

Written in  
NZ for NZ

# Help Me at HOME Series



## Curriculum Strand Worksheets

**A Teacher's resource supplied as PHOTOCOPY MASTERS**

### Book 4b

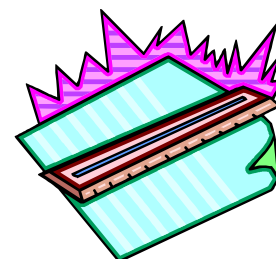


This resource contains  
**40 CURRICULUM STRAND  
WORKSHEETS**

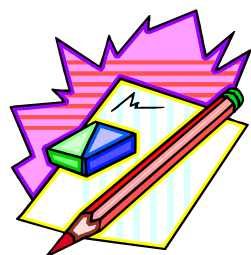


which covers **Level 2 & some Level 3** of the  
achievement objectives as outlined in the  
**Mathematics in the New Zealand  
Curriculum** for the strands ...

**Number & Algebra,  
Measurement & Geometry  
and Statistics.**



This resource is to be used in conjunction  
with **Book 4a** and supports the  
**Numeracy Professional Development  
Project Stages 5 & 6**



Author: A. W. Stark



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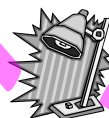
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AH4b

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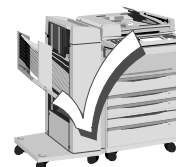
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AH4b



## Note from the author:

About this resource ...

### Help Me at Home Curriculum Strand Worksheets

#### - Book 4b (Code: AH4b)

is one of a series of **TWO** sets of 8 resources and has been written to cover the achievement objectives as outlined in the *Mathematics in the New Zealand Curriculum* (2007 revised edition) document for the teaching areas or strands of ... Number & Algebra, Measurement & Geometry and Statistics.

Resource Book 4b is to be used in conjunction with a second resource, Book 4a.

### Help Me at Home Number Knowledge Worksheets

#### - Book 4a (Code: AH4a)

Book 4a has been written to support the *Numeracy Professional Development Project* currently being implemented within many New Zealand schools.

#### Background Information:

The *Numeracy Professional Development Project* being implemented in many schools involves a **knowledge section** and a **strategy section**.

The **knowledge section** introduces and revises the key number knowledge facts required.

The **strategy section** describes the mental processes students employ to estimate answers and solve problems involving the four operations of addition, subtraction, multiplication and division.

The **strategy stages** are listed in this table.

The aim of this project is to equip students with various strategies that allow them to be successful at Mathematics.

In order for this to occur, it is essential for students to be confident with number knowledge.

	Strategy Stages
0	Emergent
1	One-to-one Counting
2	Counting from One on Materials
3	Counting from One by Imaging
4	Advanced Counting (Counting On)
5	Early Additive Part-Whole
6	Advanced Additive Part-Whole
7	Advanced Multiplicative Part-Whole
8	Advanced Proportional Part-Whole

Without the 'knowledge', that is, knowing the basic numeracy facts, it is difficult for a student to progress through the strategy stages. Students move through the strategy stages at different rates and may be working at different stages given a certain problem. This is often a result of gaps in key knowledge, hence it CANNOT be stressed enough the importance of learning the numeracy facts. How children learn the numeracy facts is not as important as knowing them. These resources are designed to systematically introduce and revise the key numeracy facts.

#### How to use these resources:

There are **2 sets** of **8 resources** in this series.

The table opposite shows the suggested Year Group each book can be used at, but this is only a suggestion.

Example: 1 - 2 - 3 means it is likely to be used at Year 2, the bold underlined number.

Book	Resource Code	Suggested Year Group (underlined)	Strategy Stages covered	Curriculum Level
1a / 1b	AH1a & AH1b	1 - <u>2</u> - 3	1 to 3	1
2a / 2b	AH2a & AH2b	2 - <u>3</u> - 4	4	1 / 2
3a / 3b	AH3a & AH3b	3 - <u>4</u> - 5	4 & 5	2
4a / 4b	AH4a & AH4b	4 - <u>5</u> - 6	5 & 6	2 / 3
5a / 5b	AH5a & AH5b	5 - <u>6</u> - 7	6 & 7	3
6a / 6b	AH6a & AH6b	6 - <u>7</u> - 8	6 & 7	3 / 4
7a / 7b	AH7a & AH7b	7 - <u>8</u> - 9	6 to 8	4
8a / 8b	AH8a & AH8b	8 - <u>9</u> - 10	6 to 8	5

#### Why so many resources?

#### A note for Teachers

There are 2 sets of 8 resources in this series to allow you to have a different book available each year for classes which are made up of mixed year groups. This will stop the problem of a student saying "We used this book last year!". Which book you use for your class is up to your professional judgement, taking into account which resource classes above or below your class might use.

## How to use these TWO resources - Book 4a & Book 4b



### Note to Teachers:

- The aim of these TWO resources (**AH4a & AH4b**) are to provide the classroom teacher with a systematic and comprehensive series of worksheets, which form the basis of your mathematics homework.

### Worksheets from Book 4a:

- Photocopy** weekly and sequentially in order, a **Number Knowledge** worksheet from **Book 4a**. On the Number Knowledge worksheet, pupils can record their **Name, Term, Week** and the **Curriculum Strand Worksheet** that is also to be done that week.

### Worksheets from Book 4b:

- Select** and **photocopy** the appropriate **Curriculum Strand Worksheet** required, as determined by what you are currently teaching in class or a topic you are revising. In the table on the next page, record the curriculum worksheet being used each week.

### Extension Activity for Parents:

- Each Curriculum Strand Worksheet** has an **AT HOME** activity as an extension activity for parents or care-givers.
- Success in mathematics is greatly enhanced by having a good understanding of Number Knowledge. That is, from being able to add, subtract, multiply and divide with confidence, .... with success .... comes enjoyment.
- Either staple the two worksheets together or create a double sided homework sheet.

## Book AH4a 40x Number Knowledge Worksheets

- This resource systematically introduces and revises the number knowledge, presented in various formats.
- Designed to reinforce the Numeracy Professional Development Project, it is intended that one worksheet per week is completed in order from worksheet 1 to worksheet 40.
- One worksheet per week is to be done in conjunction with one worksheet selected from the **Curriculum Strand Worksheet** resource (**Book 4b**).
- Book 4a** covers the **Strategy Stages** 5 & 6.

Select ONE worksheet from each book to make up your homework worksheet

## Book AH4b 40x Curriculum Strand Worksheets

- The **40 worksheets** in this resource cover the Achievement Objectives as outlined in **Mathematics in the New Zealand Curriculum** for Number & Algebra, Measurement & Geometry and Statistics.
- These worksheets can be completed in any order.
- One worksheet is selected per week to be done in conjunction with one worksheet from the **Number Knowledge Worksheet** resource (**Book 4a**).
- The worksheet selected per week relates to the topic being covered at school or as revision.
- Book 4b** covers Level 2 & some Level 3 of the **Curriculum**.

## Book 4a (AH4a) - Number Knowledge Worksheets

Number Knowledge Worksheet	Term & Week Enter details below	Curriculum Strand Worksheet Enter the worksheet number issued each week
1	Term:    Week:	
2	Term:    Week:	
3	Term:    Week:	
4	Term:    Week:	
5	Term:    Week:	
6	Term:    Week:	
7	Term:    Week:	
8	Term:    Week:	
9	Term:    Week:	
10	Term:    Week:	
11	Term:    Week:	
12	Term:    Week:	
13	Term:    Week:	
14	Term:    Week:	
15	Term:    Week:	
16	Term:    Week:	
17	Term:    Week:	
18	Term:    Week:	
19	Term:    Week:	
20	Term:    Week:	

Number Knowledge Worksheet	Term & Week Enter details below	Curriculum Strand Worksheet Enter the worksheet number issued each week
21	Term:    Week:	
22	Term:    Week:	
23	Term:    Week:	
24	Term:    Week:	
25	Term:    Week:	
26	Term:    Week:	
27	Term:    Week:	
28	Term:    Week:	
29	Term:    Week:	
30	Term:    Week:	
31	Term:    Week:	
32	Term:    Week:	
33	Term:    Week:	
34	Term:    Week:	
35	Term:    Week:	
36	Term:    Week:	
37	Term:    Week:	
38	Term:    Week:	
39	Term:    Week:	
40	Term:    Week:	



# Book 4b (AH4b) - Curriculum Strand Worksheets

(Tick next to worksheet as each ONE worksheet is issued per week)

1	Reading and writing whole numbers	Tick	21	Analogue & digital time	Tick
2	Reading and writing decimal numbers		22	Units of time, a.m. / p.m. time & timetables	
3	Addition and subtraction strategies		23	NZ coins and notes	
4	Numeracy facts revision		24	Working with money	
5	Ordering whole numbers and decimals		25	Finding area by counting squares	
6	Place value		26	Finding volume by counting cubes	
7	Rounding numbers and estimating answers		27	2-Dimensional shapes	
8	Multiples of 4's / multiplication facts		28	3-Dimensional shapes	
9	Multiples of 6's / multiplication facts		29	Describing 3-Dimensional objects	
10	Introducing division by 'grouping' - 4 & 6		30	Maps / Compass directions	
11	Multiplication strategies		31	Rotation & reflection	
12	Division strategies		32	Translation & enlargements	
13	Working with fractions		33	Sorting into groups	
14	Understanding fractions		34	Tables & tally charts	
15	Solving equations		35	Column graphs & pictograms	
16	Measuring units - length		36	Stem and leaf graphs & dot plots	
17	Reading scales / measuring & drawing lines		37	Conducting an investigation	
18	Measuring units - weight (mass)		38	Probability words & scales	
19	Measuring units - volume (capacity)		39	Finding outcomes	
20	Temperature		40	Simple probability experiments	

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# Curriculum Strand Worksheets Section

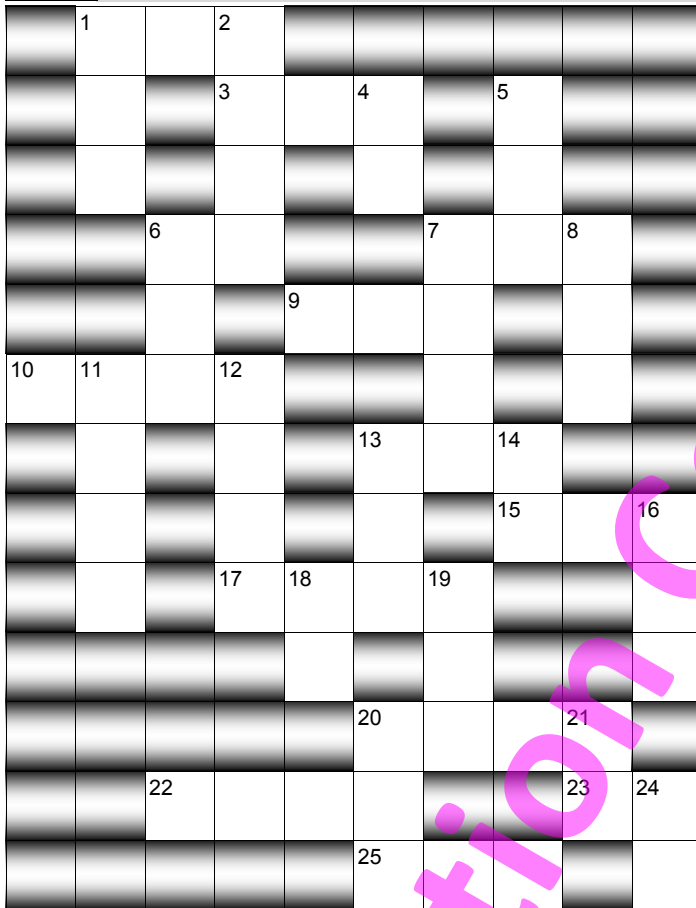
## (Level 2 / 3)

### Number & Algebra, Measurement & Geometry, and Statistics Worksheets

Select **ONE** Curriculum Strand Worksheet per week from this book (AH4b) to be completed in conjunction with **ONE** Number Knowledge Worksheet, selected from Book 4a (AH4a).

Record your selection in the table at the front of this resource.





## Down

- 5 seven hundred and eighty-one  
 6 three hundred and twelve  
 7 five thousand, six hundred and fifty-one  
 8 nine hundred and seventy-five  
 11 six thousand, seven hundred and thirty-eight  
 12 four thousand, one hundred and ninety-three  
 13 four hundred and seventy-nine  
 14 fifty-seven  
 16 one hundred and sixty-one  
 18 sixty-seven  
 19 one hundred and forty-two  
 20 four hundred and eighteen  
 21 thirty-six  
 24 ninety-seven

Write these numerals  
as number words.



- (1) Use the **across** and **down** clues to complete this number cross involving whole numbers.

## Across

- 1 eight hundred and forty-one  
 3 five hundred and eighty-three  
 6 thirty-four  
 7 five hundred and nineteen  
 9 three hundred and sixteen  
 10 seven thousand, six hundred and twenty-four  
 13 four hundred and fifteen  
 15 seven hundred and twenty-one  
 17 three thousand, six hundred and  
 20 four thousand, two hundred and thirteen  
 22 two thousand, one hundred and thirty-one  
 23 sixty-nine  
 25 eight hundred and forty-five

## Down

- 1 eight hundred and ninety-six  
 2 one thousand, five hundred and fourteen  
 4 thirty-nine

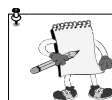
(2) 67 \_\_\_\_\_

(3) 94 \_\_\_\_\_

(4) 586 \_\_\_\_\_

(5) 2031 \_\_\_\_\_

(6) 6702 \_\_\_\_\_



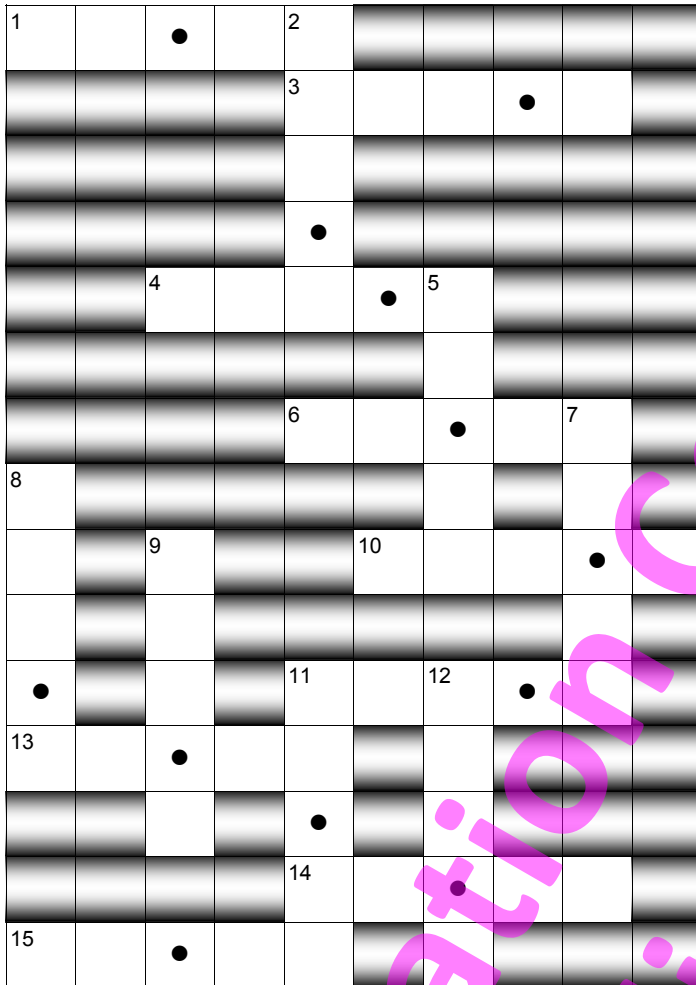
The aim of this activity sheet is to read number words for 2, 3 or 4-digit numerals and write numerals as number words.

## Suggested HOME activity:

Say aloud or write any 2, 3 or 4-digit numerals in number words and ask your child to write it as a numeral. Concentrate on pairs where the digits have been reversed. Example: 423, 324 ..... 147, 741 ... etc.

Write any 2, 3 or 4-digit number as numerals and ask your child to say, then write the numeral as number words.

Sign when  
completed: \_\_\_\_\_



Write these decimals  
as number words.



(2) 7.8

(3) 6.03

(4) 74.9

(5) 52.76

(6) 100.23

(7) 1518.9

(8) 0.513

(9) 7.009

(10) 0.006

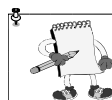
- (1) Use the **across** and **down** clues to complete this number cross involving decimals.

**Across**

- 1 seventy-three point five three  
3 six hundred and ninety-two point eight  
4 three hundred and seventy-five point nine  
6 thirty-two point seven four  
10 one hundred and fifty-eight point one  
11 six hundred and twenty-four point nine  
13 fifty-two point seven seven  
14 twenty-seven point four zero  
15 fifty-four point zero six

**Down**

- 2 three hundred and sixty-four point five  
5 ninety-four point two five  
7 forty-seven point two nine  
8 two hundred and thirty-nine point five  
9 seven hundred and four point six  
11 sixty-seven point two six  
12 four hundred and fifty-eight point six



The aim of this activity sheet is to read and write decimals as numerals and number words.

**Suggested HOME activity:**

Say aloud or write any 2, 3 or 4-digit decimal in number words and ask your child to write it as a numeral. Concentrate on pairs where the digits have been reversed. *Example: 42.3, 32.4 ..... 1.47, 7.41 ... etc.*

Write any 2, 3 or 4-digit number as numerals and ask your child to say, then write the numeral as number words.

Sign when  
completed: \_\_\_\_\_

There is more than one way to work out an answer. Here are some examples.

### Groupings of 10

Adding  $6 + 3 + 14$  is the same as  $20 + 3 = 23$

- (1)  $3 + 9 + 7 = \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (2)  $8 + 15 + 5 = \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (3)  $5 + 23 + 7 = \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (4)  $5 + 8 + 45 = \underline{\quad} + \underline{\quad} = \underline{\quad}$

### Using known doubles

Adding  $8 + 9$  is the same as  $8 + 8 + 1 = 17$   
or  $9 + 9 - 1 = 17$

- (5)  $7 + 8 = 7 + 7 + \underline{\quad} = \underline{\quad}$
- (6)  $8 + 9 = \underline{\quad} + 8 + \underline{\quad} = \underline{\quad}$
- (7)  $14 + 9 = 9 + \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (8)  $20 + 27 = \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$

### Round to make 10 or multiple of 10

Add  $19 + 7$  (add 1 to 19, subtract 1 from 7)  
Answer:  $19 + 7 = 20 + 6 = 26$

- (9)  $9 + 6 = 10 + \underline{\quad} = \underline{\quad}$
- (10)  $8 + 17 = \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (11)  $26 + 8 = \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (12)  $9 + 58 = \underline{\quad} + \underline{\quad} = \underline{\quad}$

### Adding or subtracting 10's and 1's

Example: Add  $23 + 15$   
add 10's ...  $20 + 10 = 30$ , add 1's ...  $3 + 5 = 8$   
Answer:  $30 + 8 = 38$

- (13)  $34 + 13$  is the same as ...  
 $\underline{\quad} + 10 + \underline{\quad} + 3 = \underline{\quad}$
- (14)  $45 + 24$  is the same as ...  
 $\underline{\quad} + \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (15)  $27 - 14$  is the same as ...  
 $20 - \underline{\quad} + \underline{\quad} - 4 = \underline{\quad}$
- (16)  $59 - 26$  is the same as ...  
 $\underline{\quad} - \underline{\quad} + \underline{\quad} - \underline{\quad} = \underline{\quad}$

### Splitting numbers to make '10'

Subtract  $23 - 6$  ( $23 = 20 + 3$  and  $20 - 6 = 14$ )  
Answer:  $14 + 3 = 17$

- (17)  $75 - 6$  is the same as ...  
 $70 - 6 + \underline{\quad} = \underline{\quad}$
- (18)  $32 - 6$  is the same as ...  
 $\underline{\quad} - 6 + \underline{\quad} = \underline{\quad}$
- (19)  $83 - 8$  is the same as ...  
 $80 - \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (20)  $54 - 5$  is the same as ...  
 $\underline{\quad} - \underline{\quad} + \underline{\quad} = \underline{\quad}$

### Don't subtract ... add

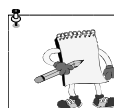
$26 - 7 = \bullet$  is the same as  $7 + \bullet = 26$

Use 'tidy' numbers  
to work this out.

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

Answer:  $3 + 10 + 6 = 19$

- (21)  $34 - 9 = \bullet$  is the same as  $9 + \bullet = 34$   
 $\bullet = \underline{\quad} + 20 + \underline{\quad} = \underline{\quad}$
- (22)  $45 - 8 = \bullet$  is the same as  $8 + \bullet = 45$   
 $\bullet = \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (23)  $52 - 7 = \bullet$  is the same as  $7 + \bullet = 52$   
 $\bullet = \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (24)  $67 - 9 = \bullet$  is the same as  $9 + \bullet = 67$   
 $\bullet = \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$
- (25)  $48 - 9 = \bullet$  is the same as  $9 + \bullet = 48$   
 $\bullet = \underline{\quad} + \underline{\quad} + \underline{\quad} = \underline{\quad}$



The aim of this activity sheet is to look at different strategies that could be used to work out addition or subtraction problems.

