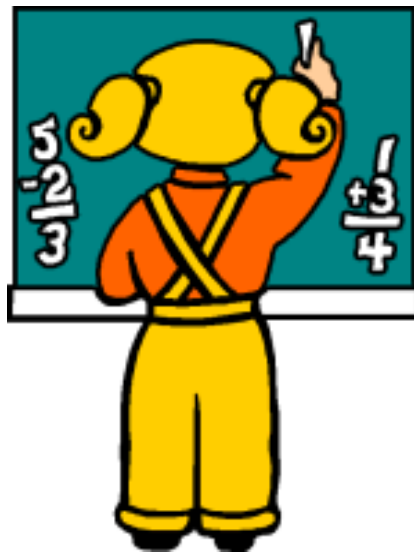


# Year 3

## Mathematics Benchmark Test

Semester One



Name: \_\_\_\_\_

Date: \_\_\_\_\_

School: Kirwan State School

*In a comprehensive assessment program a teacher would require further evidence from all elements when deciding on a 'standard' for a student.*



4. Arrange the following numbers in ascending order.

a) 47, 124, 74, 189. \_\_\_\_\_

b) 55, 15, 150, 501. \_\_\_\_\_

5. Arrange the following numbers in descending order.

a) 67, 16, 160, 600. \_\_\_\_\_

b) 154, 327, 892, 530. \_\_\_\_\_

6. Complete the table below.

You can show an MAB 100 by drawing  MAB 10 by  and MAB 1's by

Number	Word	Draw or SHOW MAB H, T, O.	Place Value
Eg. 357	Three hundred and fifty-seven		3 hundreds + 5 tens+ 7 ones
145			
	Two hundred and sixty-one		
			4 hundreds + 2 tens + 0 ones

7. Use these three digits 3, 4, 1 to make:

a) the largest 3 digit number

b) the smallest 3-digit number

c) an even number

d) an odd number

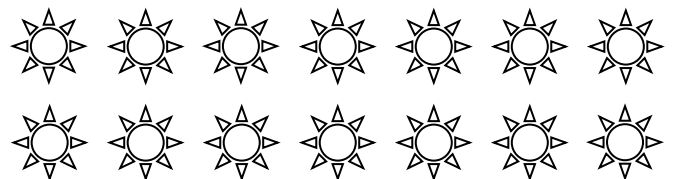
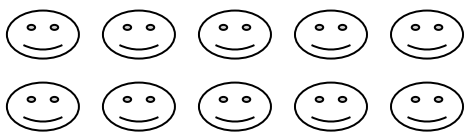
8. DRAW the value of the number underlined in column 1 and then write the value of that number in words.

You can show an MAB 100 by drawing  MAB 10 by  and MAB 1's by

Column 1 Number	DRAW MAB's to show the VALUE of the underlined number in column 1	WRITE the VALUE of the underlined number in words
2 <u>5</u> 7		
60 <u>8</u>		
<u>4</u> 73		

Simple Fractions, including half and quarters, and mixed numbers can be represented in different ways

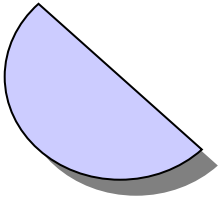
9. Divide each group into HALVES



is HALF of  10

is HALF of  14

10. What fraction of the circle can you see? Colour ONE correct bubble.



One quarter

One half

One whole

Addition and subtraction involving one and two digit whole numbers can be calculated using concrete materials, mental computation and written strategies.

Problems involving operations can be explored using concrete materials, sketches and diagrams.

1. Solve these problems.

$$\begin{array}{r} \text{H T O} \\ 5 \ 1 \ 3 \\ + \ 1 \ 8 \ 6 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T O} \\ 1 \ 3 \ 4 \\ + \ \ \ 5 \ 8 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T O} \\ 8 \ 8 \ 8 \\ - \ 6 \ 4 \ 5 \\ \hline \end{array}$$

$$\begin{array}{r} \text{H T O} \\ 3 \ 7 \ 3 \\ - \ \ \ 5 \ 8 \\ \hline \end{array}$$

2. Read these number stories. Write a number sentence for each and solve.

*Materials: Up to 20 concrete objects, calculator, number line or number chart. Students need to have an understanding of the problem solving concept – SEE, PLAN, DO, CHECK.*

a) At one bus stop, 24 people got on the bus. At another bus stop, 16 people got on. How many people got on the bus altogether?

