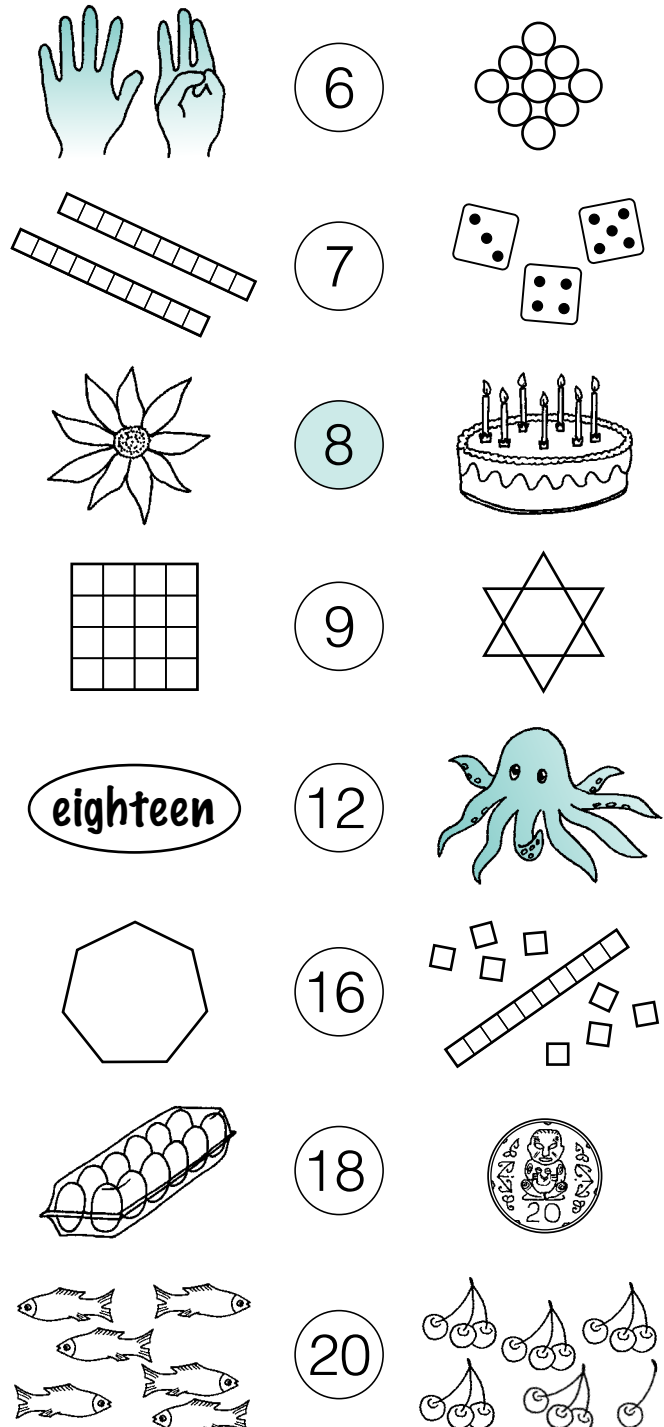
1 Look at the pictures in each box. Find the picture that does not belong. Colour it red.



## B Find numbers that match

1a) Start with colouring the numbers in the circles using 7 different colours. We used green to colour 8.

b) In the pictures below the fingers and the octopus both show the number 8. So we coloured them green as well. For each number find two matching pictures. Colour them the same.





## Numbers up to 100

### A Peanuts

Example : Connor



5

Ruby



12

Connor has 5 peanuts, Ruby has 12.  
How many peanuts is that altogether?  $5 + 12 = \dots\dots$

Connor starts with 5 and counts on Ruby's peanuts.  
6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17  
Answer : 17

Ruby starts with 12 and counts on Connor's peanuts.  
13, 14, 15, 16, 17

Answer : 17

They got the same answer. So  $5 + 12 = 17$ .  
Ruby had an easier job.