### Suggested HOME activity:

Make up similar questions that cover the basic numeracy facts at the back of this resource. These are **key number knowledge facts**.

The strategies used on this worksheet are only a suggestion. Your child may not need to use some or all of these strategies and may have strategies of their own. Encourage them to talk about how they work out their answers. Remember that working out the answer with confidence is more important than the strategy used.

Sign when  
completed: \_\_\_\_\_

Let's test your skills again ... how quickly can you **write in** the missing numbers?



- (1) 19 + \_\_\_\_\_ = 21
- (2) \_\_\_\_\_ - 6 = 16
- (3) \_\_\_\_\_ + 25 = 33
- (4) 42 - \_\_\_\_\_ = 35
- (5) 28 + \_\_\_\_\_ = 31
- (6) \_\_\_\_\_ - 4 = 58
- (7) \_\_\_\_\_ + 5 = 41
- (8) 22 - \_\_\_\_\_ = 19
- (9) 36 + \_\_\_\_\_ = 43
- (10) \_\_\_\_\_ - 7 = 34
- (11) \_\_\_\_\_ + 57 = 62
- (12) 41 - \_\_\_\_\_ = 35
- (13) 35 + \_\_\_\_\_ = 44
- (14) \_\_\_\_\_ - 9 = 36
- (15) \_\_\_\_\_ + 48 = 53
- (16) 43 - \_\_\_\_\_ = 36
- (17) 29 + \_\_\_\_\_ = 36
- (18) \_\_\_\_\_ - 9 = 24
- (19) \_\_\_\_\_ + 38 = 44
- (20) 45 - \_\_\_\_\_ = 37
- (21) 27 + \_\_\_\_\_ = 34
- (22) \_\_\_\_\_ - 9 = 26
- (23) \_\_\_\_\_ + 28 = 36
- (24) 47 - \_\_\_\_\_ = 38
- (25) 69 + \_\_\_\_\_ = 78

(26)

Add up all the numbers in this box.

25	8	36	
4	3	31	
9	5	12	
			Total

Word problems.

(27)

You have 9 red blocks and 27 blue blocks, how many blocks do you have altogether?



(28)

For doing jobs around home you were paid \$17 and \$8. How much money did you earn?



(29)

If you spent \$9 and \$17 on toys, how much money did you spend altogether?



(30)

You have 17 red and blue blocks. If 9 blocks are blue, how many blocks are red?



(31)

You have \$16 and buy a drink. If you have \$8 left, how much did the drink cost?



The aim of this activity sheet is to revise all addition and subtraction combinations for 1 and 2-digit numbers involving carrying.

**Suggested HOME activity:**

Have a supply of objects, such as blocks, available so that you can model each addition and subtraction if required.

Make up similar questions that cover the basic numeracy facts on this activity sheet.

Example:  $6 + ? = 21$  can be rewritten as  $21 - 6 = ?$  ... etc.

In the number box (Q26), look for pairs of numbers that add to a multiple of 10 ...  $16 + 4 = 20$ , then 20 plus 10 equals 30 etc....

Sign when completed: \_\_\_\_\_

Write these whole numbers and decimals in order of **smallest to largest**.



- (1) 

952
-----

1023
------

76
----

15013
-------

- (2) 

22.3
------

8.7
-----

1.932
-------

183.4
-------

0.487
-------

- (3) 

1.73
------

1.75
------

1.71
------

1.74
------

1.79
------

1.72
------

- (4) If you **write** these numbers in order from **smallest to largest**,

63.01
-------

1.397
-------

1141.9
--------

427.3
-------

0.572
-------

... which number is first? \_\_\_\_\_

... which number is last? \_\_\_\_\_

... which number is in the middle? \_\_\_\_\_

Write these numbers in order of **largest to smallest**.



- (5) 

234
-----

1115
------

39
----

793
-----

4395
------

- (6) 

1.23
------

1.29
------

1.24
------

1.27
------

1.21
------

1.28
------

- (7) If you **write** these numbers in order from **largest to smallest**,

3.98
------

0.169
-------

1682
------

37.26
-------

149.5
-------

... which number is first? \_\_\_\_\_

... which number is last? \_\_\_\_\_

... which number is in the middle? \_\_\_\_\_

Kaylee competed in the long jump. Her distances jumped are in the table.



Jump	1	2	3	4	5
Distance	3.65m	3.37m	3.48m	3.71m	3.52m

- (8) What was the distance of her longest jump? \_\_\_\_\_

- (9) What was the distance of her shortest jump? \_\_\_\_\_

- (10) Write the jump distances in order from longest jump to shortest jump.  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

The results of a pumpkin growing competition are shown in this table.



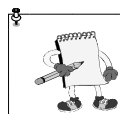
Pumpkin	A	B	C	D	E
Weight	10.36kg	9.37kg	15.07kg	18.32kg	14.95kg

- (11) What was the weight of the lightest pumpkin? \_\_\_\_\_

- (12) What was the weight of the heaviest pumpkin? \_\_\_\_\_

- (13) What was the weight of the 3rd heaviest pumpkin? \_\_\_\_\_

- (14) Write the weight of these pumpkins in order of lightest to heaviest.  
\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_



The aim of this activity sheet is to learn to order numbers, including decimals, from smallest to largest or largest to smallest and revise words such as first, last, most, least, longest, shortest, lightest, heaviest, etc.

#### Suggested HOME activity:

Money is a good way to represent decimals. Using up to six different money totals, ask your child to order the totals from smallest to largest.

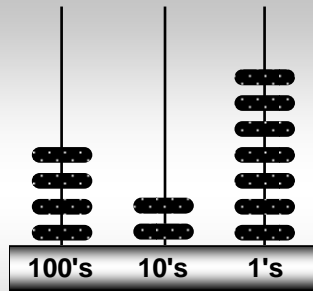
Example: \$5.40, \$4.50, \$12.80, \$1.60 etc.

Make up similar word problems as above that involve decimals and ask your child to order each group.

Sign when completed: \_\_\_\_\_

Lucy placed some rings on an abacus to show the number 427.

How many rings are on each peg?



Answer:

Four 100's, two 10's and seven 1's.

Numbers can also be **renamed** into 100's, 10's and 1's.

Example:  $437 = 4 \text{ 100's} + 3 \text{ 10's} + 7 \text{ 1's}$



- (5)  $573 = \square \text{ 100's} + \square \text{ 10's} + \square \text{ 1's}$
- (6)  $289 = \square \text{ 100's} + \square \text{ 10's} + \square \text{ 1's}$
- (7)  $614 = \square \text{ 100's} + \square \text{ 10's} + \square \text{ 1's}$
- (8)  $960 = \square \text{ 100's} + \square \text{ 10's} + \square \text{ 1's}$
- (9)  $408 = \square \text{ 100's} + \square \text{ 10's} + \square \text{ 1's}$

The **place** a digit has in a number will affect its value.

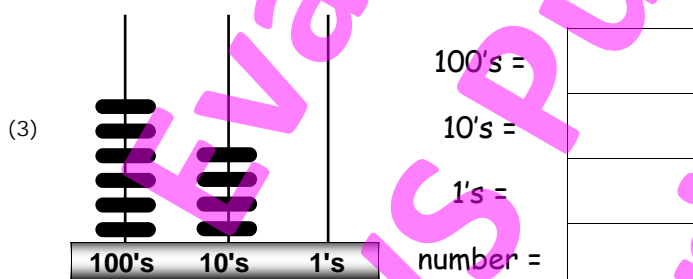
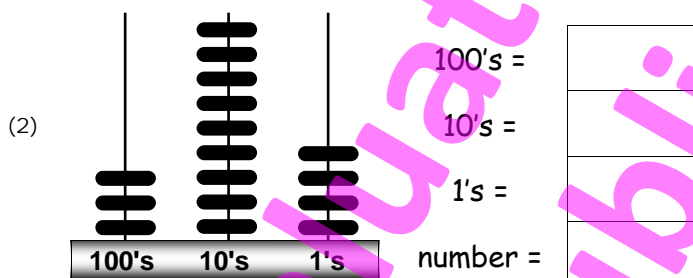
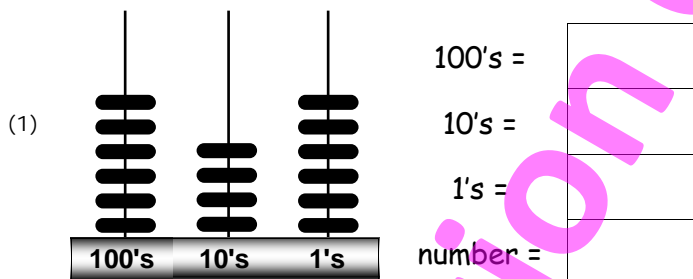
Example: In 950, the 5 has a **place** value of 10 and means 50.



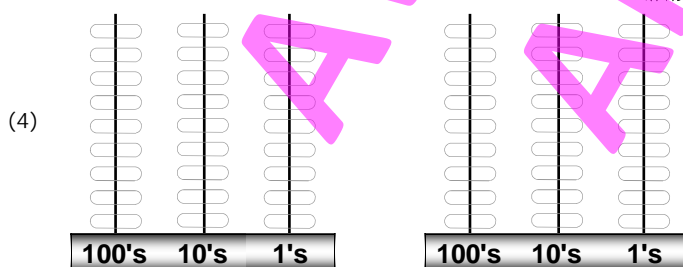
What is the **place** value of the **BOLD** digit in each number and what does it mean?

		Place value	means
(10)	<b>2</b> 80		200
(11)	5 <b>7</b> 2	10's	
(12)	29 <b>3</b>		
(13)	<b>5</b> 09		
(14)	8 <b>1</b> 6		
(15)	<b>6</b> 20		
(16)	3 <b>7</b> 8		
(17)	4 <b>9</b> 1		

Count the number of rings on each peg. What number is shown on each abacus?



Colour in rings on each abacus to show the number written below each abacus.



391

450



The aim of this activity sheet is to understand place value for 3-digit numbers. i.e. hundreds, tens and units.

#### Suggested HOME activity:

Find three different coloured blocks or objects, one to represent 100's, one to represent 10's and one to represent 1's. Ask your child to model any 3-digit number using the blocks.

Example: For 172 ... 1 100's block, 7 10's blocks and 2 1's blocks.

Ask your child how many 100's, 10's and 1's, in any 3-digit number.

Sign when completed: \_\_\_\_\_



**Rounding** a money total to the **nearest \$10** can make adding up money less difficult.

*Example:* \$57 is almost \$60, \$72 is just over \$70

Round **UP** if the end number is 5, 6, 7, 8 or 9.

Round **DOWN** if the number is 0, 1, 2, 3 or 4.

**Round each money amount to the nearest \$10.**

- |           |            |
|-----------|------------|
| (1) \$48  | (9) \$364  |
| (2) \$92  | (10) \$876 |
| (3) \$87  | (11) \$407 |
| (4) \$64  | (12) \$753 |
| (5) \$126 | (13) \$196 |
| (6) \$363 | (14) \$645 |
| (7) \$489 | (15) \$748 |
| (8) \$921 | (16) \$996 |

When **rounding** a number to the **nearest 100**, look at the 10's **place value** number.

*Example:* 767 rounds **up** to 800, (5, 6, 7, 8, 9 **↑**)  
but 437 rounds **down** to 400. (1, 2, 3, 4 **↓**)

**Round these numbers to the nearest 100.**

- |          |          |
|----------|----------|
| (17) 340 | (25) 729 |
| (18) 760 | (26) 806 |
| (19) 190 | (27) 477 |
| (20) 372 | (28) 303 |
| (21) 164 | (29) 826 |
| (22) 783 | (30) 945 |
| (23) 339 | (31) 798 |
| (24) 591 | (32) 986 |

**Round** these money amounts to the nearest \$10 or \$100, then work out an answer.

Add \$29 + \$32 ... Rounded \$30 + \$30 = \$60

Add \$117 + \$769 ... Rounded \$100 + \$800 = \$900

The **answer** you get is called an **estimate** because it is **not** the **exact** answer.



**Round** each money amount to the **nearest \$10**, then work out an **estimated** answer.

(33) Add \$41 + \$59

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

(34) Subtract \$92 - \$69

\_\_\_\_\_ - \_\_\_\_\_ = \_\_\_\_\_

(35) Add \$78 + \$23

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

(36) Subtract \$96 - \$54

\_\_\_\_\_ - \_\_\_\_\_ = \_\_\_\_\_

**Round** each money amount to the **nearest \$100**, then work out an **estimated** answer.

(37) Add \$384 + \$843

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_

(38) Subtract \$725 - \$579

\_\_\_\_\_ - \_\_\_\_\_ = \_\_\_\_\_

(39) Add \$680 + \$716

\_\_\_\_\_ + \_\_\_\_\_ = \_\_\_\_\_



The aim of this activity sheet is to round numbers to the nearest 10 or 100. Rounded numbers can be used when working out estimated answers.

#### Suggested HOME activity:

Call out money amounts of less than \$100 and ask your child to round them to the nearest \$10.00. Repeat the exercise for money amounts greater than \$100 and ask your child to round to the nearest \$100.00

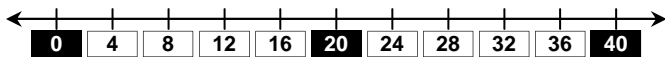
*Example:* Round \$27 to the nearest 10. Round \$286 to the nearest 100.

Ask your child to round 2, 3, 4 or more numbers to the nearest 10, then have them add them up to come up with an estimated answer.

Sign when completed: \_\_\_\_\_



This number line shows skip counting in 4's.



"What's  $4 + 4 + 4 + 4 + 4$  ..... is that the same as  $4 \times 5$ ?" asked David.



- (1) Write the missing multiples of 4 as you skip count in 4's up to 40.

4, \_\_\_\_\_, \_\_\_\_\_, 16, \_\_\_\_\_,  
\_\_\_\_\_, 28, \_\_\_\_\_, 36, \_\_\_\_\_

Work out these skip counting questions and write them as multiplication facts.

- (2)  $4 + 4 + 4 + 4 =$  \_\_\_\_\_ and is the same as  $4 \times$  \_\_\_\_\_ = \_\_\_\_\_
- (3)  $4 + 4 + 4 + 4 + 4 + 4 + 4 =$  \_\_\_\_\_ and is the same as  $4 \times$  \_\_\_\_\_ = \_\_\_\_\_
- (4)  $4 + 4 + 4 + 4 + 4 =$  \_\_\_\_\_ and is the same as  $4 \times$  \_\_\_\_\_ = \_\_\_\_\_
- (5)  $4 + 4 =$  \_\_\_\_\_ and is the same as  $4 \times$  \_\_\_\_\_ = \_\_\_\_\_
- (6)  $4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 =$  \_\_\_\_\_ and is the same as  $4 \times$  \_\_\_\_\_ = \_\_\_\_\_
- (7)  $4 + 4 + 4 =$  \_\_\_\_\_ and is the same as  $4 \times$  \_\_\_\_\_ = \_\_\_\_\_
- (8)  $4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 =$  \_\_\_\_\_ and is the same as  $4 \times$  \_\_\_\_\_ = \_\_\_\_\_
- (9)  $4 + 4 + 4 + 4 + 4 + 4 =$  \_\_\_\_\_ and is the same as  $4 \times$  \_\_\_\_\_ = \_\_\_\_\_
- (10)  $4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 =$  \_\_\_\_\_ and is the same as  $4 \times$  \_\_\_\_\_ = \_\_\_\_\_

Write in the missing numbers for the  $4 \times$  multiplication facts.



- (11)  $1 \times 4 =$  \_\_\_\_\_ (16)  $4 \times 5 =$  \_\_\_\_\_
- (12)  $4 \times 4 =$  \_\_\_\_\_ (17)  $2 \times 4 =$  \_\_\_\_\_
- (13)  $6 \times 4 =$  \_\_\_\_\_ (18)  $4 \times 7 =$  \_\_\_\_\_
- (14)  $4 \times 9 =$  \_\_\_\_\_ (19)  $3 \times 4 =$  \_\_\_\_\_
- (15)  $10 \times 4 =$  \_\_\_\_\_ (20)  $4 \times 8 =$  \_\_\_\_\_

"What number multiplied by 4 gives me an answer of 20?" asked Jodie.

Written as  $4 \times$  \_\_\_\_\_ = 20 ... the answer is 5.

Write in the missing numbers for these  $4 \times$  multiplication facts.



- (21) \_\_\_\_\_  $\times 4 = 8$  (26)  $4 \times$  \_\_\_\_\_ = 16
- (22)  $4 \times$  \_\_\_\_\_ = 32 (27) \_\_\_\_\_  $\times 4 = 4$
- (23) \_\_\_\_\_  $\times 4 = 12$  (28)  $4 \times$  \_\_\_\_\_ = 20
- (24)  $4 \times$  \_\_\_\_\_ = 28 (29) \_\_\_\_\_  $\times 4 = 40$
- (25) \_\_\_\_\_  $\times 4 = 24$  (30)  $4 \times$  \_\_\_\_\_ = 36

- (31) If one book costs \$4.00, how much would 7 books cost?

\_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_



- (32) If one ice-cream costs \$4.00, how much would 9 ice-creams cost?

\_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_



The aim of this activity sheet is to use skip counting in 4's to introduce the  $4 \times$  multiplication facts. Multiplication is 'short-hand' for repeated addition of the same number.

#### Suggested HOME activity:

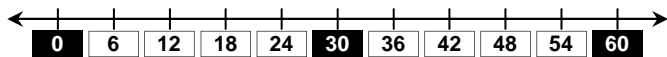
Revise skip counting in 4's until your child can successfully and quickly count in 4's up to at least 40. These are called the multiples of 4. Ask your child each multiplication fact until they know them all.

Example: What is 4 multiplied by 5? ..... 4, 8, 12, 16, 20.

At this stage, your child may still skip count to get the answer.

Sign when completed: \_\_\_\_\_

This number line shows skip counting in 6's.



"What's  $6 + 6 + 6 + 6 + 6$  ..... is that the same as  $6 \times 5$ ?" asked David.



Write in the missing numbers for the  $6 \times$  multiplication facts.



(11)  $1 \times 6 =$  \_\_\_\_\_ (16)  $6 \times 5 =$  \_\_\_\_\_

(12)  $6 \times 4 =$  \_\_\_\_\_ (17)  $2 \times 6 =$  \_\_\_\_\_

(13)  $6 \times 6 =$  \_\_\_\_\_ (18)  $6 \times 7 =$  \_\_\_\_\_

(14)  $6 \times 9 =$  \_\_\_\_\_ (19)  $3 \times 6 =$  \_\_\_\_\_

(15)  $10 \times 6 =$  \_\_\_\_\_ (20)  $6 \times 8 =$  \_\_\_\_\_

"What number multiplied by 6 gives me an answer of 18?" asked Jodie.

Written as  $6 \times$  \_\_\_\_\_ = 18 ... the answer is 3.

Write in the missing numbers for these  $6 \times$  multiplication facts.



(21) \_\_\_\_\_  $\times 6 = 12$  (26)  $6 \times$  \_\_\_\_\_ = 24

(22)  $6 \times$  \_\_\_\_\_ = 48 (27) \_\_\_\_\_  $\times 6 = 60$

(23) \_\_\_\_\_  $\times 6 = 18$  (28)  $6 \times$  \_\_\_\_\_ = 30

(24)  $6 \times$  \_\_\_\_\_ = 42 (29) \_\_\_\_\_  $\times 6 = 6$

(25) \_\_\_\_\_  $\times 6 = 36$  (30)  $6 \times$  \_\_\_\_\_ = 54

(31) If one book costs \$6.00, how much would 7 books cost?



\_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_

(32) If one ice-cream costs \$6.00, how much would 10 ice-creams cost?



\_\_\_\_\_  $\times$  \_\_\_\_\_ = \_\_\_\_\_



The aim of this activity sheet is to use skip counting in 6's to introduce the  $6 \times$  multiplication facts. Multiplication is 'short-hand' for repeated addition of the same number.

#### Suggested HOME activity:

Revise skip counting in 6's until your child can successfully and quickly count in 6's up to at least 60. These are called the multiples of 6. Ask your child each multiplication fact until they know them all.

Example: What is 6 multiplied by 5? ..... 6, 12, 18, 24, 30.

At this stage, your child may still skip count to get the answer.

Sign when completed: \_\_\_\_\_

- (1) Write the missing multiples of 6 as you skip count in 6's up to 60.

6, \_\_\_\_\_, \_\_\_\_\_, 24, \_\_\_\_\_,

\_\_\_\_\_, 42, \_\_\_\_\_, 54, \_\_\_\_\_

Work out these skip counting questions and write them as multiplication facts.