Number Sentence:

---

Show your working out.

How many people got on the bus altogether? \_\_\_\_\_

b) Bill had 47 flowers in his garden. He picked 23 of them. How many flowers are left in the garden?

Number Sentence:

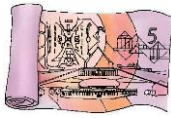
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Show your working out.

How many people got on the bus altogether? \_\_\_\_\_

Money can be used to buy goods and services (e.g. money to buy food and pay for a bus ticket)

1. I have



in my wallet.

The advertised price for this toy



is \$7.50

- How much money do I have in my wallet? \_\_\_\_\_
- Do I have enough money to buy the toy? \_\_\_\_\_
- If I handed over all of my money, would I receive any change? \_\_\_\_\_
- How much would it be? \_\_\_\_\_

Transactions for goods and services can use different combinations of notes and coins of equivalent value

2. Colour ONE BUBBLE for the total value of these coins.



\$5.95

\$6.45

\$6.55

\$6.95

# PATTERNS & ALGEBRA

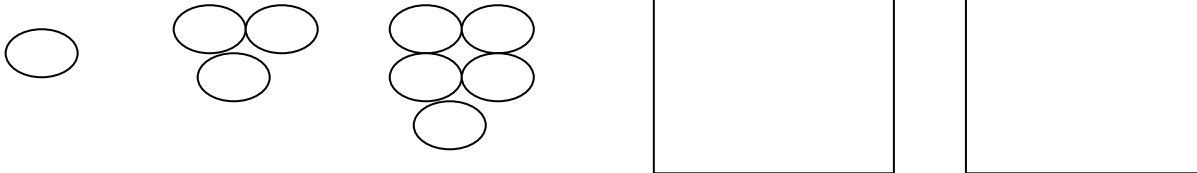
Simple relationships between objects or numbers, including equivalence, can be represented using concrete and pictorial materials (e.g.  $14 + 8$  can be changed to  $12 + 10$  without affecting the equivalence of number expressions such as  $5 + 6$  and  $3 + 4 + 4$ ).

Number patterns and sequences based on simple rules involve repetition, order and regular increases or decreases (e.g. identify and continue the pattern in 2, 5, 8, 11...)

1. Continue this pattern.



2. Continue this growing pattern. Then make it a number pattern underneath.



\_\_\_\_\_

## Measurement

Hour, half-hour and quarter-hour times and five-minute intervals are read using analogue clocks and all times are read using digital clocks

1. Draw these times on the clock faces:

a) half past 7

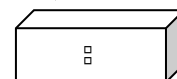
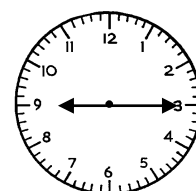
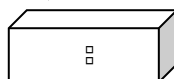
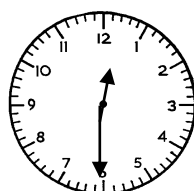
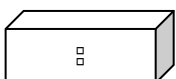
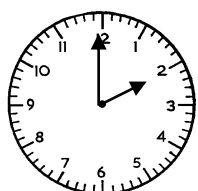
b) quarter past 10

c) half past 4

d) quarter past 2

□ □	□ □	□ □	□ □

2. Show this analogue time on a digital clock:



3. What would most likely happen at the following times? Colour the correct bubble.

3:00	7:15	12:30
<input type="radio"/> have lunch <input type="radio"/> finish school <input type="radio"/> go to bed	<input type="radio"/> eat breakfast <input type="radio"/> finish school <input type="radio"/> have lunch	<input type="radio"/> have lunch <input type="radio"/> start school <input type="radio"/> finish school

Calendars can be used to identify specific information about days and dates (e.g identify the dates of every Tuesday in a month; identify the date that is a week later or earlier than a given date.