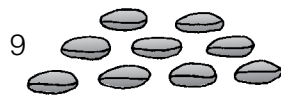
- 1 Ryan has 4 peanuts, Courtney has 9.  
How many peanuts are there altogether?

Ryan



4

Courtney

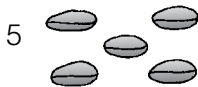


9

$$4 + 9 = \dots\dots\dots$$

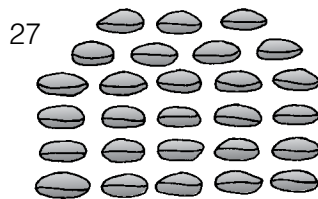
- 2 Ella has 5 peanuts, Daniel has 27.  
How many peanuts are there altogether?

Ella



5

Daniel



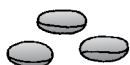
27

$$5 + 27 = \dots\dots\dots$$

- 3 Kate has 3 peanuts, Holly has 36.  
How many peanuts are there altogether?

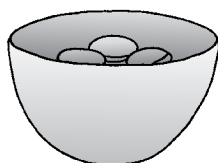
Kate

3



Holly

36



$$3 + 36 = \dots\dots\dots$$

## The Bigger Number First 25

### B More sums

When adding two numbers, it is easier to count on from the bigger number.

Example : Work out this sum.  $3 + 45 = \dots\dots\dots$

Think : I start with 45 and count on 3.



Answer :  $3 + 45 = 48$

- 1 Add these.

a)  $5 + 52 = \dots\dots\dots$       b)  $3 + 61 = \dots\dots\dots$

c)  $2 + 79 = \dots\dots\dots$       d)  $43 + 4 = \dots\dots\dots$

e)  $3 + 94 = \dots\dots\dots$       f)  $5 + 88 = \dots\dots\dots$

g)  $37 + 4 = \dots\dots\dots$       h)  $6 + 50 = \dots\dots\dots$

- 2 Tyler counted 28 children on the school bus.  
At the next stop 3 more got in.  
Then another 5 got in.  
How many children were in the school bus then?

$$28 + 3 + 5 = \dots\dots\dots$$

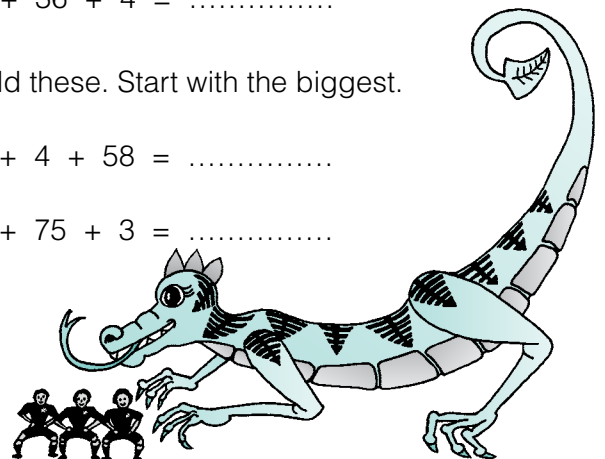
- 3 Hunter is collecting All Black figurines.  
He started with 5. Then his older brother gave  
Hunter his whole collection of 36 figurines.  
On his birthday Hunter got another 4 figurines.  
How big is Hunter's collection now?

$$5 + 36 + 4 = \dots\dots\dots$$

- 4 Add these. Start with the biggest.

a)  $2 + 4 + 58 = \dots\dots\dots$

b)  $3 + 75 + 3 = \dots\dots\dots$



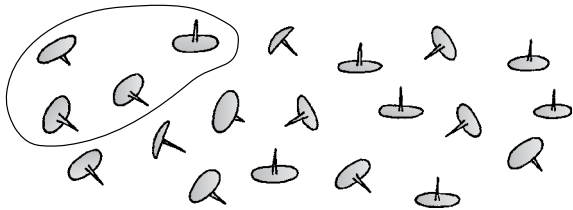
# 44 Dividing



Multiplying, Dividing and Fractions

## A How many sets?

- 1 Ethan has twenty drawing pins. He wants to hang up pictures in his room. Each picture needs 4 pins. Ethan wants to know how many pictures he can pin up.