- (2)  $6 + 6 + 6 + 6 =$  \_\_\_\_\_ and is the same as  $6 \times$  \_\_\_\_\_ = \_\_\_\_\_

- (3)  $6 + 6 + 6 + 6 + 6 + 6 + 6 =$  \_\_\_\_\_ and is the same as  $6 \times$  \_\_\_\_\_ = \_\_\_\_\_

- (4)  $6 + 6 + 6 + 6 + 6 =$  \_\_\_\_\_ and is the same as  $6 \times$  \_\_\_\_\_ = \_\_\_\_\_

- (5)  $6 + 6 =$  \_\_\_\_\_ and is the same as  $6 \times$  \_\_\_\_\_ = \_\_\_\_\_

- (6)  $6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 =$  \_\_\_\_\_ and is the same as  $6 \times$  \_\_\_\_\_ = \_\_\_\_\_

- (7)  $6 + 6 + 6 =$  \_\_\_\_\_ and is the same as  $6 \times$  \_\_\_\_\_ = \_\_\_\_\_

- (8)  $6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 =$  \_\_\_\_\_ and is the same as  $6 \times$  \_\_\_\_\_ = \_\_\_\_\_

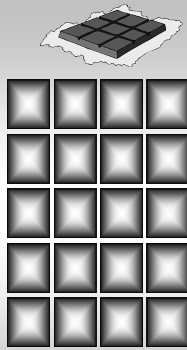
- (9)  $6 + 6 + 6 + 6 + 6 + 6 =$  \_\_\_\_\_ and is the same as  $6 \times$  \_\_\_\_\_ = \_\_\_\_\_

- (10)  $6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 + 6 =$  \_\_\_\_\_ and is the same as  $6 \times$  \_\_\_\_\_ = \_\_\_\_\_

This 20 piece chocolate block is to be shared amongst Jodie's friends.

"We will all get 4 pieces each," said Jodie.

How many friends is Jodie sharing her chocolate with?



Answer: 5 friends, written as  $20 \div 4 = 5$

Use this 6 x 10 grid to help work out how many groups of 6 there would be in each shape.



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

Write each question as a division fact.

Total number of squares in each shape

Number of groups

- (11) 18 squares  $18 \div 6 =$
- (12) 36 squares  $\div 6 =$
- (13) 54 squares  $\div 6 =$
- (14) 24 squares  $\div 6 =$
- (15) 42 squares  $\div 6 =$
- (16) 12 squares  $\div 6 =$
- (17) 60 squares  $\div 6 =$
- (18) 48 squares  $\div 6 =$
- (19) 6 squares  $\div 6 =$
- (20) 30 squares  $\div 6 =$

Word problems.

- (21) If 4 books cost \$28.00, how much does 1 book cost?



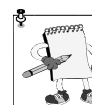
$\div =$

- (22) If 6 ice-creams cost \$24.00, how much does 1 ice-cream cost?



$\div =$

Make up some more word problems, as above.



The aim of this activity sheet is to introduce division by working out how many known sized 'groups' can go into a given number of objects or squares.

#### Suggested HOME activity:

Division and multiplication are opposite operations. If your child knows the multiplication facts, reverse them to learn division facts.

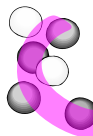
Example: "If 4 multiplied by 7 is 28, then ... 28 divided by 4 is 7."

Using objects if required, ask your child to 'group' the objects to model all 4x and 6x divisions facts, as done on this worksheet.

Sign when completed: \_\_\_\_\_

How many groups of 4 can you get from each group of shapes?

Write each question as a division fact.



- (1)  $16 \div 4 =$   
Total number of shapes      Number of groups of 4

- (2)  $\div 4 =$   
  $\div 4 =$

- (3)  $\div 4 =$   
  $\div 4 =$

- (4)  $\div 4 =$   
  $\div 4 =$

- (5)  $\div 4 =$   
  $\div 4 =$

- (6)  $\div 4 =$   
  $\div 4 =$

- (7)  $\div 4 =$   
  $\div 4 =$

- (8)  $\div 4 =$   
  $\div 4 =$

- (9)  $\div 4 =$   
  $\div 4 =$

- (10)  $\div 4 =$   
  $\div 4 =$

- (10)  $\div 4 =$   
  $\div 4 =$

When working with large numbers, there is more than one way to work out an answer. Here are some strategies.

### Using place value

Working out  $63 \times 5$  is the same as ...  
 $(60 \times 5) + (3 \times 5) = 300 + 15 = 315$



### Doubling and halving factors

Working out  $16 \times 5$  is the same as ...  
 $8 \times 10 = 80$  ( $\frac{1}{2} \times 16 = 8$ ,  $2 \times 5 = 10$ )



(1)  $85 \times 3 = (80 \times \underline{\quad}) + (5 \times \underline{\quad})$

$= \underline{\quad} + \underline{\quad} = \underline{\quad}$

(2)  $74 \times 5 = (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$

$= \underline{\quad} + \underline{\quad} = \underline{\quad}$

(3)  $93 \times 2 = (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$

$= \underline{\quad} + \underline{\quad} = \underline{\quad}$

(4)  $38 \times 6 = (30 \times \underline{\quad}) + (8 \times \underline{\quad})$

$= \underline{\quad} + \underline{\quad} = \underline{\quad}$

(5)  $67 \times 4 = (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$

$= \underline{\quad} + \underline{\quad} = \underline{\quad}$

### Rounding to use 'tidy' numbers

Working out  $198 \times 3$  is the same as ...  
 $(200 \times 3) - (2 \times 3) = 600 - 6 = 594$



(6)  $397 \times 2 = (400 \times \underline{\quad}) - (3 \times \underline{\quad})$

$= \underline{\quad} - \underline{\quad} = \underline{\quad}$

(7)  $291 \times 4 = (\underline{\quad} \times \underline{\quad}) - (\underline{\quad} \times \underline{\quad})$

$= \underline{\quad} - \underline{\quad} = \underline{\quad}$

(8)  $594 \times 6 = (\underline{\quad} \times \underline{\quad}) - (\underline{\quad} \times \underline{\quad})$

$= \underline{\quad} - \underline{\quad} = \underline{\quad}$

(9)  $807 \times 3 = (800 \times \underline{\quad}) + (7 \times \underline{\quad})$

$= \underline{\quad} + \underline{\quad} = \underline{\quad}$

(10)  $903 \times 5 = (\underline{\quad} \times \underline{\quad}) + (\underline{\quad} \times \underline{\quad})$

$= \underline{\quad} + \underline{\quad} = \underline{\quad}$

(11)  $3 \times 16 = 6 \times \underline{\quad} = \underline{\quad}$

(12)  $12 \times 5 = \underline{\quad} \times \underline{\quad} = \underline{\quad}$

(13)  $4 \times 16 = \underline{\quad} \times \underline{\quad} = \underline{\quad}$

(14)  $18 \times 3 = \underline{\quad} \times \underline{\quad} = \underline{\quad}$

(15)  $5 \times 16 = \underline{\quad} \times \underline{\quad} = \underline{\quad}$

### Using written working forms

To work out  $78 \times 4$ , rewrite as ...



Firstly,  $8 \times 4 = 32$   
 (Note: small 3 represents 30)  
 then,  $70 \times 4 = 280$  plus  $30 = 310$   
 $310 + 2 = 312$

(16)  $93 \times 2$

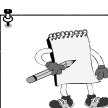
(19)  $86 \times 5$

(17)  $87 \times 3$

(20)  $97 \times 5$

(18)  $65 \times 4$

(21)  $69 \times 6$



The aim of this activity sheet is to look at different strategies that could be used to work out multiplication problems.

### Suggested HOME activity:

Make up similar questions that cover the basic numeracy facts at the back of this resource. These are **key number knowledge facts**.

The strategies used on this worksheet are only a suggestion. Your child may not need to use some or all of these strategies and may have strategies of their own. Encourage them to talk about how they work out their answers. Remember that working out the answer with confidence is more important than the strategy used.

Sign when completed: \_\_\_\_\_

When working with large numbers, there is more than one way to work out an answer. Here are some strategies.

### Using known multiples of 10

Working out  $64 \div 4$  is the same as ...  
 $(40 \div 4) + (24 \div 4) = 10 + 6 = 16$



### Halving factors

Working out  $208 \div 16$  is the same as ...  
 $104 \div 8 \dots 52 \div 4 \dots 26 \div 2 = 13$



(11)  $120 \div 12 = \underline{\hspace{1cm}} \div 6 = \underline{\hspace{1cm}} \div 3 = \underline{\hspace{1cm}}$

(12)  $96 \div 16 = \underline{\hspace{1cm}} \div 8 = \underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(13)  $680 \div 40 = \underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}} \div \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(14)  $288 \div 24 = \underline{\hspace{1cm}}$

(15)  $448 \div 32 = \underline{\hspace{1cm}}$

### Using written working forms

To work out  $96 \div 4$ , rewrite as ...

Firstly,  $9 \div 4 = 2$

with a remainder of 1

$$\begin{array}{r} 2 \\ 4 \overline{) 96} \\ \underline{8} \phantom{0} \\ 16 \end{array}$$

then,  $16 \div 4 = 4$

$$\begin{array}{r} 24 \\ 4 \overline{) 96} \\ \underline{8} \phantom{0} \\ 16 \end{array}$$



(16)  $\hspace{1cm}$  (21)  $\hspace{1cm}$

$$2 \overline{) 78}$$

$$2 \overline{) 358}$$

(17)  $\hspace{1cm}$  (22)  $\hspace{1cm}$

$$3 \overline{) 84}$$

$$3 \overline{) 762}$$

(18)  $\hspace{1cm}$  (23)  $\hspace{1cm}$

$$4 \overline{) 76}$$

$$4 \overline{) 624}$$

(19)  $\hspace{1cm}$  (24)  $\hspace{1cm}$

$$5 \overline{) 95}$$

$$5 \overline{) 685}$$

(20)  $\hspace{1cm}$  (25)  $\hspace{1cm}$

$$6 \overline{) 96}$$

$$6 \overline{) 444}$$



The aim of this activity sheet is to look at different strategies that could be used to work out division problems.

### Suggested HOME activity:

Make up similar questions that cover the basic numeracy facts at the back of this resource. These are **key number knowledge facts**.

The strategies used on this worksheet are only a suggestion. Your child may not need to use some or all of these strategies and may have strategies of their own. Encourage them to talk about how they work out their answers. Remember that working out the answer with confidence is more important than the strategy used.

Sign when completed: \_\_\_\_\_

(1)  $51 \div 3 = (30 \div \underline{\hspace{1cm}}) + (21 \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(2)  $75 \div 5 = (50 \div \underline{\hspace{1cm}}) + (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(3)  $96 \div 6 = (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}}) + (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(4)  $76 \div 4 = (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}}) + (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(5)  $102 \div 6 = (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}}) + (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

### Rounding up or down to use 'tidy' numbers

Working out  $95 \div 5$  is the same as ...

$(100 \div 5) - (5 \div 5) = 20 - 1 = 19$



(6)  $398 \div 2 = (400 \div \underline{\hspace{1cm}}) - (2 \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(7)  $475 \div 5 = (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}}) - (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(8)  $588 \div 6 = (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}}) - (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} - \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(9)  $824 \div 4 = (800 \div \underline{\hspace{1cm}}) + (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

(10)  $618 \div 3 = (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}}) + (\underline{\hspace{1cm}} \div \underline{\hspace{1cm}})$

$= \underline{\hspace{1cm}} + \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$



An object cut into TWO equal sized pieces is said to be cut in **half**.

**One half** written as a fraction is  $\frac{1}{2}$ .

For any fraction, the **bottom number** tells you how many times the 'whole' object has been cut or divided up.

Example:  $\frac{1}{2}, \frac{1}{3}, \frac{1}{4}, \frac{1}{5}, \frac{1}{6}, \frac{1}{10}$  etc.



"What's one fifth of \$40?" asked Emma.

(Written as  $\frac{1}{5}$  of 40 = ● or  $\frac{1}{5} \times 40 = \bullet$ )



"Try what number multiplied by 5 is 40 or dividing 40 by 5," said Tom.

(Written as  $5 \times \bullet = 40$  or  $40 \div 5 = \bullet$ .)

Answer:  $\frac{1}{5} \times 40 = 8$ , as  $5 \times 8 = 40$  or  $40 \div 5 = 8$

Work out each **fraction** of these numbers.

(21) Find  $\frac{1}{3}$  of 21 = \_\_\_\_\_ (as  $3 \times \underline{\hspace{1cm}} = 21$ )

(22) Find  $\frac{1}{5}$  of 35 = \_\_\_\_\_ (as  $5 \times \underline{\hspace{1cm}} = 35$ )

(23) Find  $\frac{1}{6}$  of 36 = \_\_\_\_\_ (as  $6 \times \underline{\hspace{1cm}} = 36$ )

(24) Find  $\frac{1}{4}$  of 20 = \_\_\_\_\_ (as  $4 \times \underline{\hspace{1cm}} = 20$ )

(25) Find  $\frac{1}{5}$  of 50 = \_\_\_\_\_ (as  $5 \times \underline{\hspace{1cm}} = 50$ )

(26) Find  $\frac{1}{6}$  of 42 = \_\_\_\_\_ (as  $42 \div 6 = \underline{\hspace{1cm}}$ )

(27) Find  $\frac{1}{5}$  of 45 = \_\_\_\_\_ (as  $45 \div 5 = \underline{\hspace{1cm}}$ )

(28) Find  $\frac{1}{10}$  of 120 = \_\_\_\_\_ (as  $120 \div 10 = \underline{\hspace{1cm}}$ )

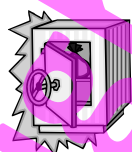
(29) Find  $\frac{1}{3}$  of 27 = \_\_\_\_\_ (as  $27 \div 3 = \underline{\hspace{1cm}}$ )

(30) Find  $\frac{1}{4}$  of 48 = \_\_\_\_\_ (as  $48 \div 4 = \underline{\hspace{1cm}}$ )

(31) Sarah had \$60.00 and spent a  $\frac{1}{4}$ .  
How much did she spend?



(32) Willie had \$45.00 and spent a  $\frac{1}{5}$ .  
How much did he spend?



(33) Brad had \$300.00 and spent a  $\frac{1}{6}$ .  
How much did he spend?



The aim of this activity sheet is to understand how to work out a fraction of a group of shapes or a number. Working with fractions can either involve dividing or multiplying.

## Suggested HOME activity:

Find a collection of objects from around the house or use money totals and ask your child to find a fraction of each group / money total, using the fractions on this worksheet. Extend the exercise to include working out what a total group would be, given a fraction of it.

Example: If  $\frac{1}{3}$  of a group is 4, how big is the group? Answer: 12

Sign when completed: \_\_\_\_\_

**Write** the missing fractions, words and numbers in this table. Choose from this box.

one tenth, one half, one quarter, one sixth,  $\frac{1}{3}$   $\frac{1}{4}$   $\frac{1}{5}$   $\frac{1}{6}$

Fraction	Written as ...	Means ...
(1)	$\frac{1}{2}$	(2) _____ out of _____
one third	(3)	(4) _____ out of _____
(5)	(6)	1 out of 4
one fifth	(7)	(8) _____ out of _____
(9)	(10)	1 out of 6
(11)	$\frac{1}{10}$	(12) _____ out of _____

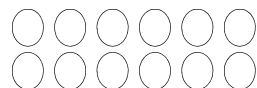
What **fraction** of each group is **shaded**?



(18) Shade in  $\frac{1}{4}$  of these



(19) Shade in  $\frac{1}{6}$  of these



(20) Shade in  $\frac{1}{5}$  of these



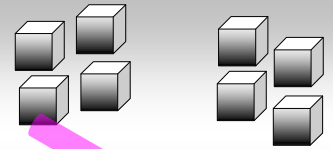
For any fraction, the **bottom number** tells you how many times the 'whole' object has been cut or divided up.

Example:  $\frac{1}{2}$ ,  $\frac{1}{3}$ ,  $\frac{1}{4}$ ,  $\frac{1}{5}$ ,  $\frac{1}{6}$ ,  $\frac{1}{10}$  etc.



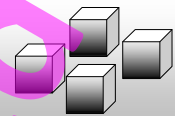
If 1 is the top number, the bigger the number on the bottom, the **smaller** the fraction.

Paul wants to use  $\frac{2}{3}$  of these blocks to build a model.

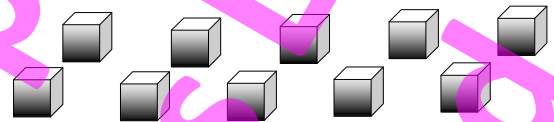


How many blocks will he use in this model?

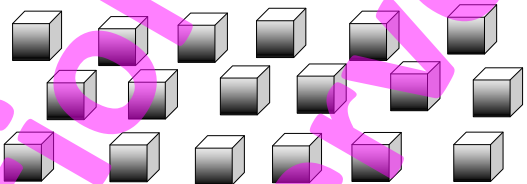
Answer: 8 blocks



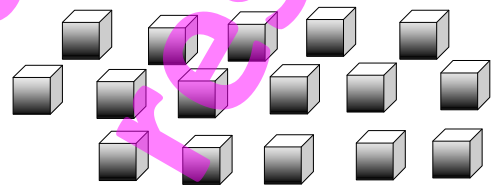
Look at each pile of blocks.



(5) What is  $\frac{4}{5}$  of this pile? \_\_\_\_\_ blocks

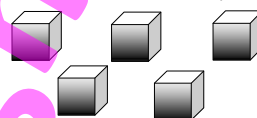


(6) What is  $\frac{2}{3}$  of this pile? \_\_\_\_\_ blocks



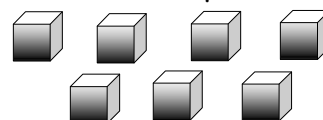
(7) What is  $\frac{3}{4}$  of this pile? \_\_\_\_\_ blocks

(8) If 5 blocks make up  $\frac{1}{4}$  of a pile, how many blocks are in the pile?



\_\_\_\_\_ blocks

(9) If 7 blocks make up  $\frac{1}{5}$  of a pile, how many blocks are in the pile?



\_\_\_\_\_ blocks

The aim of this activity sheet is to order fractions, understand fractions when the top number is greater than one and find a 'whole' given what a fraction of a whole.

#### Suggested HOME activity:

Have a supply of blocks and ask your child to find a fraction of each pile or find the whole, given the fraction.

Example: 'I have 12 blocks, how many blocks is two thirds of this pile?' and 'If one quarter of a pile of blocks is five, how many blocks make up a whole pile?'

Sign when completed: \_\_\_\_\_

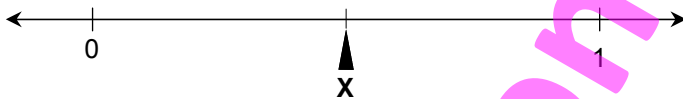
(1) Write the fractions in the box in order from smallest to largest.

$\frac{1}{9}$ ,  $\frac{1}{3}$   
 $\frac{1}{6}$ ,  $\frac{1}{8}$   
 $\frac{1}{10}$ ,  $\frac{1}{4}$   
 $\frac{1}{7}$ ,  $\frac{1}{5}$

\_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_

(2) Mark each fraction (A to E) on this number line, where X =  $\frac{1}{2}$ .

A =  $\frac{1}{4}$ , B =  $\frac{1}{10}$ , C =  $\frac{1}{7}$ , D =  $\frac{1}{5}$ , E =  $\frac{1}{8}$ ,



(3) Each strip below has been divided up. Beside each strip, write what fraction has been shaded in.



(4) Show you understand fractions by shading ...

$\frac{3}{4}$  → \_\_\_\_\_

$\frac{2}{5}$  → \_\_\_\_\_

$\frac{5}{6}$  → \_\_\_\_\_

$\frac{4}{7}$  → \_\_\_\_\_

$\frac{3}{8}$  → \_\_\_\_\_

$\frac{7}{10}$  → \_\_\_\_\_

... of each strip.



To solve an equation means to work out the number that would go where the letter is.

Examples:

$$15 + d = 24, \quad f + 8 = 23,$$

$$22 - r = 6, \quad g - 8 = 9$$

Remember that the total on either side of the equals sign, must be the same.



Use any strategy you like to solve these equations. Be prepared to talk about what strategy you used.



- |      |                      |       |       |
|------|----------------------|-------|-------|
| (1)  | $35 + a = 53$        | $a =$ | _____ |
| (2)  | $28 + b = 42$        | $b =$ | _____ |
| (3)  | $47 - c = 39$        | $c =$ | _____ |
| (4)  | $66 - d = 47$        | $d =$ | _____ |
| (5)  | $e + 62 = 98$        | $e =$ | _____ |
| (6)  | $f - 37 = 42$        | $f =$ | _____ |
| (7)  | $g + 18 = 94$        | $g =$ | _____ |
| (8)  | $84 - h = 49$        | $h =$ | _____ |
| (9)  | $i + 73 = 100$       | $i =$ | _____ |
| (10) | $j - 63 = 21$        | $j =$ | _____ |
| (11) | $20 \times k = 60$   | $k =$ | _____ |
| (12) | $m \times 6 = 36$    | $m =$ | _____ |
| (13) | $180 \div n = 60$    | $n =$ | _____ |
| (14) | $400 \times p = 800$ | $p =$ | _____ |
| (15) | $q \div 10 = 80$     | $q =$ | _____ |
| (16) | $48 \div r = 8$      | $r =$ | _____ |
| (17) | $s \times 30 = 120$  | $s =$ | _____ |
| (18) | $t \div 5 = 80$      | $t =$ | _____ |
| (19) | $48 \div u = 12$     | $u =$ | _____ |
| (20) | $v \times 50 = 200$  | $v =$ | _____ |

Read each word problem, write an equation, then work out the answer. There may be more than one way to write the equation.

- (21) If Jack has \$70.00 and spends \$38.00, how much does he have left?



- (22) Emma spends \$8.00 and has \$45.00 left. How much money did Emma start with?



- (23) Kate buys 10 books for \$130.00. How much did each book cost?