4. Look at the calendar below, and then use the information to complete the questions below.

MAY						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
						1
2	3	4	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29
30	31					

- a. Circle the first and the last day of the month.
- b. List the days these are on - \_\_\_\_\_ & \_\_\_\_\_
- c. Put a tick (✓) on all the Wednesdays
- d. Write the date for the first Monday in the month.
- e. What date would be 5 days after the 17<sup>th</sup> May? \_\_\_\_\_

5. Complete the number of days in each month.

Number of Days (in a normal year)	July _____	May _____	February _____	September _____
-----------------------------------	---------------	--------------	-------------------	--------------------

Write the names of the other months in the year

\_\_\_\_\_

\_\_\_\_\_









Standard units, including centimetre, metre, kilogram (half & quarter) and litre (half & quarter), and non-standard units of measurement can be used to measure attributes of shapes and objects (e.g. centimetres and hand span may both be used to measure the length of a desktop.)

6.





Colour the bubble that you MOST LIKELY would measure in metres?	Colour the bubble that has the LARGEST AREA?	Colour the bubble beside the item that has the LEAST VOLUME?	Which item has a mass of MORE THAN 1KG?
<input type="radio"/> A cat <input type="radio"/> A fence <input type="radio"/> A ball <input type="radio"/> A pot plant	<input type="radio"/> A computer screen <input type="radio"/> A tennis court <input type="radio"/> A towel <input type="radio"/> A gate	<input type="radio"/> A lunch box <input type="radio"/> A wheelie bin <input type="radio"/> A teaspoon <input type="radio"/> A pool	<input type="radio"/> A coin <input type="radio"/> An elephant <input type="radio"/> An ant <input type="radio"/> A glue stick

7. Match the correct unit of measure to each picture. You can write the abbreviation if you like.

CENTIMETRES (CM), METRES (M), KILOGRAMS (KG) OR LITRES (L)					
					
Volume of Carton of Milk	Length of Pencils	Height of Tree	Mass of Bowl of Fruit	Height of House	Length of Car

Measurements of length, area, volume and mass of shapes and objects are compared and ordered, using instruments.)

8. Number the boxes in order to show how much these containers hold from least to most.

			
Cup	Spoon	Pool	Jug

9. Using your ruler, measure the LENGTH of these objects.



\_\_\_\_\_ centimetres



\_\_\_\_\_ centimetres

## Chance & Data

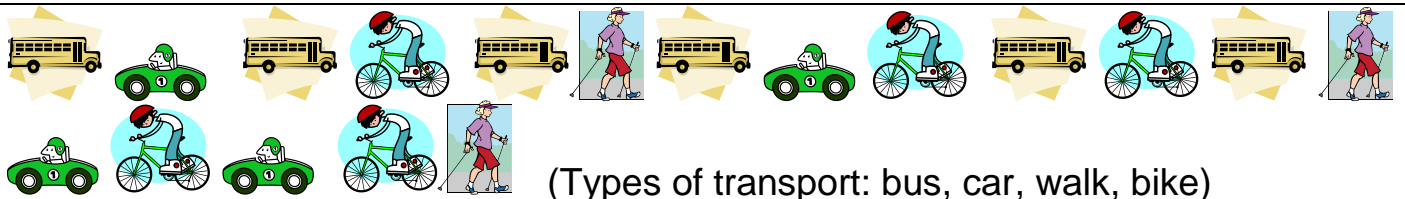
Predictions about chance events can be made using simple statements (e.g. it is likely/ unlikely that this will happen)

1. What is the likelihood of.....(circle the correct word)

...it raining inside your classroom	Likely	Unlikely	impossible
... you eating something today	Likely	Unlikely	impossible
...you finding money on the ground today	Likely	Unlikely	impossible

Data can be collected using simple surveys and observations to respond to question.