- a) Draw rings around sets of 4 pins.  
b) How many sets of 4 can he make from 20 pins?

..... sets.

- 2 Emily has 12 stamps. A Christmas card needs two of these stamps. How many cards can Emily send?



..... cards.

- 3 Joseph has 21 playing cards. He makes piles of 3 cards. How many piles can he make?

..... piles.

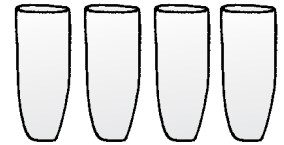


- 4 Look back at the problems you solved in this column. Complete these sentences.

- a) 20 pins can be divided into ..... sets of 4.  
b) 12 stamps can be divided into ..... sets of 2.  
c) 21 cards can be divided into ..... sets of 3.

## B Sharing out

- 1 Holly has 4 glasses and 12 drinking straws. Each glass gets the same number of straws.



How many straws per glass?

Hint : First give each glass one straw, then each gets a second straw, and so on . . .

Answer : ..... straws per glass.

2



Nine kids are travelling in 3 cars to a soccer game. The same number of kids will go in each car.

How many kids per car? .....

- 3 Twenty tennis balls are put into 5 carry bags. There are the same number of balls in each bag.

How many balls in each bag? .....



- 4 Look back at the problems you solved in this column. Complete these sentences.

- a) 12 straws divided over 4 glasses is ..... per glass.  
b) 9 kids divided over 3 cars is ..... per car.  
c) 20 balls divided over 5 bags is ..... per bag.



Numbers up to 1000

## A Taking ones and tens

Example : Work out these subtractions.

a)  $322 - 4 = \dots\dots\dots$

Think : I start with 322 and count back 4 numbers : 321, 320, 319, 318

Answer:  $322 - 4 = 318$

b)  $470 - 30 = \dots\dots\dots$

Think: 30 is 3 tens. I start with 470 and count back in tens : 460, 450, 440

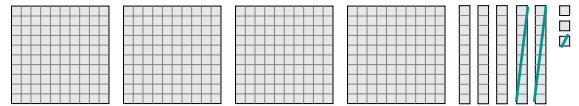
Answer :  $470 - 30 = 440$

## B Subtracting with number blocks

Example : Subtract using number blocks.

$453 - 21 = \dots\dots\dots$

Make the first number with blocks.  
Now take away 2 tens and 1 one.



Left are 4 hundreds, 3 tens, 2 ones.

Answer :  $453 - 21 = 432$

1 Subtract ones.

a)  $287 - 3 = \dots\dots\dots$       b)  $108 - 4 = \dots\dots\dots$

c)  $342 - 2 = \dots\dots\dots$       d)  $430 - 5 = \dots\dots\dots$

e)  $281 - 3 = \dots\dots\dots$       f)  $501 - 4 = \dots\dots\dots$

2 Subtract tens.

a)  $280 - 10 = \dots\dots\dots$       b)  $350 - 20 = \dots\dots\dots$

c)  $170 - 50 = \dots\dots\dots$       d)  $590 - 30 = \dots\dots\dots$

1 Subtract these using number blocks.

a)  $375 - 20 = \dots\dots\dots$       b)  $254 - 30 = \dots\dots\dots$

c)  $189 - 31 = \dots\dots\dots$       d)  $243 - 43 = \dots\dots\dots$

e)  $557 - 26 = \dots\dots\dots$       f)  $386 - 54 = \dots\dots\dots$

2 Try these by imagining the blocks.

a)  $244 - 30 = \dots\dots\dots$       b)  $352 - 52 = \dots\dots\dots$

c)  $169 - 28 = \dots\dots\dots$       d)  $536 - 26 = \dots\dots\dots$

## C A cat riddle

1 Work out these additions and subtractions then use the clues to solve the riddle.

$484 - 62 = \dots\dots\dots$  **T**       $275 - 72 = \dots\dots\dots$  **R**       $369 - 59 = \dots\dots\dots$  **Y**