- (24) Sam spends \$36.00 buying 4 C.D.'s. How much did each C.D. cost?



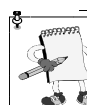
- (25) Bill buys 5 movie tickets for \$45.00. How much does each movie ticket cost?



- (26) In a new classroom there are only 17 chairs. If a class of 31 pupils uses this room, how many more chairs will be needed?



- (27) Mark is reading a book that has 80 pages. If he has 53 pages to go, how many has he read?



The aim of this activity sheet is to introduce the algebra skill of solving equations using any strategy stages involving + / - and  $\times$  /  $\div$  numeracy facts.

#### Suggested HOME activity:

Make up word problems involving everyday events that can be written as equations. Have your child write an equation for each problem.

Example: If I buy 3 C.D.'s for \$36.00, how much does each C.D. cost? If I have \$30.00 and spend \$21.00 on food, how much money do I have left? (Equations would be  $3 \times ? = 36$  or  $36 \div 3 = ?$  &  $30 - ? = 21$  or  $21 + ? = 30$ )

Sign when completed: \_\_\_\_\_

In New Zealand we use a measuring system known as the **metric system**.

In the metric system, the **metre** is the basic unit for **measuring length**.

A metre is about the length of a long stride or about 3 times the length of this page (A4 size).



### Converting between measurement units.

1000 millimetres (mm) = 1 metre (m)

100 centimetres (cm) = 1 metre (m)

10 millimetres (mm) = 1 centimetre (cm)

1000 metres (m) = 1 kilometre (km)



### Converting between metres and millimetres.

(13) 1m = \_\_\_\_\_ mm (16) \_\_\_\_\_ m = 5000mm

(14) 7m = \_\_\_\_\_ mm (17) \_\_\_\_\_ m = 8000mm

(15) 9.3m = \_\_\_\_\_ mm (18) \_\_\_\_\_ m = 2800mm

### Converting between metres and centimetres.

(19) 1m = \_\_\_\_\_ cm (22) \_\_\_\_\_ m = 800cm

(20) 6m = \_\_\_\_\_ cm (23) \_\_\_\_\_ m = 900cm

(21) 5.7m = \_\_\_\_\_ cm (24) \_\_\_\_\_ m = 720cm

### Converting between millimetres & centimetres.

(25) 10mm = \_\_\_\_\_ cm (28) \_\_\_\_\_ mm = 7cm

(26) 60mm = \_\_\_\_\_ cm (29) \_\_\_\_\_ mm = 5cm

(27) 45mm = \_\_\_\_\_ cm (30) \_\_\_\_\_ mm = 6.9cm

### Converting between metres and kilometres.

(31) 1000m = \_\_\_\_\_ km (34) \_\_\_\_\_ m = 8km

(32) 7000m = \_\_\_\_\_ km (35) \_\_\_\_\_ m = 6km

(33) 9100m = \_\_\_\_\_ km (36) \_\_\_\_\_ m = 2.7km

### Other metric units for measuring length.

<b>kilometre</b>	1000 times longer than a metre
<b>metre</b>	standard unit for length
<b>centimetre</b>	100 times shorter than a metre
<b>millimetre</b>	1000 times shorter than a metre

Write which unit of measurement would be best to measure ....



- (9) the distance between two cities. \_\_\_\_\_
- (10) the length of your big toe. \_\_\_\_\_
- (11) the thickness of a match stick. \_\_\_\_\_
- (12) the length of a swimming race. \_\_\_\_\_



The aim of this activity sheet is to introduce the 'metre', the standard unit for measuring length. Units for measuring smaller or longer distances are also introduced.

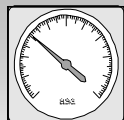
#### Suggested HOME activity:

Using a 1 metre ruler or a long tape measure, demonstrate how long a metre is. Talk about 'distances between two points', ask your child which unit of measurement would be the best unit to use. Remember there may be more than one appropriate unit.

Example: carpenters use millimetres, dress makers use centimetres. Ask your child to convert between units as above in Q13 to Q36.

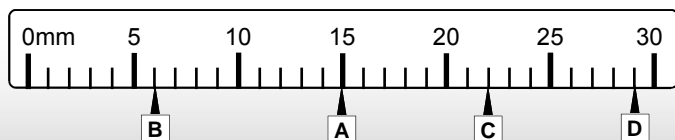
Sign when completed: \_\_\_\_\_

All measurement instruments have a **scale**. Being able to read the scale correctly is an important skill.



What measurement unit is on this ruler?

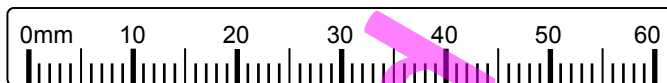
What measurements are given by the pointers A to D?



The measuring unit is millimetres (mm).

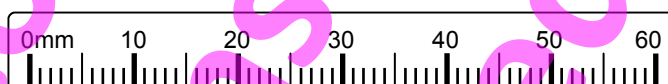
Answers: A = 15mm, B = 6mm, C = 22mm, D = 29mm

- (5) **Mark and label** the points of A to F on this ruler.



A = 25mm, B = 17mm, C = 41mm

D = 0.9cm, E = 3.4cm, F = 5.8cm



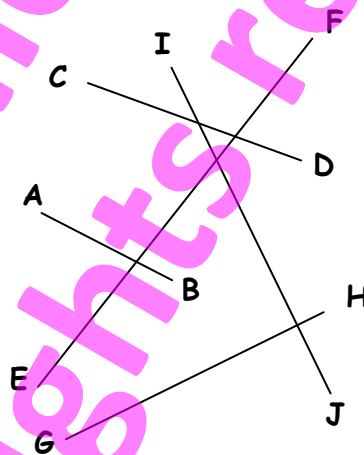
- (6) How long is this pencil? Answer in mm & cm.

\_\_\_\_\_ mm is the same as \_\_\_\_\_ cm

For the next two questions you will need a ruler.



- (7) **Measure** these lines to the nearest millimetre.



Line AB = \_\_\_\_\_ mm

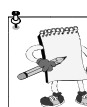
Line CD = \_\_\_\_\_ mm

Line EF = \_\_\_\_\_ mm

Line GH = \_\_\_\_\_ mm

Line IJ = \_\_\_\_\_ mm

- (8) **Draw** a 55mm line in the space below.



The aim of this activity sheet is to learn to read scales on a ruler and measure the length of small objects. Remember to measure from zero on the ruler, not the end.

#### Suggested HOME activity:

Find a collection of objects from around the house that can be measured using a ruler or tape measure. Ask your child to measure distances to the nearest centimetre or  $\frac{1}{2}$  metre, as appropriate.

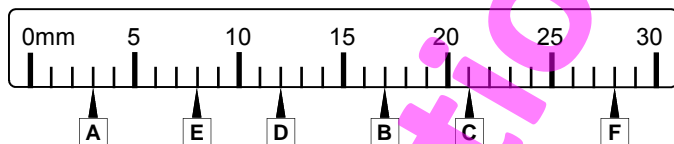
Example: The width of a door is about 80cm.

Ask your child to draw lines of known lengths, such as 9cm.

Sign when completed: \_\_\_\_\_

Look at each ruler below.

- (1) **Name** the units on the ruler below ...  
millimetres or centimetres (circle one)



- (2) What are the measurements given by the pointers A to F?

A = \_\_\_\_\_

D = \_\_\_\_\_

B = \_\_\_\_\_

E = \_\_\_\_\_

C = \_\_\_\_\_

F = \_\_\_\_\_

- (3) **Name** the units on the ruler below ...  
millimetres or centimetres (circle one)



- (4) What are the measurements given by the pointers G to L?  
Example: 2.4cm, 3.9cm etc.

G = \_\_\_\_\_

J = \_\_\_\_\_

H = \_\_\_\_\_

K = \_\_\_\_\_

I = \_\_\_\_\_

L = \_\_\_\_\_

In New Zealand we use a measuring system known as the **metric system**.

In the metric system, the **gram** is the basic unit for **measuring weight**.

A gram is a small weight. A packet of rice crackers weighs about 100 grams.



**Circle** yes or no for these objects that would be able to be weighed using a 'gram' as the unit of weight.



- |  |          |
|--|----------|
| (1) The weight of a truck.             | yes / no |
| (2) The weight of a toothpick.         | yes / no |
| (3) The weight of a piece of paper.    | yes / no |
| (4) The weight of a mountain bike.     | yes / no |
| (5) The weight of an orange.           | yes / no |
| (6) The weight of a feather.           | yes / no |
| (7) The weight of a small plastic toy. | yes / no |
| (8) The weight of an exercise book.    | yes / no |

#### Metric units for measuring weight.

tonne	1000 times heavier than a kilogram
kilogram	1000 times heavier than a gram
gram	standard unit for weight
milligram	1000 times lighter than a gram

**Write which unit of measurement** would be best to measure ....



- |                                      |       |
|--------------------------------------|-------|
| (9) the weight of a small car.       | _____ |
| (10) the weight of a snowflake.      | _____ |
| (11) the weight of a piece of bread. | _____ |
| (12) the weight of a large horse.    | _____ |

#### Converting between measurement units.

$$1000 \text{ milligrams (mg)} = 1 \text{ gram (g)}$$

$$1000 \text{ grams (g)} = 1 \text{ kilogram (kg)}$$

$$1000 \text{ kilograms (kg)} = 1 \text{ tonne (t)}$$



#### Converting between grams and milligrams.

$$(13) 1g = \text{_____} mg \quad (17) \text{_____} g = 2000mg$$

$$(14) 5g = \text{_____} mg \quad (18) \text{_____} g = 9000mg$$

$$(15) 7g = \text{_____} mg \quad (19) \text{_____} g = 4000mg$$

$$(16) 8.3g = \text{_____} mg \quad (20) \text{_____} g = 2300mg$$

#### Converting between grams and kilograms.

$$(21) 1000g = \text{_____} kg \quad (25) \text{_____} g = 5kg$$

$$(22) 6000g = \text{_____} kg \quad (26) \text{_____} g = 3kg$$

$$(23) 8000g = \text{_____} kg \quad (27) \text{_____} g = 9kg$$

$$(24) 3400g = \text{_____} kg \quad (28) \text{_____} g = 4.7kg$$

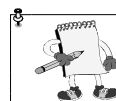
#### Converting between kilograms and tonnes.

$$(29) 1000kg = \text{_____} t \quad (33) \text{_____} kg = 3t$$

$$(30) 9000kg = \text{_____} t \quad (34) \text{_____} kg = 8t$$

$$(31) 3000kg = \text{_____} t \quad (35) \text{_____} kg = 5t$$

$$(32) 7600kg = \text{_____} t \quad (36) \text{_____} kg = 2.1t$$



The aim of this activity sheet is to introduce the 'gram', the standard unit for measuring weight. Units for measuring lighter or heavier weights are also introduced.

#### Suggested HOME activity:

Using some kitchen scales to demonstrate how light a gram is or some other object of known weight. Using different sized objects, ask your child which unit of weight would be the best unit to use. Remember there may be more than one appropriate unit.

Example: 500gms of butter is the same as half a kilogram.

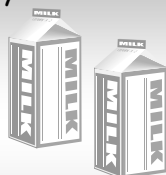
Ask your child to convert between units as above in Q13 to Q36.

Sign when completed: \_\_\_\_\_



In New Zealand we use a measuring system known as the **metric system**.

In the metric system, the **litre** is the basic unit for **measuring volume**.



A litre is about 4 cups of water or the size of some milk or juice cartons.

**Converting** between measurement units.

1000 millilitres (mL) = 1 litre (L)

1000 litres (L) = 1 kilolitre (kL)



**Converting** between litres and millilitres.

(13) 1L = \_\_\_\_\_ mL (17) \_\_\_\_\_ L = 5000mL

(14) 4L = \_\_\_\_\_ mL (18) \_\_\_\_\_ L = 4000mL

(15) 7L = \_\_\_\_\_ mL (19) \_\_\_\_\_ L = 9000mL

(16) 9.3L = \_\_\_\_\_ mL (20) \_\_\_\_\_ L = 6300mL

**Converting** between litres and kilolitres.

(21) 1000L = \_\_\_\_\_ kL (25) \_\_\_\_\_ L = 4kL

(22) 3000L = \_\_\_\_\_ kL (26) \_\_\_\_\_ L = 7kL

(23) 6000L = \_\_\_\_\_ kL (27) \_\_\_\_\_ L = 9kL

(24) 3400L = \_\_\_\_\_ kL (28) \_\_\_\_\_ L = 2.6kL

**Word problems.**

(29) How many litres of juice is 2500mL?



(30) How many millilitres of medicine in a 1.2L bottle?



(31) How many kilolitres of milk is 150000L?



**Metric units for measuring volume.**

<b>kilolitre</b>	1000 times more volume than a litre
<b>litre</b>	standard unit for volume
<b>millilitre</b>	1000 times less volume than a litre

**Write which unit of measurement** would be best to measure ....



(9) the volume of water in a small fish bowl.

(10) the volume of water in a rain drop.

(11) the volume of water in a half-filled cup.

(12) the volume of water in the sea.



The aim of this activity sheet is to introduce the 'litre', the standard unit for measuring volume. Units for measuring more or less volume are also introduced.

**Suggested HOME activity:**

Using some containers or measuring jugs, demonstrate how much liquid is needed to fill a 1 litre container. Using different sized containers, ask your child which unit for volume would be the best unit to use. Remember there may be more than one appropriate unit.

Example: Swimming pool volumes are given as 1000's of litres or kL's.

Ask your child to convert between units as above.

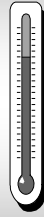
Sign when completed:

"Yesterday was the hottest day this year," said Joe. "The temperature was  $41^{\circ}\text{C}$ ."

The unit for measuring temperature is called **degrees**.

**Degrees Centigrade or degrees Celsius.** Example:  $10^{\circ}\text{C}$ ,  $-3^{\circ}\text{C}$

Water freezes at  $0^{\circ}\text{C}$  and boils at  $100^{\circ}\text{C}$ .



Use one of the temperature scales shown opposite to help you answer the questions below.

- (4) If the temperature was  $12^{\circ}\text{C}$  then rises  $6^{\circ}\text{C}$ , what is the new temperature?
- (5) If the temperature was  $9^{\circ}\text{C}$  then rises  $8^{\circ}\text{C}$ , what is the new temperature?

- (6) If the temperature was  $13^{\circ}\text{C}$  then drops  $7^{\circ}\text{C}$ , what is the new temperature?

- (7) If the temperature was  $21^{\circ}\text{C}$  then drops  $8^{\circ}\text{C}$ , what is the new temperature?

- (8) In Joshua's living room the temperature is  $17^{\circ}\text{C}$ . When he turns on the heat pump, the temperature rises by  $6^{\circ}\text{C}$ .

What is the temperature in Joshua's living room now?



- (9) In Olivia's bedroom the temperature is  $28^{\circ}\text{C}$ . When she opened the window, the temperature went down by  $5^{\circ}\text{C}$ .

What is the temperature in Olivia's room now?



- (10) The temperature of Dylan's milo drink is  $82^{\circ}\text{C}$ . When the temperature drops by  $39^{\circ}\text{C}$  it is cool enough to drink.

What is the temperature of Dylan's milo drink now?



The aim of this activity sheet is to introduce the units for measuring temperature and how to read a thermometer. A negative temperature means it was below zero.

### Suggested HOME activity:

If you have a weather thermometer at home place it in different situations and record the change in temperature over time. Watch the weather report on TV and record the temperatures of the cities throughout NZ over a 3 to 5 day period. Work out the change in temperature between days for each city.

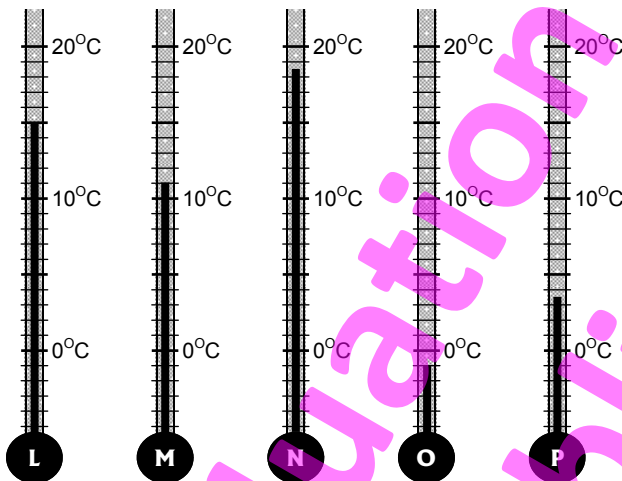
Example: Nelson: Monday  $24^{\circ}\text{C}$ , Tuesday  $28^{\circ}\text{C}$  .... rise of  $4^{\circ}\text{C}$

Sign when completed: \_\_\_\_\_

- (1) What is the name of the instrument used to measure temperature?



- (2) What is the temperature shown on each diagram L to P drawn below?



L =  $\text{ }^{\circ}\text{C}$  M =  $\text{ }^{\circ}\text{C}$  N =  $\text{ }^{\circ}\text{C}$

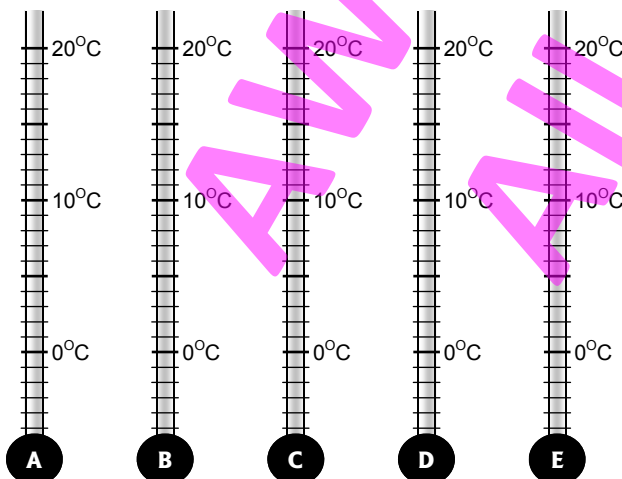
O =  $\text{ }^{\circ}\text{C}$  P =  $\text{ }^{\circ}\text{C}$

- (3) Draw each temperature on the thermometers A to E below.



A =  $16^{\circ}\text{C}$  B =  $8^{\circ}\text{C}$  C =  $0^{\circ}\text{C}$

D =  $-3^{\circ}\text{C}$  E =  $11.5^{\circ}\text{C}$



The time on this **analogue** clock is 10 past 9.

Not all clocks have hands.

Some clocks use only numbers and are called **digital** clocks.

This is 10 past 9 on a digital clock ...

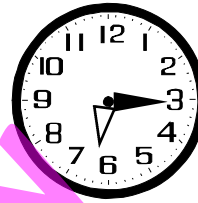


**9:10**

What is the new time?



(7)



+ 55 minutes

(8)



- 2½ hours

(9)



+ 4½ hours

(10)



- 65 minutes

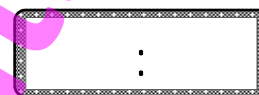
(11)

A roast chicken takes 3½ hours to cook. If it went into the oven at 4:20, when will it be ready? (answer in words)



(12)

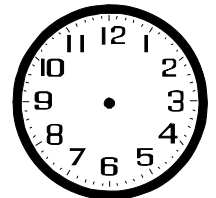
If a 50 minute TV programme finished at 20 to 6, at what time did it start. (answer as digital time)



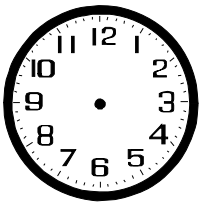
(13)

The school play lasted for 1¾ hours and finished at half past seven.

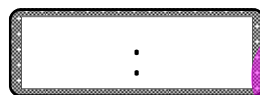
At what time did it start? (answer on this clock face)



(1)

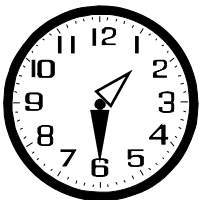


Time



*twenty past seven*

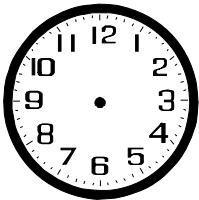
(2)



Time



(3)



Time



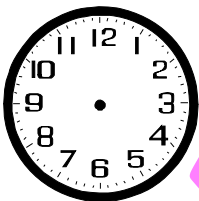
(4)



Time



(5)

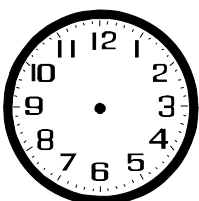


Time

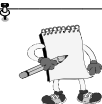
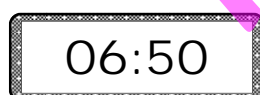


*quarter to four*

(6)



Time



The aim of this activity sheet is to be able to tell the time and convert between analogue and digital time displays, plus add or subtract time to a given time.

#### Suggested HOME activity:

Draw an analogue or digital clock face and repeat similar exercises as outlined on this page.

Example: On the microwave it says 12:30. How would that time appear on an analogue clock face?

Given a starting time, ask your child what the time will be in 3 hours, 5 hours, 10 hours etc. or what the time was 4 hours ago etc.