Data can be organised in lists, tables, picture graphs and bar graphs (e.g. construct a bar graph of distribution of eye colour of students in the calls)



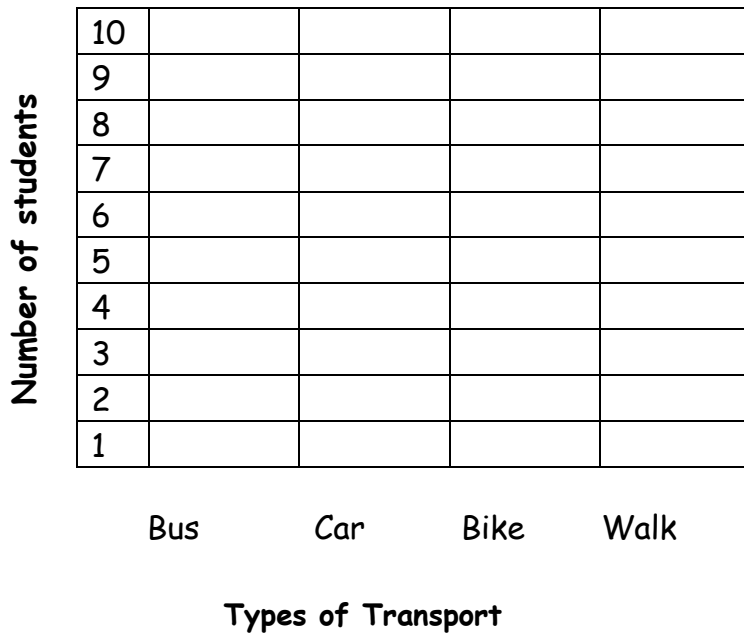
(Types of transport: bus, car, walk, bike)

2. Represent the information above on the survey chart below using tally marks.

Type of Transport	Tally	Total

3. Complete this bar graph by using the ABOVE information.

**Transport to School by Year 3 students**



4. . Answer these Questions  
 a. How many students travel by car? \_\_\_\_\_

b. How many more students travelled by bus than walk?  
 \_\_\_\_\_


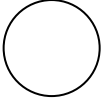


c. How many students were surveyed altogether?  
 \_\_\_\_\_

d. What was the least favourite type of travel to school?  
 \_\_\_\_\_

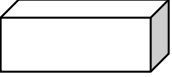
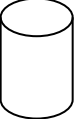

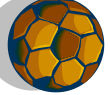
## SPACE

Geometric names and properties are used to sort, describe and construct common 2D shapes, including squares, rectangles, triangles and circles, and 3D objects, including prisms, pyramids, cones, cylinders and spheres. E.g 3D objects can be created using modelling material; pinwheels, paper planes and flowers can be created by folding and cutting paper.

1. Complete the table

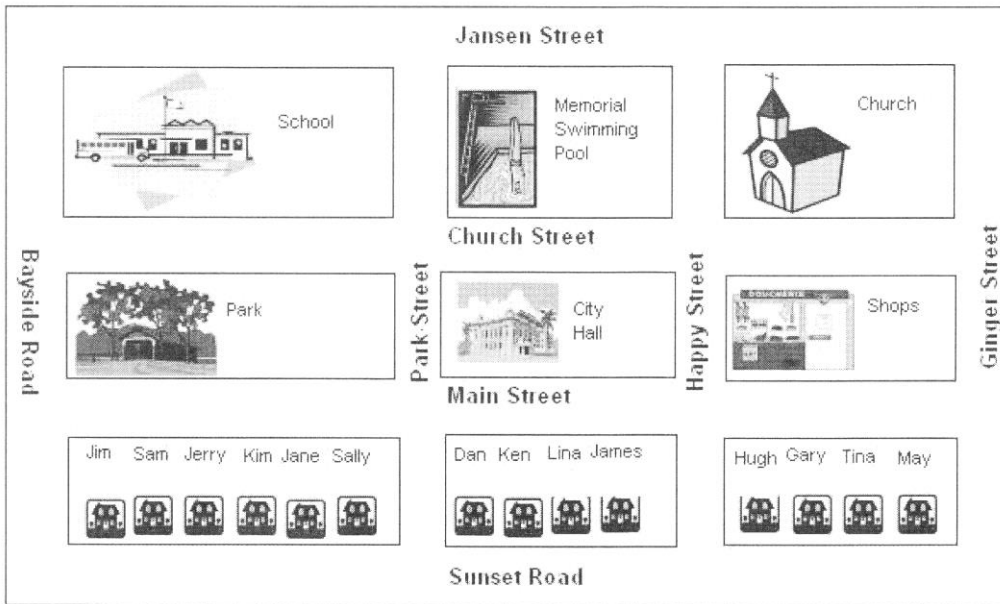
Shape	Name of Shape	No. of Sides	No. of square corners
			
			
			
			

2. Complete the table. Choose from the following shape names:  
 PYRAMID, TRIANGULAR PRISM, CUBE, SPHERE, RECTANGULAR  
 PRISM, CONE, CYLINDER.