$253 + 20 = \dots\dots\dots$  **W**       $414 + 32 = \dots\dots\dots$  **A**       $538 + 3 = \dots\dots\dots$  **S**

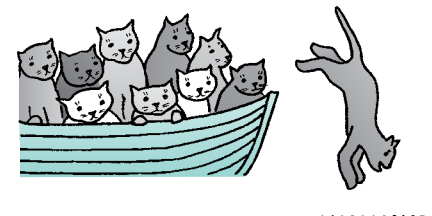
$378 - 26 = \dots\dots\dots$  **N**       $537 - 37 = \dots\dots\dots$  **O**       $642 - 5 = \dots\dots\dots$  **C**

$560 + 40 = \dots\dots\dots$  **H**       $622 + 51 = \dots\dots\dots$  **E**       $599 + 5 = \dots\dots\dots$  **P**

Riddle : *Ten cats were in a boat. One jumped out.  
How many cats were left in the boat?*

Answer :  $\frac{\quad}{352}$   $\frac{\quad}{500}$   $\frac{\quad}{352}$   $\frac{\quad}{673}$  ,      **T**  $\frac{\quad}{422}$   $\frac{\quad}{600}$   $\frac{\quad}{673}$   $\frac{\quad}{310}$

$\frac{\quad}{273}$   $\frac{\quad}{673}$   $\frac{\quad}{203}$   $\frac{\quad}{673}$        $\frac{\quad}{637}$   $\frac{\quad}{500}$   $\frac{\quad}{604}$   $\frac{\quad}{310}$   $\frac{\quad}{637}$   $\frac{\quad}{446}$  **T**  $\frac{\quad}{422}$   $\frac{\quad}{541}$



# 64 Number Sentences



Algebra

## A Writing a number sentence

We often must write a problem as a number sentence before we answer it.

Example : Mum filled four lunchboxes. Each lunch box got two mandarins. How many mandarins is that altogether?

There are two possible number sentences.

Either :  $2 + 2 + 2 + 2 = 8$

or :  $4 \times 2 = 8$

Both are correct.

Answer : Eight mandarins

1 Write each problem as a number sentence, then write the answer in words.

- a) There were seventeen books on the shelf. Jake put five more books on the shelf. How many books are there on the shelf now?


Number sentence : .....

Answer : .....

- b) Dad has three planks. He must drill four holes in each plank. How many holes is that altogether?

Number sentence : .....

Answer : .....

- c)  Oliver bought twenty balloons for his party. He has blown up six balloons. How many balloons to go?

Number sentence : .....

Answer : .....

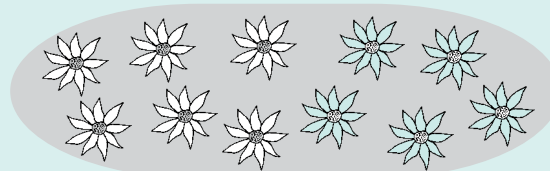
- d) Charlotte shares her plums with her friend Katie. Each gets half of sixteen plums. How many plums does Katie get?

Number sentence : .....

Answer : .....

## B Family of facts

Example : There are 11 flowers in the oval. Some are green and some are white. Count the flowers and write down a number sentence using adding or subtracting.



There are four possible number sentences.

$6 + 5 = 11$  } two number sentences using adding


$5 + 6 = 11$  }

$11 - 5 = 6$  } two number sentences using subtracting

$11 - 6 = 5$  }

The four number sentences are called a *family of facts*.