Sign when completed: \_\_\_\_\_



**Convert** between these time units.



- (1) How many days in 3 weeks? \_\_\_\_\_
- (2) How many seconds in 5 minutes? \_\_\_\_\_
- (3) How many months in 2 years? \_\_\_\_\_
- (4) How many minutes in 4 hours? \_\_\_\_\_
- (5) How many weeks in 2 years? \_\_\_\_\_
- (6) How many hours in 3 days? \_\_\_\_\_
- (7) How many days in a year? \_\_\_\_\_
- (8) How many days in a leap year? \_\_\_\_\_
- (9) How many minutes in 3 hours? \_\_\_\_\_
- (10) How many days in 5 weeks? \_\_\_\_\_
- (11) How many hours in 4 days? \_\_\_\_\_
- (12) How many months in 5 years? \_\_\_\_\_
- (13) How many weeks in 21 days? \_\_\_\_\_
- (14) How many days in 48 hours? \_\_\_\_\_
- (15) How many years in 36 months? \_\_\_\_\_

When writing time, the letters **a.m.** and **p.m.** are written after the time, depending on the time of the day.

*Example:* 10:00 a.m. is in the morning, while 2:00 p.m. is in the afternoon.



**Write** these times as **a.m.** or **p.m.** time.

- (16) Alex went to the shop after school at 5:30. \_\_\_\_\_
- (17) Kayla had an early breakfast at 7:00. \_\_\_\_\_
- (18) School finished early today at 2:30. \_\_\_\_\_
- (19) Logan normally gets up at about 7:45. \_\_\_\_\_
- (20) We are going to Ashley's place for lunch at 12:10. \_\_\_\_\_
- (21) On Monday the sun went down at 6:35. \_\_\_\_\_

"What time does the bus get us to town?" asked Michael.



"Look at the bus timetable," said mum.



This table shows the bus stop times for the route from Styx Mill to Westmorland.

Place	Time
Styx Mill	10:29 a.m.
Northlands Mall	10:47 a.m.
Bealey Avenue	10:52 a.m.
City Centre	11:07 a.m.
Sydenham shops	11:19 a.m.
Barrington Mall	11:27 a.m.
Westmorland	11:36 a.m.

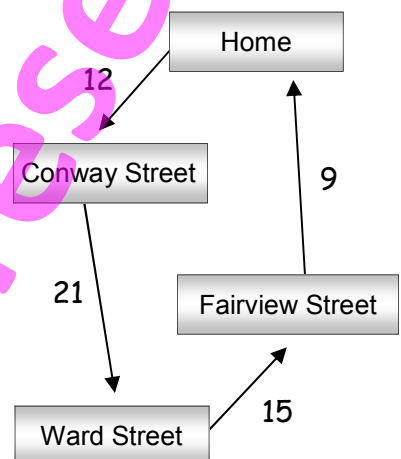
- (22) How long does it take to get from Styx Mill to City Centre? \_\_\_\_\_

- (23) How long does it take to get from Bealey Ave to Barrington Mall? \_\_\_\_\_



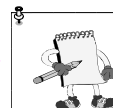
Logan is going for a bike ride around the streets.

He knows how long it takes and the time in minutes is shown on this diagram.



- (24) Use this table to work out the time Logan will reach each street and get home.

Place	Time
Start: Home	11:42 a.m.
Conway Street	
Ward Street	
Fairview Street	
Finish: Home	



The aim of this activity sheet is to introduce time units, convert between time units, describe time as a.m. or p.m. and prepare a timetable of events.

#### Suggested HOME activity:

Ask your child to convert between various time units and a.m. / p.m. time.

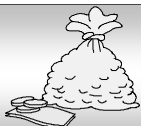
*Example:* How many minutes in 7 hours? etc.

Make up a timetable for a bus or train route. Ask your child to work out how long it takes to get between stops.

*Example:* How long is the travel time if I get on the bus at 7:56 a.m. and get off at 9:07 a.m.?

Sign when completed: \_\_\_\_\_

"Is this a 50 cent coin?" asked Jane.



(1) What is the **value** of each coin?



10 cents,  
20 cents,  
50 cents,  
\$1.00,  
\$2.00

(2) **Match** the backs of these notes with the fronts, their colour (orange, blue, green) and the value of each note.

Front of note	Back of note	Value of note	Colour
A		\$	
B		\$	
C		\$	

What coins and notes could be used to make up these money amounts?

There will be more than one correct answer.



(3) \$1.40 = \_\_\_\_\_

(4) \$2.70 = \_\_\_\_\_

(5) \$8.90 = \_\_\_\_\_

(6) \$12.50 = \_\_\_\_\_

(7) \$27.30 = \_\_\_\_\_

(8) \$42.80 = \_\_\_\_\_

(9) \$50.10 = \_\_\_\_\_

(10) \$70.60 = \_\_\_\_\_

These are **three** of the most common notes used in New Zealand.

A picture of a famous New Zealander is on the **front** (A to C) of each note.



A picture of a bird is on the **back** (D to F) of each note.



The aim of this activity sheet is to become familiar with common NZ coins and notes and make up money totals using combinations of coins and notes.

### Suggested HOME activity:

Have a selection of NZ coins and notes or make up cards to represent money. Using the methods above, make up questions involving adding groups of coins / notes, making up a given total and selecting different combinations of coins / notes to make a given value.

Sign when completed: \_\_\_\_\_

Terry has a \$10.00 note. She buys a book that costs \$7.50.



What change does she get back?

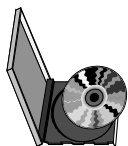
What coins could make up this change, using the least number of coins?

Answer:

\$2.50 change, made up of a \$2.00 and a 50c coin.



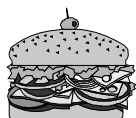
\$0.60



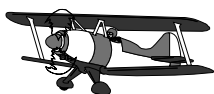
\$12.40



\$3.60



\$5.90



\$21.70



\$2.80

You are going shopping.

Use the items above to **work out** the **cost** of what you buy and the **change** you will get back.

**List** the coins / notes used for the change, that uses the **least** number of coins / notes.

- (1) You have \$10.00 and buy 1 hamburger.

$$\$5.90 + \underline{\hspace{2cm}} = \$10.00$$

change: \_\_\_\_\_

- (2) You have \$10.00 and buy 1 pen.

$$\$3.60 + \underline{\hspace{2cm}} = \$10.00$$

change: \_\_\_\_\_

- (3) You have \$10.00 and buy 1 apple.

$$\underline{\hspace{2cm}} + \underline{\hspace{2cm}} = \$10.00$$

change: \_\_\_\_\_

- (4) You have \$25.00 and buy 1 model aeroplane.

$$\$25.00 - \underline{\hspace{2cm}} = \$21.70$$

change: \_\_\_\_\_

- (5) You have \$20.00 and buy 3 apples.

$$\$20.00 - \underline{\hspace{2cm}} = \$1.80$$

change: \_\_\_\_\_

- (6) You have \$20.00 and buy 1 C.D.

$$\$20.00 - \underline{\hspace{2cm}} = \underline{\hspace{2cm}}$$

change: \_\_\_\_\_

Prices for food items are often given as **prices per kilogram** (per kg).

*Example: If 1kg of apples cost \$2.50, how much would 2kgs cost?*

*Answer:  $\$2.50 \times 2 = \$5.00$*



apples  
\$2.50 per kg



oranges  
\$4.60 per kg



grapes  
\$7.30 per kg



bananas  
\$1.90 per kg

**Work out the cost** of buying these items.

You are going to pay for them using cash.

Using the **least** number of coins / notes, list the coins / notes used to pay for these items.

- (7) You buy 3kgs of apples.

$$\$ \underline{\hspace{2cm}} \times 3 = \$ \underline{\hspace{2cm}}$$

Cash paid: \_\_\_\_\_

- (8) You buy 2kgs of grapes.

$$\$ \underline{\hspace{2cm}} \times 2 = \$ \underline{\hspace{2cm}}$$

Cash paid: \_\_\_\_\_

- (9) You buy 3kgs of bananas.

$$\$ \underline{\hspace{2cm}} \times 3 = \$ \underline{\hspace{2cm}}$$

Cash paid: \_\_\_\_\_

- (10) You buy 4kgs of oranges.

$$\$ \underline{\hspace{2cm}} \times 4 = \$ \underline{\hspace{2cm}}$$

Cash paid: \_\_\_\_\_



The aim of this activity sheet is to learn how to handle money by working out the cost of buying various items and the change you would get back.

#### Suggested HOME activity:

Make up your own shopping list / prices. Ask your child to work out the cost of buying a group of items and the change they would receive if they paid for it with a certain amount.

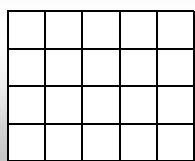
*Example: 3 items @ \$2.50 each, paid for with a \$10.00 note. How much did it cost and what change do you have?*

Sign when completed: \_\_\_\_\_



"If you can paint it, it has AREA," said Sarah.

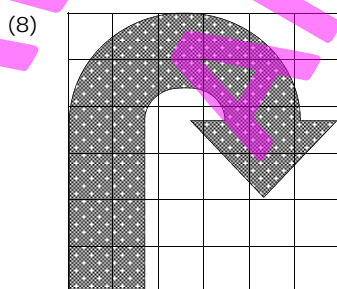
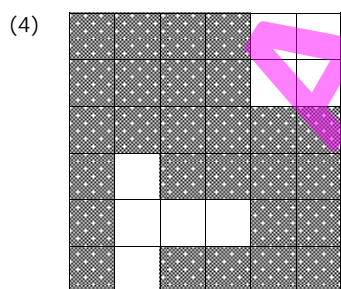
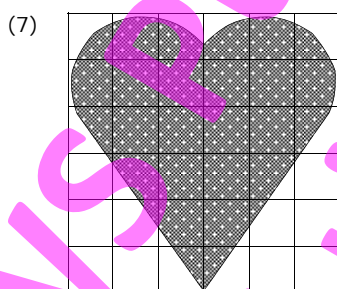
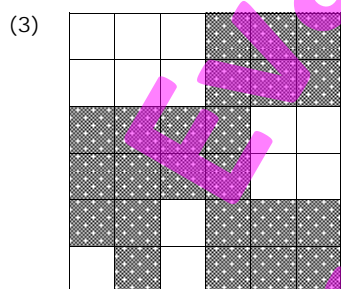
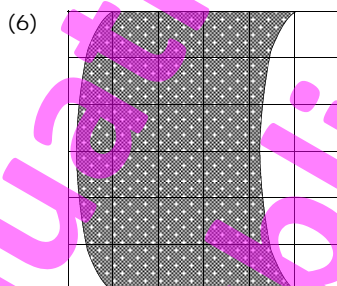
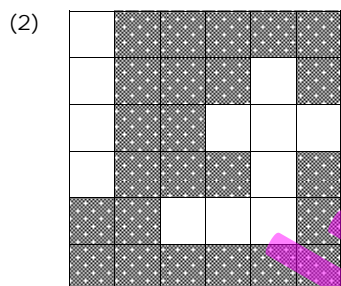
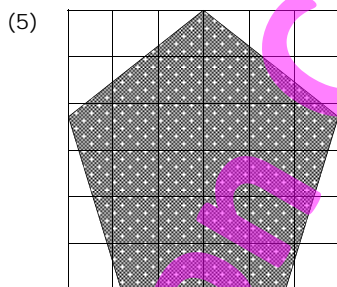
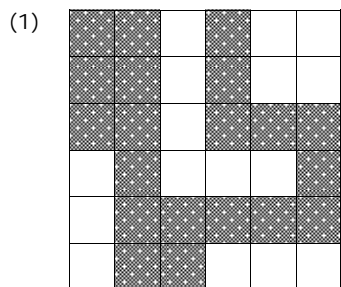
This shape has been divided up into squares.



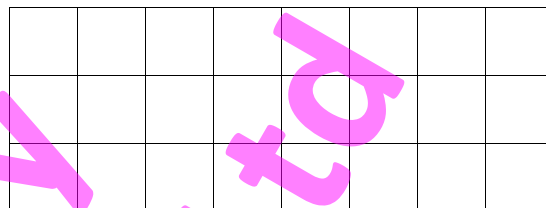
Count the number of squares to work out the area of this shape.

Answer: 20 squares

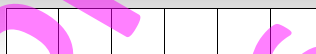
**Work out** the area of these shaded shapes by counting the 'whole' squares and estimating the area of the 'partly' shaded squares.



- (9) **Draw** a shape in the grid below that has an area of 18 squares.



This shape is made up of 1 row of 6 squares.



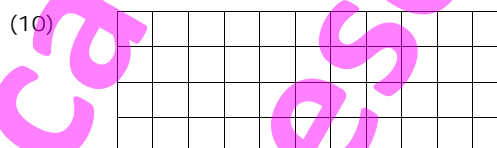
What is the area?

If the shape was made up of 2 rows of 6 squares, what would the area be?

Answers: 6 square units, 12 square units



**Work out** the area of these rectangles by first counting the number of squares in ONE row.



1 row = \_\_\_\_\_ squares

Area = \_\_\_\_\_ rows of \_\_\_\_\_ = \_\_\_\_\_ sq units



1 row = \_\_\_\_\_ squares

Area = \_\_\_\_\_ rows of \_\_\_\_\_ = \_\_\_\_\_ sq units



The aim of this activity sheet is to introduce the concept of area. Any surface that can be painted has area. Area is measured in square units, such as square metres.

#### Suggested HOME activity:

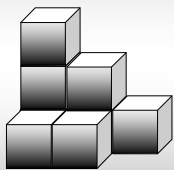
Draw shapes on maths paper and ask your child to work out each area by counting or estimating the number of squares.

Ask your child to work out the area of a shape given how many squares in ONE row and how many rows. Such a shape is called a rectangle or square.

Example: If 1 row is 5 squares long, what is the area of a rectangle made up of 3 rows.  $5 + 5 + 5 = 15$  square units.

Sign when completed: \_\_\_\_\_

"If you can fill it, it has **VOLUME**," said Ryan.  
 "How many cubes in this pile?" asked Ryan.



Remember to count the ones you cannot see.

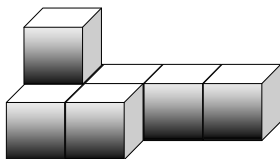
Answer: 8 cubes (2 you cannot see)



This shape is said to have a volume of 8 cubes.

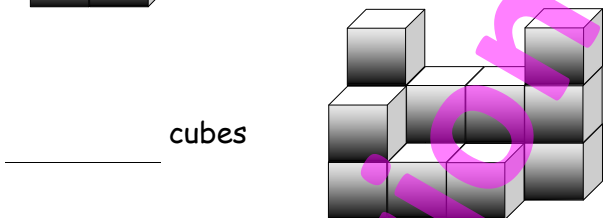
Work out the **volume** of each pile of cubes.  
 Remember to include cubes you cannot see.

(1)



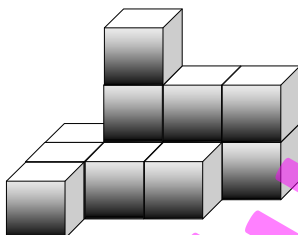
\_\_\_\_\_ cubes

(2)



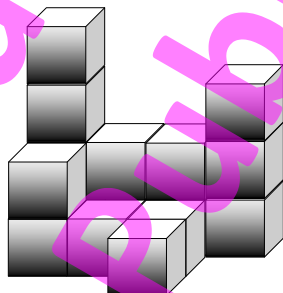
\_\_\_\_\_ cubes

(3)



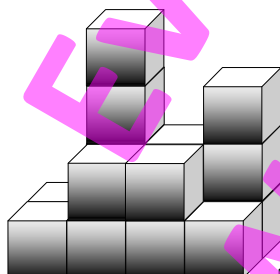
\_\_\_\_\_ cubes

(4)



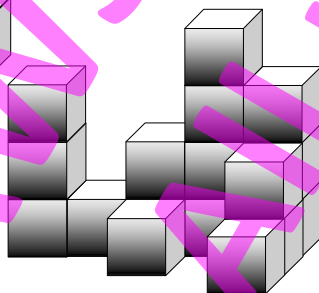
\_\_\_\_\_ cubes

(5)



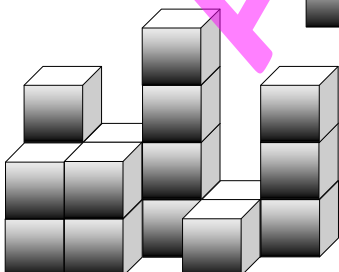
\_\_\_\_\_ cubes

(6)



\_\_\_\_\_ cubes

(7)

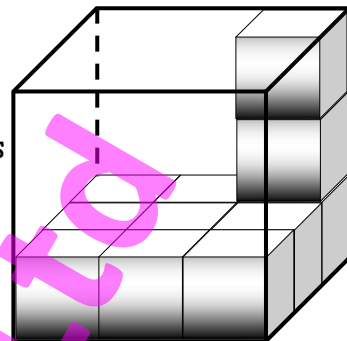


\_\_\_\_\_ cubes



This big box is to be filled with smaller boxes (cubes).

The bottom layer has already been filled.



(8) How many small cubes are in the bottom layer? \_\_\_\_\_ cubes

(9) How many layers of cubes will this box hold? \_\_\_\_\_ layers

(10) Work out how many small cubes this big box will hold. \_\_\_\_\_ cubes

(11) In a second box, the bottom layer can hold 20 cubes.  
 If there are 5 layers, how many cubes can this box hold?



\_\_\_\_\_ cubes

Using 'lego', or similar blocks, build some shapes with the following volumes:

(12) 8 cubes

(13) 18 cubes

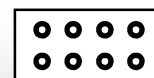
(14) 25 cubes

(15) 34 cubes

(16) 40 cubes



small blocks have a volume of 1 cube.



large blocks have a volume of 2 cubes.



The aim of this activity sheet is to introduce the concept of volume. If you can fill something, it has volume.

#### Suggested HOME activity:

Have a selection of blocks and ask your child to build something with a known volume, as above. Note that different structures can have the same volume if they contain the same number of blocks.

Sign when completed: \_\_\_\_\_

- (1) Name these 2D shapes using the words in the box below.



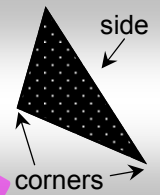
Shape	Name of shape

circle, oval, triangle, square, rectangle, diamond or rhombus, pentagon, hexagon, octagon

- (2) Draw a picture made up of ...  
 1 circle, 3 rectangles, 1 square,  
 2 triangles and 1 octagon.

"What shape has three corners and three straight sides?" asked Jasmine.

Answer: a triangle



Imagine you are talking to someone on the telephone.



Write down what you would say, as you describe each of these shapes. Use words such as side, corner, straight and curved.

(3)



(4)



(5)



What are some of the differences between shapes A & B and what do they have in common?



(6)



The aim of this activity sheet is to be able to recognise, name, draw and describe various 2D shapes.

#### Suggested HOME activity:

Select one of the 2D shapes on this activity sheet. Describe the shape by its features and ask your child to draw and name the shape.

Example: I have four corners, all my four sides are the same length.  
 (Answer: It could be a square or a rhombus)

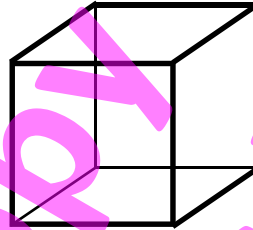
Sign when completed: \_\_\_\_\_

The 3D objects are based on many of the 2D shapes.

*Example:* A **cylinder** is based on a **circle**. If you stacked some 50c coins on top of each other, it would look like a cylinder.



- (3) **Drawing 3D objects is not easy.**  
See if you can draw these 3D objects.

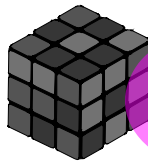


- (1) **Name these 3D objects (A to E) using the words in the box below.**

A



B



C



D



E

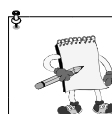
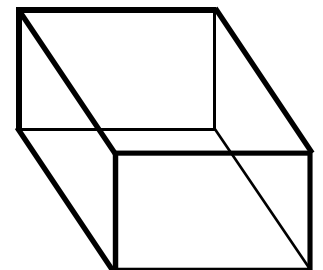


**3D Objects:**  
cylinder,  
cone,  
cube,  
rectangular box,  
sphere (ball)

- (2) **Look around your home and make a list of 6 objects that are shaped like cones, cylinders, cubes, rectangular boxes or spheres.**

Object name

3D shape



The aim of this activity sheet is to be able to recognise common everyday 3D objects and be able to draw such shapes.

#### Suggested HOME activity:

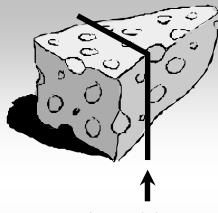
Have a selection of 3D objects from around your home that illustrate the common 3D objects as on this worksheet. Ask your child to group the objects by shape. Have some objects that are made up of more than one 3D shape, such as a bottle (cylinder & cone).

Sign when completed: \_\_\_\_\_



This block of cheese has been sliced as shown.

What shape would the sliced end look like?

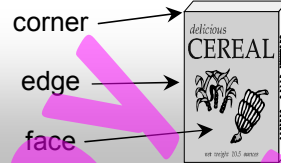


sliced here

Answer: a rectangle

If you cut through an object, you see a **cross-section** of the object.

"This object has 8 corners, 12 edges and 6 faces. Opposite faces are shaped like rectangles and the same size.

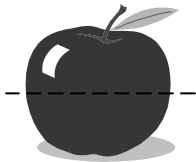


What shape am I?" asked Alister.