Shape	Name of Shape	No. of EDGES	No. of FACES	Flat surfaces or Curved surfaces or both	Does it roll? (Yes or No)
					
					
					
					

Obvious features in everyday environments can be represented and located on simple maps and plans e.g. construct a map of a simple obstacle course around the school grounds.

13. Look at the map. Answer the questions below.



a) Follow the directions. Track your path with pencil.




Start at Jim's house.  
Walk to the right along Main Street.  
Turn left and then take the first turn right.

What street are you in? \_\_\_\_\_

b) Write some instructions for Gary to walk from his house in Main Street to the school.

Directions can be given for moving and for locating features within an environment (eg instruction to move a half, full, quarter and/or three-quarter turn.)

4. Use the grid to answer the questions below

4				
3			 Start here.	
2				 robot
1	 bat			
	A	B	C	D

a) At grid reference D2 you will find? \_\_\_\_\_

b) At grid reference A1 there is a bat?  
TRUE or FALSE

c) Start at the child (C3) and follow these instructions.  
Go up 1 grid  
Turn left and move 2 grids  
Go down 2 grids

What is the grid reference? \_\_\_\_\_

MENTAL COMPUTATIONS (Question 30 – Number)

**Questions** Addition

1.  $1 + 64 =$
2.  $6 + 8 =$
3.  $37 + 0 =$
4.  $28 + 9 =$
5. Double 24 =
6.  $72 + 2 =$
7.  $16 + 24 =$
8.  $17 + 17 =$
9.  $34 + 8 =$
10.  $89 + 3 =$

**Questions** Inverse Relations

11.  $58 - 1 =$
12.  $16 - 7 =$
13.  $40 - 0 =$
14.  $77 - 9 =$
15.  $32 - 16 =$
16.  $31 - 2 =$
17.  $30 - 12 =$
18. Half of 38 =
19.  $34 - 6 =$
20.  $49 - 3 =$

MENTAL COMPUTATIONS (Question 31 – Number)

**Questions**

1.  $3 \times 4 =$
2.  $5 \times 6 =$
3.  $4 \times 1 =$
4.  $9 \times 2 =$
5.  $7 \times 1 =$
6.  $2 \times 10 =$
7.  $1 \times 8 =$
8.  $4 \times 2 =$
9.  $0 \times 5 =$
10.  $5 \times 1 =$

MENTAL COMPUTATIONS (Question 30 – Number)

For use by teacher only. Do not copy for students.

**Questions Addition**

1. **1 + 64** (Count on 1)
2. **6 + 8** (Near Doubles)
3. **37 + 0** (Zero Facts)
4. **28 + 9** (Use 10)
5. **Double 24** (Doubles)
6. **72 + 2** (Count on 2)
7. **16 + 24** (Rainbow Facts)
8. **17 + 17** (Doubles)
9. **34 + 8** (Use 10)
10. **89 + 3** (Count on 3 - Trade)

**Questions Inverse Relations**

11. **58 – 1** (Count back 1)
12. **16 - 7** (Near doubles)
13. **40 – 0** (Zero Facts)
14. **77 – 9** (Use 10)
15. **32 – 16** (Doubles)
16. **31 - 2** (Count back 2 -trade)
17. **30 – 12** (Rainbow Facts)
18. **Half of 38** (Doubles)
19. **34 – 6** (Use 10)
20. **49 – 3** (Count back 3)

MENTAL COMPUTATIONS (Question 31 – Number)

For use by teacher only. Do not copy for students.

**Questions**

1. **3 x 4**
2. **5 x 6**
3. **4 x 1**
4. **9 x 2**
5. **7 x 1**
6. **2 x 10**
7. **1 x 8**
8. **4 x 2**
9. **0 x 5**
10. **5 x 1**