1 Finish the family of facts to go with these diagrams.

a)   $8 + \mathbf{6} = \mathbf{14}$

$$8 + \mathbf{6} = \mathbf{14}$$

$$6 + \dots = \dots$$

$$14 - \mathbf{6} = \dots$$

$$14 - \dots = \dots$$

b)   $7 + 13 = \dots$

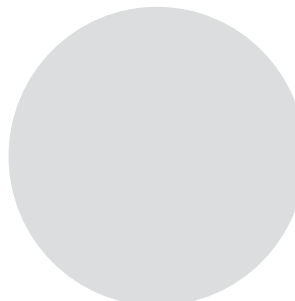
$$7 + 13 = \dots$$

$$\dots + \dots = \dots$$

$$\dots - \dots = \dots$$

$$\dots - \dots = \dots$$

2 You could draw a picture when you finish this family of facts.



$$9 + 2 = 11$$

$$\dots + \dots = \dots$$

$$\dots - \dots = \dots$$

$$\dots - \dots = \dots$$



Measurement

## A Comparing containers

The **volume** of a container tells us about the size of the container. We can compare volumes by filling the containers with cups of water or sand.

1 Ask your mother or teacher for a cup and four empty containers : a plastic bottle, a bowl, a cooking pot, a tin or jar.

a) Look at your empty containers. Predict which one will have the largest volume.

I think the ..... will have the largest volume.

b) Now measure how many cups of water fill each of the containers.

Hint :

*Either count how many cupfuls are needed to fill up the container*

*or fill the container and count how many cups it can fill.*



container	number of cups
bottle	.....
bowl	.....
cooking pot	.....
tin / jar	.....

c) Which container has the largest volume?  
.....

d) Which container has the smallest volume?  
.....

## B One litre

Volumes of containers are often measured in *litres*. Milk and juice are usually sold in bottles of 1 litre or 2 litres.

1 You will need a 1 litre measuring jug, a glass, a teacup and a soup bowl.

How many of each can you fill with 1 litre?

- a) I can fill ..... glasses with 1 litre.
- b) I can fill ..... tea cups with 1 litre.
- c) I can fill ..... soup bowls with 1 litre.

2 Look at the results of question 1. Colour the container with the largest volume red, and the container with the smallest volume blue.

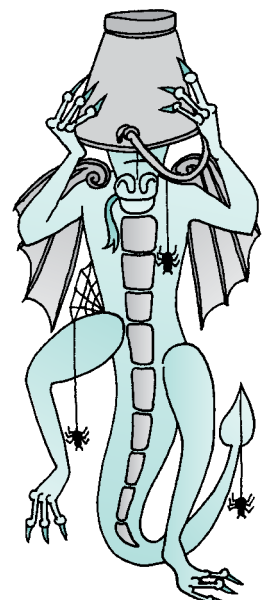
glass
tea cup
soup bowl

3 Look in the fridge and find a milk or juice bottle. Read the label. How many litres can the bottle hold?

.....

4 Colour red the containers that can hold more than 1 litre.

bucket  
mug  
bath  
cooking pot  
vase



5 Find a bucket. How many litres of water fill up the bucket?

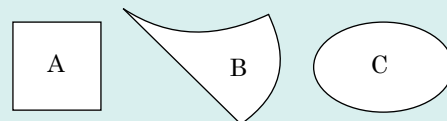
..... litres.



### A Flat or bulky?

Plane shapes are flat. You can make tiling patterns with plane shapes.  
Plane shapes have sides and corners.

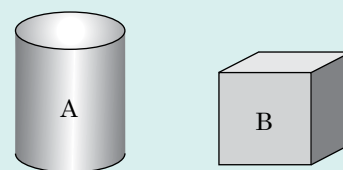
For example : Shape **A** has 4 straight sides and 4 corners.  
Shape **B** has 1 straight side and 2 curved sides, it has 3 corners.  
Shape **C** has no corners, it has 1 curved side.



Solid shapes have depth. They are like building blocks.  
Solid shapes have edges and corners.