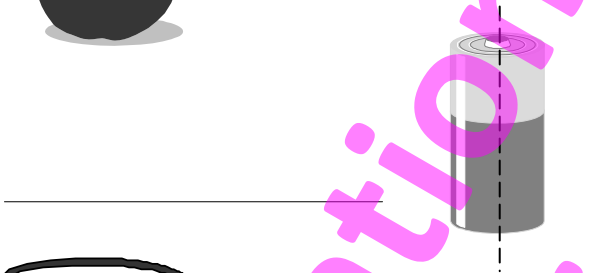
Answer: a rectangular box

Look at these objects and describe what 2D shape you would see if they were sliced along the dotted line.

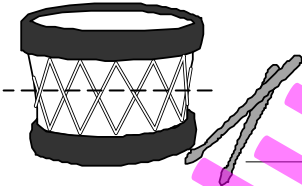
(1)



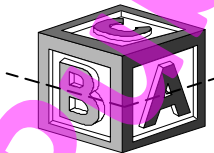
(2)



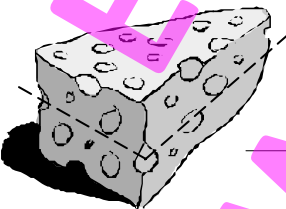
(3)



(4)



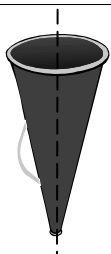
(5)



(6)



(7)



Imagine you are talking to someone on the telephone.

Write down what you would say as you describe each of these objects.

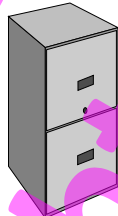
Use words such as top, bottom, end, side, opposite, corner, edge, face, straight, curved and 2D shape names.



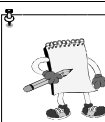
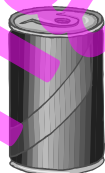
(8)



(9)



(10)



The aim of this activity sheet is to describe various 3D objects by their features and then determine from what 2D shape the 3D object was derived from.

#### Suggested HOME activity:

Play a game of 'I spy' by describing a 3D object using the words on this worksheet and ask your child to name the object.

Example: "I have a top, a bottom and 4 sides, all of which are the same size. What 3D object am I?"

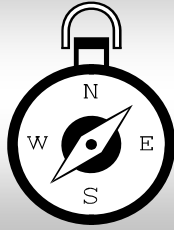
Sign when completed: \_\_\_\_\_

If you are map reading, knowing the compass directions will be helpful.

What compass point is opposite north?

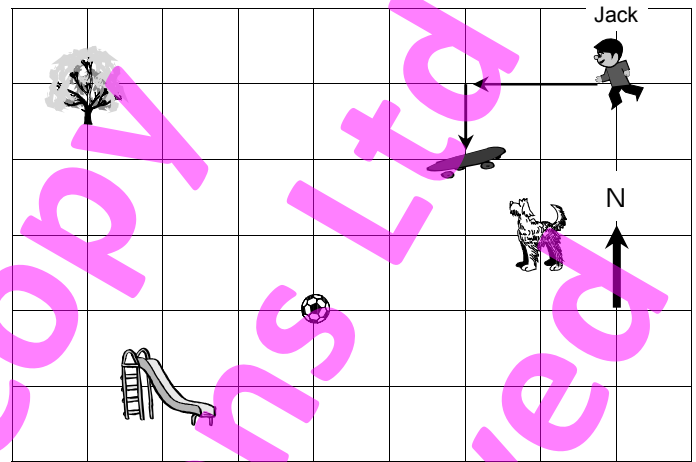
What compass point is opposite east?

Answers: south and west.



Below is a map of Jack's backyard.

Each square is **1 metre across** and think of the lines as paths you can walk along.



Jack walked to his skate-board. To do this, he walked **2 metres west**, then **1 metre south**.

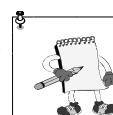
- (8) Use the words **north**, **east**, **south** and **west** to describe how Jack walked from his skate-board to the tree ...

... then from the tree to the slide ...

... then from the slide to his dog ...

... then from his dog to his soccer ball.

- (9) Jack kicked the soccer ball. If it went **4 metres east** and **1 metre south**, draw an **X** on the map to show where it came to rest.
- (10) Jack then kicks the soccer ball **5 metres west** and **3 metres north**. Draw a **Y** on the map to show the new position of the ball.



The aim of this activity sheet is to follow directional instructions to find or create pathways and understand the four points of the compass.

#### Suggested HOME activity:

Draw a maze or a map of your home, inside or outside. Create a series of instructions that create pathways that can be drawn on your maze or map or create instructions that your child can physically follow as they walk around your home. Use compass directions as well.

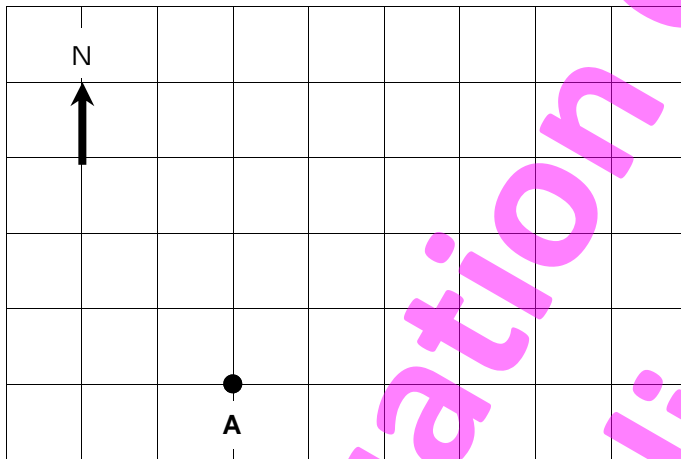
Example: Starting at this tree facing north, take 4 steps towards the shed, turn anti-clockwise west, then take 6 more steps ... etc.

Sign when completed: \_\_\_\_\_

- (1) What do the letters on the compass stand for?

N = \_\_\_\_\_, S = \_\_\_\_\_

E = \_\_\_\_\_, W = \_\_\_\_\_



On the grid above, follow each instruction below and **draw** the position of each dot, A to E.

- (2) Starting at point A, go **4 squares east**. Draw a dot and mark this point with the letter B.
- (3) Starting at point B, go **1 square east**, then **3 squares north**. Draw a dot and mark this point with the letter C.
- (4) Starting at point C, go **1 square north**, then **3 squares west**. Draw a dot and mark this point with the letter D.
- (5) Starting at point D, go **3 squares west**, then **1 square south**. Draw a dot and mark this point with the letter E.
- (6) Join the dots in order ... A, B, C, D, E and back to A.
- (7) Name the shape you have created.

When talking about **rotation**, we use words such as **clockwise**, **anti-clockwise** ...



... **quarter** turn and **half** turn to describe how an object has been moved.



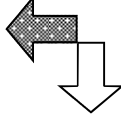
Use the **rotation words** above to **describe** how each arrow has been moved.

The shaded arrow is the new position.

(1)



(2)



Draw which way the flag will be pointing after it has been turned or rotated.

(3)



quarter turn  
anti-clockwise

(4)



half turn clockwise

Some alphabet cards have been used to create these patterns using rotation.

Draw the next 2 letters for each pattern and describe how each pattern was created.

(5)



(6)



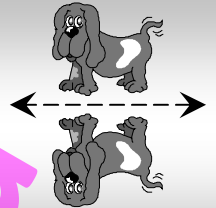
(7)



(8)



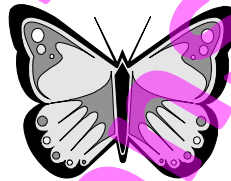
When you look in a mirror, you see your reflection. Everything looks the same, except it is back to front.



To reflect this picture, the mirror would be placed on the arrowed line.

Draw a line to show where the mirror would go to reflect these pictures.

(9)



(11)



(10)



(12)



Half of each letter is missing.

The arrow is where the mirror is.

Draw each letter as if you had a mirror.



(13)



(15)



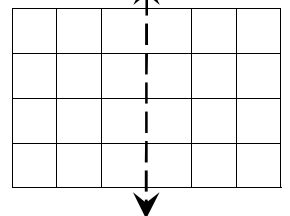
(14)



(16)



Draw a design that shows you understand reflection. The arrow is the mirror line.



The aim of this activity sheet is to revise rotation and reflection. Rotations can be described using various words and reflections require a mirror line.

#### Suggested HOME activity:

Looking around your home, ask your child to point out designs that have been created by either rotating a pattern or reflecting a pattern.

Example: Wallpaper or floor tile patterns.

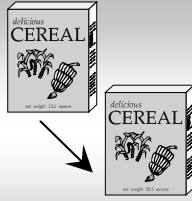
Ask your child to create their own designs using rotation or reflection and have them describe how they created their design.

Sign when completed: \_\_\_\_\_

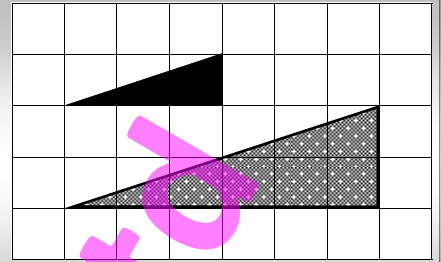
This cereal box has been moved by sliding it along a table top.

The cereal box has not been turned around or flipped over.

Such a movement is called a **translation**.



Sam used maths paper to draw this small black triangle twice as big (grey colour).



Each side of the triangle is twice as long.

Each group of objects below have been lined up to make a pattern.

**Circle yes** if the objects have been moved by sliding. **No**, if they have not.

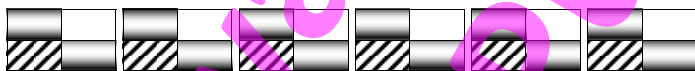
(1) yes / no

(2) yes / no

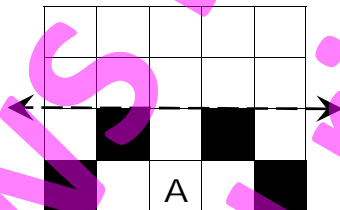
(3) yes / no

(4) **Talk** about how the object patterns above were created if it was not by sliding. Was it by turning (rotation) or flipping (reflection)?

This design was created by translating a shape several times.

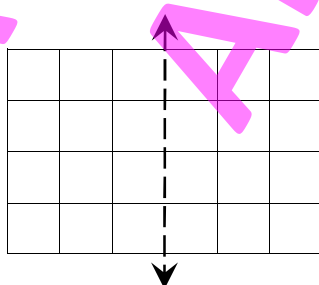


(5) **Translate** this pattern to the opposite side of the arrow, without turning the pattern



(6) **Draw** a design to show you understand translation.

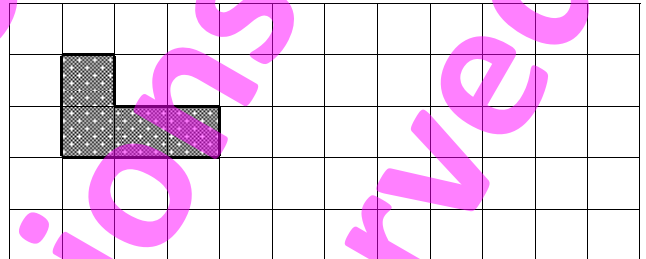
The same pattern should be on each side of the arrow.



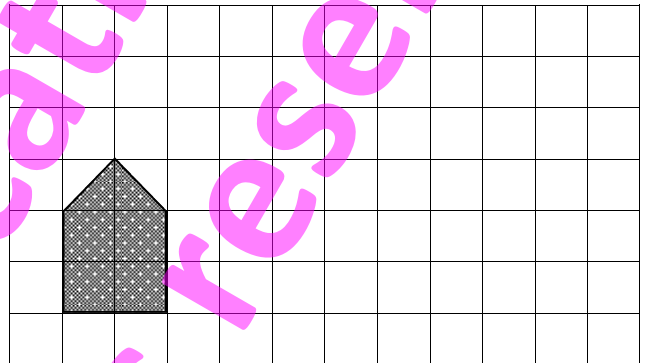
**Redraw** each shape so that all sides are **twice** as long.



(7)

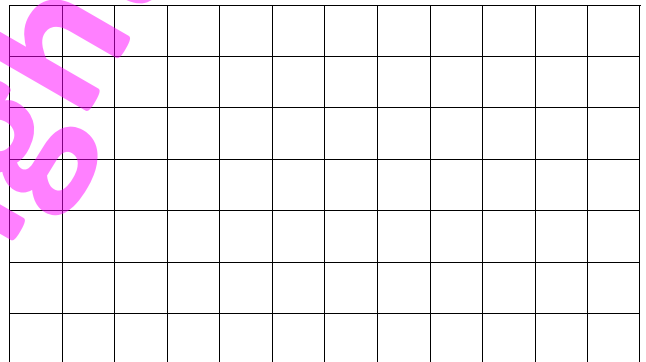


(8)



**Draw** a small shape that you can **redraw** twice as large, to show you understand enlargement.

(9)



The aim of this activity sheet is to revise translation and introduce enlargement. Translation involves sliding the object to a new position. For enlargement, the shape changes size but does not slide, flip or rotate.

#### Suggested HOME activity:

Looking around your home, ask your child to point out groups of objects that demonstrate translation or enlargement.

*Example: A picket fence, strips of wallpaper, a line of bottles in a row.*

Draw various patterns that involve sliding or translation and using maths paper, draw designs involving enlargement.

Sign when completed: \_\_\_\_\_

Look at these pictures below ...



There are many ways these animals can be grouped.

- (1) Draw the letter **A** next to the animals that make good **pets**.
- (2) Draw the letter **B** next to the animals that live in the sea.
- (3) Why are the 4 **circled** items grouped?
- (4) Draw a circle around 2 or more items and say why you have grouped them.
- (5) Talk about other ways you could sort these animals in groups.

Look at these pictures below ...



- (6) Why are the 2 **circled** food items grouped?
- (7) Why are the food items with an **X** next to them grouped?
- (8) Draw a circle around 2 or more items and say why you have grouped them.
- (9) Talk about other ways you could sort these food items in groups.



The aim of this activity sheet is to learn how to sort objects into various groups, based on the characteristics of each object.

#### Suggested HOME activity:

Gather a collection of objects from around your house that can be sorted more than one way.

Example: Sort different sized blocks by their size or by their colour.

Ask your child to come up with different ways the objects can be sorted.

Sign when completed: \_\_\_\_\_



Pupils in Rooms 6, 7 & 8 were asked what their favourite vegetable was. This table shows the results.



Vegetable				
Number of pupils	17	18	23	32

- (1) How many pupils liked carrots best ()? \_\_\_\_\_
- (2) How many pupils liked onions best ()? \_\_\_\_\_
- (3) How many pupils liked peas best ()? \_\_\_\_\_
- (4) How many pupils liked cabbage best ()? \_\_\_\_\_
- (5) How many pupils in Rooms 6, 7 & 8? \_\_\_\_\_
- (6) Use the tally chart below to work out how many there are of each animal.



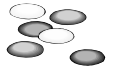
Animal	Tally	Total

Remember ...

$$\text{HHH} = 5$$



Sam conducted a survey to see how many red jelly beans there were in each small packet. These are his results.

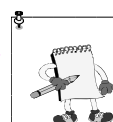


- (8) Use the tally chart below to organise this data.

Red jelly beans / packet  
 2, 3, 5, 4, 6, 2, 3, 5, 5, 4,  
 3, 2, 4, 3, 3, 3, 3, 4, 5, 3,  
 2, 3, 5, 4, 6, 5, 4, 5, 2, 6

Number of red jelly beans	Tally	Total
2		
3		
4		
5		
6		

- (9) How many packets had 4 red jelly beans? \_\_\_\_\_
- (10) How many packets had 2 red jelly beans? \_\_\_\_\_
- (11) What was the most common number of red jelly beans per packet? \_\_\_\_\_
- (12) What was the least common number of red jelly beans per packet? \_\_\_\_\_
- (13) 7 red jelly beans occurred in how many packets? \_\_\_\_\_
- (14) How many packets of jelly beans did Sam survey? \_\_\_\_\_



The aim of this activity sheet is to understand data presented in tables and create tables by sorting data using tally charts.

#### Suggested HOME activity:

Collect information that can be presented in a table. This may require you to ask extended family or friends to answer some questions to collect the data. Then ask your child questions that relate to the data.

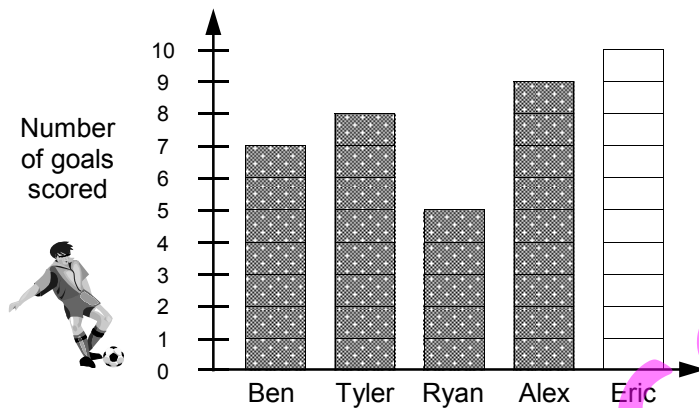
Example: A table showing favourite foods your family / friends eat.

Create your own tables, with made up data and then ask your child to talk about the data in the table.

Sign when completed: \_\_\_\_\_

- (7) How many animals are there altogether? \_\_\_\_\_

This column graph below shows the number of goals scored by the 5 players in a soccer team.



- (1) How many goals did Alex score? \_\_\_\_\_
- (2) How many goals did Ben score? \_\_\_\_\_
- (3) Who scored 5 goals? \_\_\_\_\_
- (4) If all 5 players scored a total of 35 goals, work out how many goals Eric scored. \_\_\_\_\_
- (5) **Complete** the column graph by shading in the number of goals Eric scored. \_\_\_\_\_

- (6) **Create** a column graph using this data showing the number of fish caught during a fishing competition by five children.

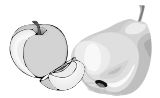
	Total
Daniel	8
Ashley	6
Kyra	9
Blake	5
Claire	7



- (7) Who caught the most fish? \_\_\_\_\_
- (8) Who caught 6 fish? \_\_\_\_\_
- (9) How many fish did they catch altogether? \_\_\_\_\_

This pictogram below shows the favourite fruit that Rooms 6, 7, 8 & 9 pupils like.

Note: Each picture = 4 pieces of fruit



grapes:

apple:

pineapple:

pears:

- (10) How many pupils liked pineapples? \_\_\_\_\_
- (11) Which fruit did 20 pupils like most? \_\_\_\_\_
- (12) Which fruit did most pupils like best? \_\_\_\_\_
- (13) Which fruit did 16 pupils like most? \_\_\_\_\_
- (14) How many pupils are in Rooms 6, 7, 8 & 9 altogether? \_\_\_\_\_

- (15) This table shows the number of soccer goals scored by three boys.



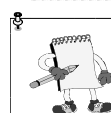
	Total
James	12
Mark	14
Steven	8

Use the numbers in the table to draw a pictogram. Each picture (⚽) = 4 goals.

James: \_\_\_\_\_

Mark: \_\_\_\_\_

Steven: \_\_\_\_\_



The aim of this activity sheet is to interpret data presented as a column graph and a pictogram, plus draw these two types of graphs, given appropriate data.

#### Suggested HOME activity:

Using data collected from around your home or the data in the tally charts in Worksheet 34, have your child create some column graphs or pictograms. For pictograms involving large groups of data, each picture can be worth more than one.

Example: If there were 30 items, by making each picture worth 5, only 6 pictures would be drawn.

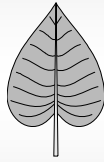
Sign when completed: \_\_\_\_\_

A **stem and leaf graph** looks a bit like a leaf.

*Example:* Jacqui counted the number of red jelly beans in 12 large packets.

29, 31, 28, 42, 38, 27, 35, 33, 41, 34, 36, 26

As these numbers are in the 20's, 30's and 40's, the numbers **2**, **3** and **4** go in the 'stem' part of the graph.

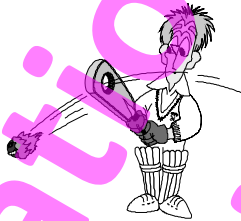


2	9, 8, 7, 6
3	1, 8, 5, 3, 4, 6
4	2, 1

The second numbers form the 'leaf' part of the graph and are added to the graph in the order listed.

Matthew recorded the number of runs each batsman scored in a cricket match, in a stem and leaf graph.

0	8, 9
1	6, 5, 3
2	5, 7
3	0, 4, 2
4	1



- (1) If the first 4 scores are 8, 9, 16 and 15, what are the other scores shown in this stem and leaf graph?

\_\_\_\_\_

- (2) What was the highest score? \_\_\_\_\_

- (3) What was the lowest score? \_\_\_\_\_

- (4) How many runs did the team score altogether? \_\_\_\_\_

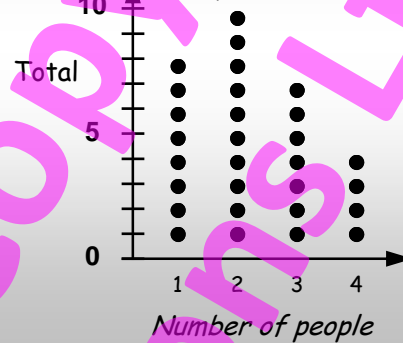


- (5) Draw a stem and leaf graph for the numbers in this box.


43, 39,  
67, 51,  
35, 56,  
49, 45,  
50, 44,  
60, 53

Jody recorded the number of people in cars that passed the school gate. Each time a car passed the school gate, she drew a new dot above the number of passengers.

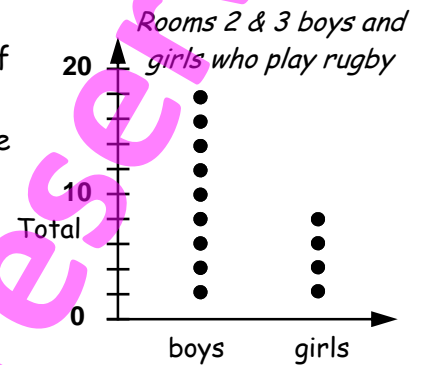
Number of people  
per car



How many cars had 3 people in them?

Answer: 7 cars

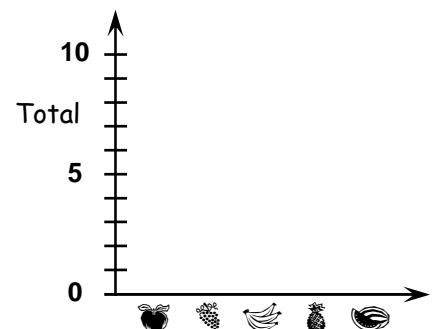
This **dot plot** graph shows the number of boys and girls in Rooms 2 & 3 who like playing rugby.



- (6) How many boys and how many girls play rugby? \_\_\_\_\_, \_\_\_\_\_

- (7) Draw a dot plot graph for the data in the table below.

Fruit	Total
	7
	9
	5
	6
	8



The aim of this activity sheet is to introduce, understand and draw stem & leaf graphs and dot plot graphs. Data that is obtained by counting can be graphed this way.

#### Suggested HOME activity:

Collect or make up data that can be presented as a stem & leaf graph. This is normally a list of data numbers that have been collected by counting something.

Using data collected from around your home or the data in the tally charts in Worksheet 34, have your child create a dot plot graph. Dot plot graphs are similar to column graphs.

Sign when completed: \_\_\_\_\_

"What pet do Room 7 pupils like more, cats or dogs?" asked Pete.



To answer this question, Pete conducted an investigation by asking a simple question ...  
*"Do you like cats or dogs better as a pet?"*

Consider this question ...

*"How do your classmates travel to school?"*

- (1) As you investigate this question, how would you collect, record and organise your data?



- (2) What data displays or graphs could you use to display your results?

- (3) Draw the table that you would use to collect the data and either collect some data or make up some data.

- (4) Draw a column graph, pictogram or dot plot to display your results in Q3.

- (5) Write one statement about your results.

Edgeware Primary School investigated ...  
*"How should the money raised at the school fair be spent?"*



A = buy new sports uniforms  
 B = buy more plants for the gardens  
 C = buy more library books  
 D = buy more playground equipment

A	C	D	B	D	B	A	C	B	B	B	D	C
C	C	A	D	C	B	B	C	D	C	A	D	C
B	C	D	C	C	A	A	D	B	C	A	D	C
B	C	D	C	D	B	C	D	A	C	D	B	C

- (6) Look at the results of their investigation.  
 Write 4 points based on these results.



The aim of this activity sheet is to look at ways a simple investigation can be conducted and at the ways data can be collected and displayed.

#### Suggested HOME activity:

Make up an investigation. Ask your child to come up with questions that could be asked, who is going to be asked and how the data is to be collected and displayed.

Example: What is the most popular holiday place in New Zealand?

Sign when completed: \_\_\_\_\_



The chance of something happening can be described using one of the words ... **certain, likely, unlikely, possible** and **impossible** ... or a similar meaning word.

Example:

"It is **certain** to snow today."

"It is **unlikely** it will snow today."

"It is **possible** it will snow today."



### Probability Words

yes	maybe	can
no	always	can't
might	will	won't
never	sometimes	could

**Write** a word in these sentences that means the same as **possible**.



- (1) "Can I go to the movies?" asked Sophia.  
" \_\_\_\_\_ " said mum.
- (2) Brian \_\_\_\_\_ helps to wash the dishes.
- (3) This week our class \_\_\_\_\_ be going on a ski trip.

**Write** a word in these sentences that means the same as **certain**.



- (4) "Can I go to the movies?" asked Sophia.  
" \_\_\_\_\_ " said mum.
- (5) Brian \_\_\_\_\_ helps to wash the dishes.
- (6) This week our class \_\_\_\_\_ be going on a ski trip.

**Write** a word in these sentences that means the same as **impossible**.



- (7) "Can I go to the movies?" asked Sophia.  
" \_\_\_\_\_ " said mum.
- (8) Brian \_\_\_\_\_ helps to wash the dishes.
- (9) This week our class \_\_\_\_\_ be going on a ski trip.

Nicole asked, "If last month was June, is this month May?"



Mark an X on the scale where the answer to Nicole's question would go. (Answer: impossible)

Morgan has a bag of 200 balls.

The bag contains ...



**120** white balls, **50** red balls, **15** blue balls, **10** green balls and **5** black balls.

- (10) Morgan is going to take a ball from the bag without looking at it.  
Why is a black ball the least likely ball he will pick?



- (11) What is the colour of the most likely ball to be picked? \_\_\_\_\_

- (12) Mark on the probability scale below where you think these events (A to F) should go ...

**A** = Morgan picks a blue ball from the bag.

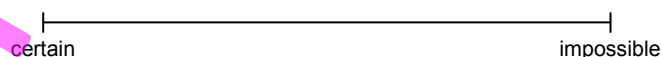
**B** = Morgan picks a white ball from the bag.

**C** = Morgan picks a black ball from the bag.

**D** = Morgan picks a red ball from the bag.

**E** = Morgan picks a green ball from the bag.

**F** = Morgan picks a pink ball from the bag.



The aim of this activity sheet is to revise previously introduced probability words and ordering of events based on the likelihood of their occurrence using simple probability scales.

### Suggested HOME activity:

Create a list of up to 5 events that can be ordered. Ask your child to place the events in order, based on their likelihood of occurring, from certain to impossible or vice versa.

Create some more events that your child can order and display this order on simple probability scales.

Sign when completed: \_\_\_\_\_



An **outcome** is what happens when you have a choice.

Sometimes finding all possible outcomes can be difficult. Using a **box** or **grid** can help.

*Example: Two coins are tossed in the air.*

	Head (H)	Tail (T)
Head (H)	HH	HT
Tail (T)	TH	TT

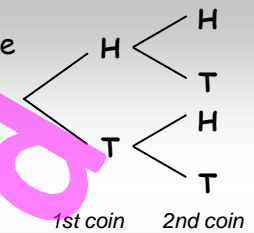
What does HH stand for?

Answer: Both coins showed heads



**Tree diagrams** are another way of working out all possible outcomes.

*Example: Two coins are tossed in the air, list all possible outcomes.*



By following each **branch** of the tree, you can work out all outcomes.

Answer: HH, HT, TH, TT (4 outcomes)



This grid shows the choices Sarah had as to when she would go to the movies and what type of movie she would see.



	Horror (H)	Comedy (C)
Friday (F)	F / H	F / C
Saturday (Sa)	Sa / H	Sa / C
Sunday (Su)	Su / H	Su / C

(1) If Sarah's choice was Sa / H, what does it mean?

(2) How many choices (outcomes) does Sarah have? \_\_\_\_\_

For lunch, Liam has a choice of either a sandwich (SW), a salad roll (SR) and a choice of either an apple (A), an orange (O), a pear (P) or a banana (B).

(3) Guess how many possible food choices or outcomes you think Liam has for lunch? \_\_\_\_\_

(4) Use this **table** to work out what Liam can eat at lunchtime. (Write letters only)

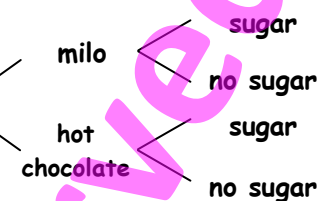
	A	O	P	B
SW				
SR				

(5) What does SR/O mean? \_\_\_\_\_

(6) List all possible choices. \_\_\_\_\_

(7) How many choices (outcomes) does Liam have? \_\_\_\_\_

Sally has a choice of milo or hot chocolate, with or without sugar.

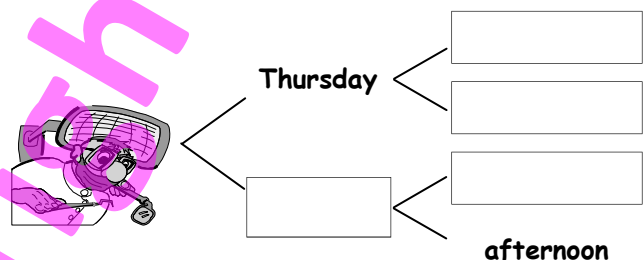


(8) Use the tree diagram to list all possible choices or outcomes.

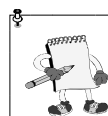
Allison has to make a dentist's appointment for either Thursday or Friday, either in the morning or the afternoon.



(9) **Write** in the missing words to complete this tree diagram to show all possible outcomes.



(10) How many possible outcomes are there? \_\_\_\_\_



The aim of this activity sheet is to work out all possible outcomes given an event using grids or tree diagrams. The **event** can be as simple as tossing a coin, where there are two possible **outcomes**, heads or tails.

#### Suggested HOME activity:

Create events that involve choices which your child can use grids or tree diagrams to name all possible outcomes.

*Example: You are allowed two jelly beans from this packet. List all the possible colours the jelly beans could be. i.e. red/black. red/white.*

Sign when completed: \_\_\_\_\_

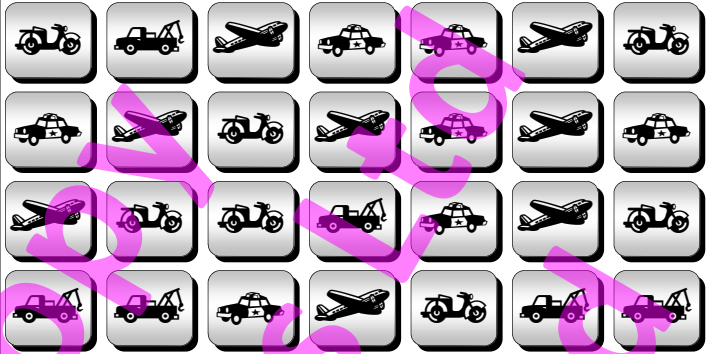
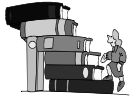
In Dylan's group there are 15 pupils.  
What **chance** or **probability** does he  
have of being group leader?



If there are 15 pupils in his group and only  
one of him, he has **1 chance in 15** of being  
group leader.

Written as **1 out of 15** or  $\frac{1}{15}$ .

These cards of vehicles are to be used  
for a game of memory.



- (1) If a coin is tossed in the air, what is the  
chance that it lands on heads?

\_\_\_\_\_ out of \_\_\_\_\_ or \_\_\_\_\_

- (2) Sam has been selling raffle tickets.  
If there are 100 tickets, what is the chance  
of winning first prize?

\_\_\_\_\_ out of \_\_\_\_\_ or \_\_\_\_\_

- (3) Karen has bought 10 tickets in a raffle.  
If there are 100 tickets, what is the chance  
of her winning a prize?

\_\_\_\_\_ out of \_\_\_\_\_ or \_\_\_\_\_

- (4) If you bought 2 tickets in a raffle and have  
a 1 out of 500 chance of winning a raffle,  
how many tickets are in the raffle?

- (5) If you roll a six sided die (dice),  
what is the chance that ...



... the number 3 comes up?

\_\_\_\_\_ out of \_\_\_\_\_ or \_\_\_\_\_

... a number 4, 5 or 6 comes up?

\_\_\_\_\_ out of \_\_\_\_\_ or \_\_\_\_\_

... the number 7 comes up?

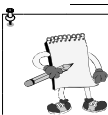
\_\_\_\_\_ out of \_\_\_\_\_ or \_\_\_\_\_

- (6) In a bag there are 40 marbles.  
If the chance of taking a blue  
marble out of the bag is  $\frac{1}{4}$   
how many blue marbles are in the bag?



If the chance of taking a black  
marble out of the bag is  $\frac{1}{5}$   
how many black marbles are in the bag?

- (7) How many plane cards  
are there? \_\_\_\_\_
- (8) How many police car cards  
are there? \_\_\_\_\_
- (9) How many motorcycle cards  
are there? \_\_\_\_\_
- (10) How many breakdown truck  
cards are there? \_\_\_\_\_
- (11) How many cards are  
there altogether? \_\_\_\_\_
- (12) What is the chance of turning over a police  
car card?  
\_\_\_\_\_ out of \_\_\_\_\_ or \_\_\_\_\_
- (13) What is the chance of turning over a plane  
card?  
\_\_\_\_\_ out of \_\_\_\_\_ or \_\_\_\_\_
- (14) What is the chance of turning over a  
breakdown truck card?  
\_\_\_\_\_ out of \_\_\_\_\_ or \_\_\_\_\_
- (15) Why do you have a greater chance of turning  
over a plane card than a motorcycle card?



The aim of this activity sheet is to investigate simple  
probability, working out the chance of something  
happening. Probability can be expressed as a fraction,  
such as  $\frac{1}{4}$ , which means one out of four.

#### Suggested HOME activity:

Create similar questions as on this activity sheet to reinforce simple  
probability.

Example: Place 5 red, 3 green and 2 white blocks in a bag.

Ask your child to select a particular coloured block and describe the  
chance of selecting that block ... 2 out of 10 chances (a white block).

Sign when  
completed: \_\_\_\_\_

# Curriculum Worksheet Answers

**1**

(1)	8	4	1						
	9		5	8	3		7		
	6		1		9		8		
		3	4			5	1	9	
		1		3	1	6		7	
	7	6	2	4			5		5
	7		1		4	1	5		
	3		9		7		7	2	1
	8		3	6	9	1			6
				7		4			1
					4	2	1	3	
		2	1	3	1			6	9
					8	4	5		7

- (2) sixty-seven  
(3) ninety-four  
(4) five hundred and eighty-six  
(5) two thousand and thirty-one  
(6) six thousand, seven hundred and two

**2**

(1)	7	3	.	5	3				
					6	9	2	.	8
					4				
					.				
		3	7	5	.	9			
					4				
				3	2	.	7	4	
2						2		7	
3	7			1	5	8	.	1	
9	0							2	
.	4		6	2	4	.	9		
5	2	.	7	7		5			
	6		.		8				
			2	7	.	4	0		
5	4	.	0	6	6				

- (2) seven point eight  
(3) six point zero three  
(4) seventy-four point nine  
(5) fifty-two point seven six  
(6) one hundred point two three  
(7) one thousand, five hundred and eighteen point nine  
(8) zero point five one three  
(9) seven point zero zero nine  
(10) zero point zero zero six

**3**

- (1)  $10 + 9 = 19$   
(2)  $20 + 8 = 28$   
(3)  $30 + 5 = 35$   
(4)  $50 + 8 = 58$   
(5)  $7 + 7 + 1 = 15$   
(6)  $8 + 8 + 1 = 17$   
(7)  $9 + 9 + 5 = 23$   
(8)  $20 + 20 + 7 = 47$   
(9)  $10 + 5 = 15$   
(10)  $20 + 5 = 25$   
(11)  $10 + 24 = 34$   
(12)  $60 + 7 = 67$   
(13)  $30 + 10 + 4 + 3 = 47$   
(14)  $40 + 20 + 5 + 4 = 69$   
(15)  $20 - 10 + 7 - 4 = 13$   
(16)  $50 + 20 + 9 - 6 = 33$   
(17)  $70 - 6 + 5 = 69$   
(18)  $30 - 6 + 2 = 26$   
(19)  $80 - 8 + 3 = 75$   
(20)  $50 - 5 + 4 = 49$   
(21)  $1 + 20 + 4 = 25$   
(22)  $2 + 30 + 5 = 37$   
(23)  $3 + 40 + 2 = 45$   
(24)  $1 + 50 + 7 = 58$   
(25)  $1 + 30 + 8 = 39$

**4**

- (1) 2 (14) 45  
(2) 22 (15) 5  
(3) 8 (16) 7  
(4) 7 (17) 7  
(5) 3 (18) 33  
(6) 62 (19) 6  
(7) 36 (20) 8  
(8) 3 (21) 7  
(9) 7 (22) 35  
(10) 41 (23) 8  
(11) 5 (24) 9  
(12) 6 (25) 9  
(13) 9

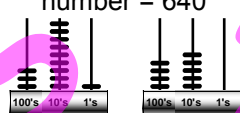
25	8	36	69
4	3	31	38
9	5	12	26
38	16	79	Total 133

- (27)  $9 + 27 = 36$   
(28)  $\$17 + \$8 = \$25$   
(29)  $\$9 + \$17 = \$26$   
(30)  $17 - 9 = 8$   
(31)  $\$16 - \$8 = \$8$

**5**

- (1) 76, 952, 1023, 15013  
(2) 0.487, 1.932, 8.7, 22.3, 183.4  
(3) 1.71, 1.72, 1.73, 1.74, 1.75, 1.79  
(4) 0.572, 1141.9, 63.01  
(5) 4395, 1115, 793, 234, 39  
(6) 1.29, 1.28, 1.27, 1.24, 1.23, 1.21  
(7) 1682, 0.169, 37.26  
(8) 3.71m  
(9) 3.37m  
(10) 3.71, 3.65, 3.52, 3.48, 3.37  
(11) 9.37kg  
(12) 18.32kg  
(13) 14.95kg  
(14) 9.37, 10.36, 14.95, 15.07, 18.32

**6**

- (1) 100's = 6  
10's = 4  
1's = 6  
number = 646  
(2) 100's = 3  
10's = 9  
1's = 4  
number = 394  
(3) 100's = 6  
10's = 4  
1's = 0  
number = 640  
(4)   
(5) 5 100's + 7 10's + 3 1's  
(6) 2 100's + 8 10's + 9 1's  
(7) 6 100's + 1 10's + 4 1's  
(8) 9 100's + 6 10's + 0 1's  
(9) 4 100's + 0 10's + 8 1's  
(10) 100's 200  
(11) 10's 70  
(12) 1's 3  
(13) 100's 500  
(14) 10's 10  
(15) 100's 600  
(16) 1's 8  
(17) 10's 90

**7**

- (1) \$50 (17) 300  
(2) \$90 (18) 800  
(3) \$90 (19) 200  
(4) \$60 (20) 400  
(5) \$130 (21) 200  
(6) \$360 (22) 800  
(7) \$490 (23) 300  
(8) \$920 (24) 600  
(9) \$360 (25) 700  
(10) \$880 (26) 800  
(11) \$410 (27) 500  
(12) \$750 (28) 300  
(13) \$200 (29) 800  
(14) \$650 (30) 900  
(15) \$750 (31) 800  
(16) \$1000 (32) 1000  
(33)  $\$40 + \$60 = \$100$   
(34)  $\$90 - \$70 = \$20$   
(35)  $\$80 + \$20 = \$100$   
(36)  $\$100 - \$50 = \$50$   
(37)  $\$400 + \$800 = \$1200$   
(38)  $\$700 - \$600 = \$100$   
(39)  $\$700 + \$700 = \$1400$

**8**

- (1) 4, 8, 12, 16, 20, 24, 28, 32, 36, 40  
(2) 16 is the same as  $4 \times 4 = 16$   
(3) 28 is the same as  $4 \times 7 = 28$   
(4) 20 is the same as  $4 \times 5 = 20$   
(5) 8 is the same as  $4 \times 2 = 8$   
(6) 32 is the same as  $4 \times 8 = 32$   
(7) 12 is the same as  $4 \times 3 = 12$   
(8) 36 is the same as  $4 \times 9 = 36$   
(9) 24 is the same as  $4 \times 6 = 24$   
(10) 40 is the same as  $4 \times 10 = 40$   
(11) 4 (21) 2  
(12) 16 (22) 8  
(13) 24 (23) 3  
(14) 36 (24) 7  
(15) 40 (25) 6  
(16) 20 (26) 4  
(17) 8 (27) 1  
(18) 28 (28) 5  
(19) 12 (29) 10  
(20) 32 (30) 9  
(31)  $\$4.00 \times 7 = \$28.00$   
(32)  $\$4.00 \times 9 = \$36.00$

# 9

- (1) **6, 12, 18, 24, 30, 36, 42, 48, 54, 60**
- (2) 24 is the same as  $6 \times 4 = 24$
- (3) 42 is the same as  $6 \times 7 = 42$
- (4) 30 is the same as  $6 \times 5 = 30$
- (5) 12 is the same as  $6 \times 2 = 12$
- (6) 48 is the same as  $6 \times 8 = 48$
- (7) 18 is the same as  $6 \times 3 = 18$
- (8) 54 is the same as  $6 \times 9 = 54$
- (9) 36 is the same as  $6 \times 6 = 36$
- (10) 60 is the same as  $6 \times 10 = 60$
- (11) 6 (21) 2
- (12) 24 (22) 8
- (13) 36 (23) 3
- (14) 54 (24) 7
- (15) 60 (25) 6
- (16) 30 (26) 4
- (17) 12 (27) 10
- (18) 42 (28) 5
- (19) 18 (29) 1
- (20) 48 (30) 9
- (31)  $\$6.00 \times 7 = \$42.00$
- (32)  $\$6.00 \times 10 = \$60.00$