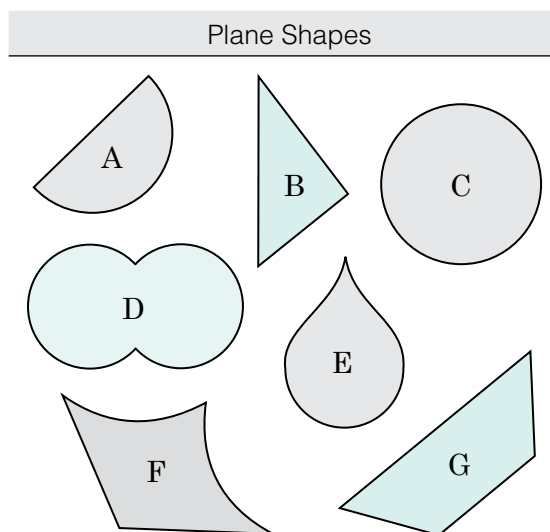
When you see a picture of a solid shape, you must use your imagination.  
The drawing cannot show every corner and edge.

For example : Solid **A** has the shape of a can of food, the top edge is a circle but it does not look like it in the drawing.  
Solid **B** has the shape of a box. The box has 8 corners but you can't see them all in the drawing.



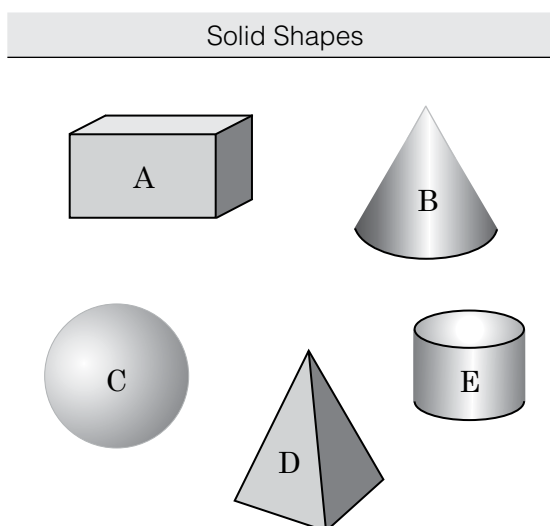
1 Plane shapes have corners and sides.  
Shape **A** has 2 corners and 2 sides.

- a) Which other shape has 2 corners and 2 sides? .....
- b) Which shapes have 4 sides? ..... and .....
- c) Which shapes have only 1 side? ..... and .....
- d) Which shape has no corners? .....
- e) Which shape has only 1 corner? .....
- f) Which have no curved sides? ..... and .....



2 Solids have corners and edges. Solid **A** has only straight edges, no curved ones.

- a) Which other solid has only straight edges? .....
- b) Which solid has no edges? .....
- c) Which solid has one round edge? .....
- d) Which solid has two round edges? .....
- e) Which two solids have no corners? ..... and .....
- f) Which solid has the most corners? .....





**A Getting to school**

1 This tally table shows how pupils in Room 6 get to school in the morning.

- a) Fill in the totals.
- b) We will draw a pictograph as follows.  
We show each tally stroke as a picture.  
Try to draw all pictures the same size and line them up neatly underneath each other.

transport	tally	total
walking	###	
scooter	##	
bike		
car	### ##	

Room 6 goes to school		key :  = 1 child
walking		
scooter		
bike		
car		



**B Holidays**

1 In the holidays Jack is going to stay with his aunt in Rotorua.  
He asked his classmates where they will be staying in the holidays. He started a pictograph to show the results.

- a) Each picture stands for 2 children. How many children are going to stay in a camping ground?  
.....
- b) Four children will stay in a holiday house.  
How many faces should you draw in the chart?  
.....
- c) Eight will stay with family and two will stay in a motel. Finish the pictures in the pictograph.