# 10

- (1) 16 shapes  $\div 4 = 4$  groups
- (2) 24 shapes  $\div 4 = 6$  groups
- (3) 12 shapes  $\div 4 = 3$  groups
- (4) 20 shapes  $\div 4 = 5$  groups
- (5) 4 shapes  $\div 4 = 1$  group
- (6) 36 shapes  $\div 4 = 9$  groups
- (7) 8 shapes  $\div 4 = 2$  groups
- (8) 28 shapes  $\div 4 = 7$  groups
- (9) 40 shapes  $\div 4 = 10$  groups
- (10) 32 shapes  $\div 4 = 8$  groups
- (11) 18 squares  $\div 6 = 3$  groups
- (12) 36 squares  $\div 6 = 6$  groups
- (13) 54 squares  $\div 6 = 9$  groups
- (14) 24 squares  $\div 6 = 4$  groups
- (15) 42 squares  $\div 6 = 7$  groups
- (16) 12 squares  $\div 6 = 2$  groups
- (17) 60 squares  $\div 6 = 10$  groups
- (18) 48 squares  $\div 6 = 8$  groups
- (19) 6 squares  $\div 6 = 1$  group
- (20) 30 squares  $\div 6 = 5$  groups
- (21)  $\$28.00 \div 4 = \$7.00$
- (22)  $\$24.00 \div 6 = \$4.00$

# 11

- (1)  $(80 \times 3) + (5 \times 3) = 240 + 15 = 255$
- (2)  $(70 \times 5) + (4 \times 5) = 350 + 20 = 370$
- (3)  $(90 \times 2) + (3 \times 2) = 180 + 6 = 186$
- (4)  $(30 \times 6) + (8 \times 6) = 180 + 48 = 228$
- (5)  $(60 \times 4) + (7 \times 4) = 240 + 28 = 268$
- (6)  $(400 \times 2) - (3 \times 2) = 800 - 6 = 794$
- (7)  $(300 \times 4) - (9 \times 4) = 1200 - 36 = 1164$
- (8)  $(600 \times 6) - (6 \times 6) = 3600 - 36 = 3564$
- (9)  $(800 \times 3) + (7 \times 3) = 2400 + 21 = 2421$
- (10)  $(900 \times 5) + (3 \times 5) = 4500 + 15 = 4515$
- (11)  $6 \times 8 = 48$
- (12)  $6 \times 10 = 60$
- (13)  $8 \times 8 = 64$
- (14)  $9 \times 6 = 54$
- (15)  $10 \times 8 = 80$
- (16) 186 (19) 430
- (17) 261 (20) 485
- (18) 260 (21) 414

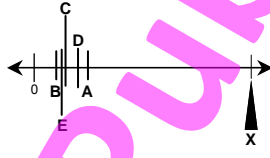
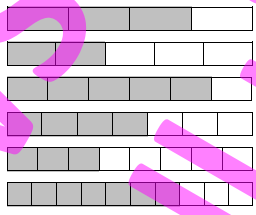
# 12

- (1)  $(30 \div 3) + (21 \div 3) = 10 + 7 = 17$
- (2)  $(50 \div 5) + (25 \div 5) = 10 + 5 = 15$
- (3)  $(60 \div 6) + (36 \div 6) = 10 + 6 = 16$
- (4)  $(40 \div 4) + (36 \div 4) = 10 + 9 = 19$
- (5)  $(60 \div 6) + (42 \div 6) = 10 + 7 = 17$
- (6)  $(400 \div 2) - (2 \div 2) = 200 - 1 = 199$
- (7)  $(500 \div 5) - (25 \div 5) = 100 - 5 = 95$
- (8)  $(600 \div 6) - (12 \div 6) = 100 - 2 = 98$
- (9)  $(800 \div 4) + (24 \div 4) = 200 + 6 = 206$
- (10)  $(600 \div 3) + (18 \div 3) = 200 + 6 = 206$
- (11)  $60 \div 6 = 30 \div 3 = 10$
- (12)  $48 \div 8 = 24 \div 4 = 6$
- (13)  $340 \div 20 = 170 \div 10 = 17$
- (14)  $144 \div 12 = 72 \div 6 = 36 \div 3 = 12$
- (15)  $224 \div 16 = 112 \div 8 = 56 \div 4 = 14$
- (16) 39 (21) 179
- (17) 28 (22) 254
- (18) 19 (23) 156
- (19) 19 (24) 137
- (20) 16 (25) 74

# 13

- (1) one half (2) **1** out of **2**
- (3)  $\frac{1}{3}$  (4) **1** out of **3**
- (5) one quarter (6)  $\frac{1}{4}$
- (7)  $\frac{1}{5}$  (8) **1** out of **5**
- (9) one sixth (10)  $\frac{1}{6}$
- (11) one tenth (12) **1** out of **10**
- (13)  $\frac{2}{6}$  or  $\frac{1}{3}$
- (14)  $\frac{1}{5}$
- (15)  $\frac{1}{10}$
- (16)  $\frac{1}{6}$
- (17)  $\frac{1}{4}$
- (18) Shade in any 3
- (19) Shade in any 2
- (20) Shade in any 3
- (21) 7 (as  $3 \times 7 = 21$ )
- (22) 7 (as  $5 \times 7 = 35$ )
- (23) 6 (as  $6 \times 6 = 36$ )
- (24) 5 (as  $4 \times 5 = 20$ )
- (25) 10 (as  $5 \times 10 = 50$ )
- (26) 7 (as  $42 \div 6 = 7$ )
- (27) 9 (as  $45 \div 5 = 9$ )
- (28) 12 (as  $120 \div 10 = 12$ )
- (29) 9 (as  $27 \div 3 = 9$ )
- (30) 12 (as  $48 \div 4 = 12$ )
- (31)  $\$60.00 \div 4 = \$15.00$
- (32)  $\$45.00 \div 5 = \$9.00$
- (33)  $\$300.00 \div 6 = \$50.00$

# 14

- (1)  $\frac{1}{10}, \frac{1}{9}, \frac{1}{8}, \frac{1}{7}, \frac{1}{6}, \frac{1}{5}, \frac{1}{4}, \frac{1}{3}$
- (2) 
- (3)  $\frac{1}{2}, \frac{2}{3}, \frac{2}{4}, \frac{4}{5}, \frac{3}{6}, \frac{5}{7}, \frac{3}{8}, \frac{4}{9}, \frac{5}{10}$
- (4) 
- (5) 8 blocks
- (6) 12 blocks
- (7) 12 blocks
- (8) 20 blocks
- (9) 35 blocks

# 15

- (1)  $a = 18$  (11)  $k = 3$
- (2)  $b = 14$  (12)  $m = 6$
- (3)  $c = 8$  (13)  $n = 3$
- (4)  $d = 19$  (14)  $p = 2$
- (5)  $e = 36$  (15)  $q = 800$
- (6)  $f = 79$  (16)  $r = 6$
- (7)  $g = 76$  (17)  $s = 4$
- (8)  $h = 35$  (18)  $t = 400$
- (9)  $i = 27$  (19)  $u = 4$
- (10)  $j = 84$  (20)  $v = 4$
- (21)  $\$32.00$
- (22)  $\$53.00$
- (23)  $\$13.00$
- (24)  $\$9.00$
- (25)  $\$9.00$
- (26) 14 chairs
- (27) 27 pages

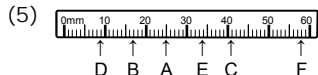
# 16

- (1) yes (5) no
- (2) no (6) yes
- (3) no (7) yes
- (4) yes (8) yes
- (9) kilometre
- (10) centimetre
- (11) millimetre
- (12) metre
- (13) 1000 (25) 1
- (14) 7000 (26) 6
- (15) 9300 (27) 4.5
- (16) 5 (28) 70
- (17) 8 (29) 50
- (18) 2.8 (30) 69
- (19) 100 (31) 1
- (20) 600 (32) 7
- (21) 570 (33) 9.1
- (22) 8 (34) 8000
- (23) 9 (35) 6000
- (24) 7.2 (36) 2700



17

- (1) millimetres  
(2) A = 3mm  
B = 17mm  
C = 21mm  
D = 12mm  
E = 8mm  
F = 28mm  
(3) centimetres  
(4) G = 3.5cm  
H = 0.8cm  
I = 1.9cm  
J = 2.6cm  
K = 5.8cm  
L = 4.3cm



- (5) 48mm is the same as 4.8cm  
(7) Line AB = 20mm  
Line CD = 30mm  
Line EF = 59mm  
Line GH = 38mm  
Line IJ = 48mm  
All the above answers could be  $\pm 1$  mm  
(8) Draw a 55mm line

18

- (1) no (5) yes  
(2) no (6) no  
(3) no (7) yes  
(4) no (8) yes  
(9) tonne  
(10) milligram  
(11) gram  
(12) kilogram  
(13) 1000 (17) 2  
(14) 5000 (18) 9  
(15) 7000 (19) 4  
(16) 8300 (20) 2.3  
(21) 1 (25) 5000  
(22) 6 (26) 3000  
(23) 8 (27) 9000  
(24) 3.4 (28) 4700  
(29) 1 (33) 3000  
(30) 9 (34) 8000  
(31) 3 (35) 5000  
(32) 7.6 (36) 2100

19

- (1) yes (5) yes  
(2) no (6) yes  
(3) no (7) no  
(4) yes (8) no  
(9) litre  
(10) millilitre  
(11) millilitre  
(12) kilolitre  
(13) 1000 (17) 5  
(14) 4000 (18) 4  
(15) 7000 (19) 9  
(16) 9300 (20) 6.3  
(21) 1 (25) 4000  
(22) 3 (26) 7000  
(23) 6 (27) 9000  
(24) 3.4 (28) 2600  
(29) 2.5L  
(30) 1200mL  
(31) 150kL

20

- (1) thermometer  
(2) L = 15°C  
M = 11°C  
N = 18.5°C  
O = -1°C  
P = 3.5°C  
(3)   
(4) 18°C  
(5) 17°C  
(6) 6°C  
(7) 13°C  
(8) 23°C  
(9) 23°C  
(10) 43°C

21

- (1) 7:20  
20 past 7  
(2) 1:30  
1/2 past 1  
(3) 11:35  
25 to 12  
(4) 8:25  
25 past 8  
(5) 3:45  
1/4 to 4  
(6) 6:50  
10 to 7  
(7) 10 past 7  
(8) 1/4 past 11  
(9) 20 past 12  
(10) 5 past 12  
(11) 10 to 8  
(12) 4:50  
(13)

22

- (1) 21 days  
(2) 300 seconds  
(3) 24 months  
(4) 240 hours  
(5) 104 weeks  
(6) 72 hours  
(7) 365 days  
(8) 366 days  
(9) 180 minutes  
(10) 35 days  
(11) 96 hours  
(12) 60 months  
(13) 3 weeks  
(14) 2 days  
(15) 3 years  
(16) 5:30 p.m.  
(17) 7:00 a.m.  
(18) 2:30 p.m.  
(19) 7:45 a.m.  
(20) 12:10 p.m.  
(21) 6:35 p.m.  
(22) 38 minutes  
(23) 35 minutes  
(24)

Place	Time
Start: Home	11:42 a.m.
Conway Street	11:54 a.m.
Ward Street	12:15 p.m.
Fairview Street	12:30 p.m.
Finish: Home	12:39 p.m.

23

- (1) 20c  
\$2.00  
10c, 50c, \$1.00  
(2) 

Front of note	Back of note	Value of note	Colour
A	F	\$10.00	Blue
B	D	\$5.00	Orange
C	E	\$20.00	Green

  
There may be more than one way of making up these money amounts, the following are some possible options.  
(3) 1x \$1, 2x 20c  
(4) 1x \$2, 1x 50c, 1x 20c  
(5) 1x \$5, 1x \$2, 1x \$1, 1x 50c, 2x 20c  
(6) 1x \$10, 1x \$2, 1x 50c  
(7) 1x \$20, 1x \$5, 1x \$2, 1x 20c, 1x 10c  
(8) 2x \$20, 1x \$2, 1x 50c, 1x 20c, 1x 10c  
(9) 2x \$20, 1x \$10, 1x 10c  
(10) 3x \$20, 1x \$10, 1x 50c, 1x 10c  
(11) 3x \$20, 1x \$5, 2x \$2, 1x 50c, 1x 20c, 1x 10c  
(12) 4x \$20, 1x \$10, 1x \$2, 1x \$1, 1x 20c, 1x 10c

24

- (1) \$5.90 + \$4.10 = \$10.00  
2x \$2, 1x 10c  
(2) \$3.60 + \$6.40 = \$10.00  
1x \$5, 1x \$1, 2x 20c  
(3) \$0.60 + \$9.40 = \$10.00  
1x \$5, 2x \$2, 2x 20c  
(4) \$25.00 - \$3.30 = \$21.70  
1x \$2, 1x \$1, 1x 20c, 1x 10c  
(5) \$20.00 - \$18.20 = \$1.80  
1x \$10, 1x \$5, 1x \$2, 1x \$1, 1x 20c  
(6) \$20.00 - \$7.60 = \$12.40  
1x \$5, 1x \$2, 1x 50c, 1x 10c  
(7) \$2.50 x 3 = \$7.50  
1x \$5, 1x \$2, 1x 50c  
(8) \$7.30 x 2 = \$14.60  
1x \$10, 2x \$2, 1x 50c, 1x 10c  
(9) \$1.90 x 3 = \$5.70  
1x \$5, 1x 50c, 1x 20c  
(10) \$4.60 x 4 = \$18.40  
1x \$10, 1x \$5, 1x \$2, 1x \$1, 2x 20c



**25**

Please Note: due to estimating some squares, your answers may vary by one or two.

- (1) 20 square units
- (2) 24 square units
- (3) 23 square units
- (4) 27 square units
- (5) 25 square units
- (6) 24 square units
- (7) 21 square units
- (8) 17 square units
- (9) Any shape made up of 18 squares
- (10) 1 row = 11 squares  
Area = 4 rows of 11 = 44 sq units
- (11) 1 row = 6 squares  
Area = 7 rows of 6 = 42 sq units

**26**

- (1) 7
- (2) 14
- (3) 12
- (4) 16
- (5) 16
- (6) 17
- (7) 18
- (8) 9
- (9) 3
- (10) 27
- (11) 100
- (12) to No answers supplied
- (16)

**27**

- (1) circle, triangle, square, octagon, rectangle, oval, hexagon, pentagon, diamond (rhombus)
- (2) (own picture)
- (3) 8 corners, 8 sides, all sides are straight lines and look the same length - this shape is an octagon.
- (4) 5 corners, 5 sides, all sides are straight lines and look the same length - this shape is a pentagon.
- (5) 6 corners, 6 sides, all sides are straight lines and look the same length - this shape is a hexagon.
- (6) A and B have 4 sides and 4 corners. All sides are equal length. All angles in A are equal but not in B, although opposite angles in B are equal.

**28**

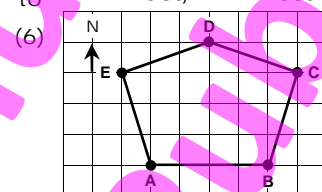
- (1) A = sphere  
B = cube  
C = rectangular box  
D = cylinder  
E = cone
- (2) No answers supplied
- (3) Own drawings

**29**

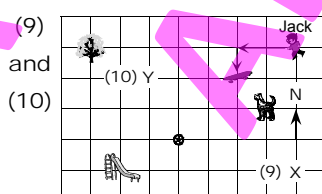
- (1) circle
- (2) rectangle
- (3) circle
- (4) square
- (5) triangle
- (6) oval
- (7) triangle
- (8) 8 corners, 12 edges, 6 faces, all faces are squares of the same size - this object is a cube.
- (9) 8 corners, 12 edges, 6 faces. Opposite faces are the same size. All faces are either shaped like squares or rectangles - this object is a rectangular box.
- (10) Top and bottom of this object are the shape of a circle, both the same size, a curved face between the two circles. Two edges but no corners - this object is a cylinder.

**30**













(1) N = North, S = South  
to E = East, W = West



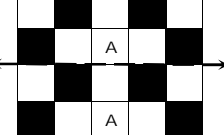
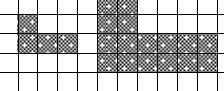
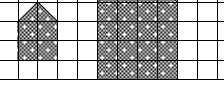
- (7) pentagon
- (8) 5 metres west then 1 metre north, 4 metres south then 1 metre east, 5 metres east then 2 metres north, 3 metres west then 1 metre south




**31**

- (1)  $\frac{1}{2}$  turn
- (2)  $\frac{1}{4}$  turn clockwise
- (3)  (4) 
- (5)   $\frac{1}{4}$  turn clockwise
- (6)   $\frac{1}{4}$  turn anti-clockwise
- (7)   $\frac{1}{2}$  turn
- (8)   $\frac{1}{4}$  turn anti-clockwise
- (9)  (11) 
- (10)  (12) 
- (13)  (15) 
- (14)  (16) 
- (17) Own design

**32**

- (1) yes
- (2) no
- (3) no
- (4) (2) rotation  
(3) reflection
- (5) 
- (6) Own design
- (7) 
- (8) 
- (9) Own enlargement

**33**

(1) 

to

(2)

(3) They are all birds that can fly

(4) Own answers

(5) No answer supplied

(6) They are both cheese

(7) They are all cakes

(8) Own answers

(9) No answer supplied

**34**

(1) 23

(2) 17

(3) 32

(4) 18

(5) 90

(6)

Items	Tally	Total
		10
	I	6
	I	11
	I	6
		9

(7) 42

(8)

# of red jelly beans	Tally	Total
2		5
3		9
4	I	6
5	II	7
6		3
		<b>30</b>

(9) 6

(10) 5

(11) 3

(12) 6

(13) 0

(14) 30

**35**

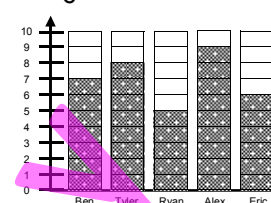
(1) 9

(2) 7

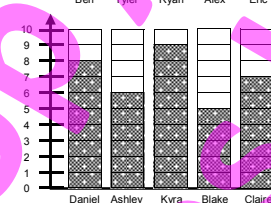
(3) Ryan

(4) 6

(5)



(6)



(7) Kyra

(8) Ashley

(9) 35

(10) 24

(11) grapes

(12) apples

(13) pears

(14) 86

(15)

James:

Mark:

Steven:

**36**

(1) 13, 25, 27, 30, 34, 32, 41

(2) 41

(3) 8

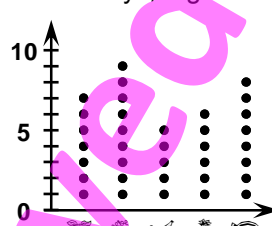
(4) 250

(5)

3	9, 5
4	3, 9, 5, 4
5	1, 6, 0, 3
6	7, 0

(6) 18 boys, 8 girls

(7)



**37**

There may be more than one possible answer to these exercises, the following are some possible examples to use.

(1) Collect data by asking each classmate either verbally or written, how they travel to school. Record and organise the data in a tally chart or dot plot

(2) column graph  
pictogram  
dot plot

(3) Own answer

(4) Own answer

(5) Own answer

(6)

- 65 people surveyed,
- most people want to buy more library books,
- the least amount of people want to buy new sports uniforms,
- the second most important thing to buy is more playground equipment.

**38**

(1) maybe

(2) sometimes

(3) might

(4) yes

(5) always

(6) will

(7) no

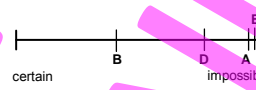
(8) never

(9) won't

(10) Because there are less black balls in the bag than other colours

(11) white

(12)



**39**

(1) Sarah would go and see a horror movie on Saturday.

(2) 6

(3) 8

(4)

	A	O	P	B
SW	SW/A	SW/O	SW/P	SW/B
SR	SR/A	SR/O	SR/P	SR/B

(5) salad roll and orange

(6) SW/A, SW/O, SW/P, SW/B, SR/A, SR/O, SR/P, SR/B

(7) 8

(8) milo/sugar,  
milo/no sugar,  
hot chocolate/sugar,  
hot chocolate/no sugar

(9)

```

Thursday < { morning
              { afternoon
Friday    < { morning
              { afternoon
  
```

(10) 4 outcomes

**40**

(1) 1 out of 2 or  $\frac{1}{2}$

(2) 1 out of 100 or  $\frac{1}{100}$

(3) 10 out of 100 or  $\frac{10}{100}$  or  $\frac{1}{10}$

(4) 1000 tickets

(5) 1 out of 6 or  $\frac{1}{6}$   
3 out of 6 or  $\frac{3}{6}$  or  $\frac{1}{2}$   
0 out of 6 or  $\frac{0}{6}$

(6) 10 out of 40  
8 out of 40

(7) 8

(8) 7

(9) 7

(10) 6

(11) 28

(12) 7 out of 28 or  $\frac{7}{28}$  or  $\frac{1}{4}$

(13) 8 out of 28 or  $\frac{8}{28}$  or  $\frac{2}{7}$

(14) 6 out of 28 or  $\frac{6}{28}$  or  $\frac{3}{14}$

(15) Because there are more plane cards than motorcycle cards