Holiday stay		key :  = 2 children
camping ground		
holiday house		
with family		
motel		



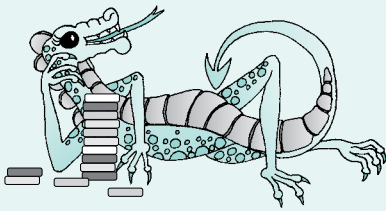


# A2 Answer Section

Pages 19 - 33  
Numbers up to 100

## Page 19 - Stacking Counters

- A1 There are many possible answers, for example :  
 $20 = 5 + 5 + 5 + 5$        $20 = 12 + 8$   
 $20 = 7 + 7 + 6$
- A2 There are many possible answers, for example :  
 $24 = 12 + 12$        $24 = 8 + 8 + 8$   
 $24 = 10 + 10 + 4$
- A3 There are many possible answers, for example :  
 $30 = 10 + 10 + 10$        $30 = 12 + 10 + 8$   
 $30 = 6 + 6 + 6 + 6 + 6$
- A4 a) 32 is 3 tens and 2      b) 45 is 4 tens and 5  
c) 69 is 6 tens and 9
- A5 a) 21 is 2 tens and 1      b) 37 is 3 tens and 7  
c) 83 is 8 tens and 3      d) 75 is 7 tens and 5  
e) 99 is 9 tens and 9      f) 58 is 5 tens and 8



## Page 20 - Number Blocks

- A1 a) 1 rod of 10, 4 ones      b) 3 rods of 10, 1 one  
c) 2 rods of ten, 6 ones      d) 6 rods of 10, 3 ones  
e) 4 rods of 10, 0 ones
- A2 a) 72      b) 59
- A3 a) 62      b) 85      c) 47      d) 100
- B1 a) 20 + 9      b) 40 + 1  
c) 50 + 7      c) 70 + 5
- B2 a) 3      b) 6
- B3 a) 12      b) 43      c) 60      d) 88
- B4 34

## Page 21 - Writing Numbers in Words

- A1 a) 18      b) 60      c) 12
- A2 a) forty      b) nineteen      c) seventy
- A3 a) fifty - 50      b) eighty-eight - 88  
c) fourteen - 14      d) thirty-nine - 39  
e) twenty-six - 26
- A4 a) 8      b) 11      c) 90      d) 41  
e) 53      f) 16
- B1 a) 23      b) 31      c) 21
- B2 a) 43      b) 18      c) 34
- B3 a) twenty-five      b) sixteen  
c) fifty-one      d) seventy-eight  
e) ninety

## Page 22 - Comparing and Ordering

- A1 a) less than      b) less than  
c) more than      d) less than  
e) more than      f) more than  
g) less than      h) more than
- B1 a) flag 24 - white, flag 36 - red, flag 18 - blue  
b) flag 62 - red, flag 58 - white, flag 33 - blue  
c) flag 45 - blue, flag 54 - red, flag 48 - white  
d) flag 59 - blue, flag 68 - white, flag 70 - red
- C1 a) cupcake 28 is blue, cupcake 36 is red  
b) drink 43 is blue, drink 60 is red  
c) party-hat 47 is blue, party-hat 72 is red
- C2 a) balloon 97 is red, b) balloon 77 is blue  
c) balloons 78, 93, 80, 85 and 82 are yellow  
d) 78, 80, 82, 85, 93

## Page 23 - Counting On

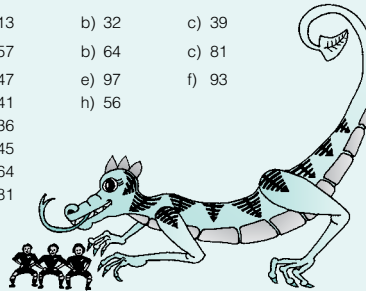
- A1 a) 69      b)  $32 + 4 = 36$
- A2 a) 35      b) 28      c) 46      d) 67  
e) 75
- A3 a) 67      b) 27      c) 48      d) 58  
e) 39
- B1 a) 62      b) 91      c) 43
- B2 a) 50      b) 31      c) 52      d) 93  
e) 102

## Page 24 - Counting Back

- A1 a) 82      b)  $25 - 3 = 22$
- A2 a) 45      b) 63      c) 35      d) 73  
e) 99
- A3 a) 51      b) 83      c) 43      d) 70  
e) 21
- B1 a) 19      b) 57
- B2 a) 38      b) 73      c) 46      d) 32  
e) 79      f) 97      g) 58      h) 86

## Page 25 - The Bigger Number First

- A1 a) 13      b) 32      c) 39
- B1 a) 57      b) 64      c) 81  
d) 47      e) 97      f) 93  
g) 41      h) 56
- B2 36
- B3 45
- B4 a) 64      b) 81



## Page 26 - Write a Story

- A1 a)  $24 + 5 = 29$       student's own story  
b)  $51 - 4 = 47$       student's own story  
c)  $2 + 39 + 4 = 45$       student's own story

## Page 27 - Recording Sums

- A1 Sum :  $35 + 5 = 40$       Answer : 5 dollars
- A2 Sum :  $18 + 3 = 21$       Answer : 3 cards
- A3 Sum :  $70 + 8 = 78$       Answer : 8 chairs
- B1 Sum :  $23 - 4 = 19$       Answer : 19 children
- B2 Sum :  $42 + 3 = 45$       Answer : 3 candles
- B3 Sum :  $64 - 5 = 59$       Answer : 59 eggs
- B4 Sum :  $25 + 3 + 4 = 32$       Answer : 32 cars

## Page 28 - The Number Grid

A1 Numbers from 12 - 100 placed in the grid :

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

- A2 a) 53      b) 63      c) 65      d) 65
- A3 a) 85      b) 89      c) 89

## Page 29 - Sums With the Number Grid

- A1 a) 37      b) 67      c) 68      d) 75  
e) 97      f) 70      g) 87      h) 100
- A2 95 mandarins
- B1 a) 26      b) 32      c) 25      d) 38  
e) 75      f) 53      g) 16      h) 48
- B2 4 lights
- C1 89 - red, 31 - blue, 36 - yellow, 79 - red  
71 - blue, 99 - yellow, 100 - blue, 3 - yellow

## Page 30 - Sums With Number Blocks

- A1 a) 87      b) 78
- A2 54 **A**      77 **E**  
58 **F**      36 **G**  
64 **H**      67 **I**  
96 **M**
- B1 a) 33      b) 14
- B2 42 **N**      53 **O**  
60 **R**      32 **S**  
17 **T**      35 **W**  
46 **Y**
- B3 To get away from the noise.

## Page 31 - Some More Sums

- A1 a) 24      b) 33
- A2 Sum :  $14 + 20 = 34$       Answer : 20 houses
- A3 a) 12      b) 45      c) 31      d) 53
- B1 Sum :  $52 + 14 = 66$       Answer : 66 points
- B2 a) 45      b) 55      c) 78      d) 89
- B3 Sum :  $68 - 25 = 43$       Answer : 43 gold coins
- B4 a) 24      b) 20      c) 51      d) 46
- B5 Sum :  $12 + 21 = 33$       Answer : 21 points
- B6 a) 11      b) 60      c) 65      d) 54

## Page 32 - Tidy Numbers

- A1 a) 4      b) 9      c) 19      d) 40  
e) 15      f) 12
- A2 a) 4      b) 8      c) 16      d) 15  
e) 22      f) 49
- B1 80 is closest.  
(78 is 8 more than 70 and 78 is 2 less than 80)
- B2 30 is closest.  
(34 is 4 more than 30 and 34 is 6 less than 40)
- B3 25 is 5 more than 20, it is also 5 less than 30.  
20 and 30 are equally close.

## Page 33 - Skip Counting

- A1 10, 20, 30, 40, 50, 60, 70, 80, 90, 100.
- A2 5, 10, 15, 20, 25, 30, 35, 40, 45, 50.
- A3 2, 4, 6, 8, 10, 12, 14, 16, 18, 20,  
22, 24, 26, 28, 30, 32, 34, 36, 38, 40.
- A4 a) 18      b) 35      c) 40
- B1 a) 12      b) 15
- B2 3, 6, 9, 12, 15, 18, 21, 24, 27, 30.
- B3 4, 8, 12, 16, 20, 24, 28, 32, 36, 40.

