St Ninian's High School

Mathematics Department
Curriculum for Excellence
N4 Numeracy
TJ Lifeskills Book
Pupil Learning Log

- **I understand this part of the course =** 👍
- **I am unsure of this part of the course =** ✋
- **I do not understand this part of the course =** 👎

Name_____   Class_____   Teacher_____

Topic 1 - Whole Numbers (Chapter 1)

	👍	✋	👎

1. **Rounding to nearest Whole Number**

   5.7   →   6

2. **Rounding to nearest 10, 100 and 1000**

   99144   →   99000

3. **Significant Figures & Estimating**

   3600   →   4000 to 1 sig, fig.
   3469   →   3470 to 3 sig, fig

4. **Multiplication / Divide 10, 100 and 1000**

   Example : Multiply 36 by 10, 100, 1000.
   36 x 10 = 360   36 x 100 = 3600   36 x 1000 = 36000

   Example : Divide 54000 by 10, 100, 1000.
   54000 ÷ 10 = 5400   54000 ÷ 100 = 540
   54000 ÷ 1000 = 54

5. **Multiplication / Divide 20, 300 and 7000**

   Step 1 : 44 x 10 = 440
   Step 2 : 440 x 3 = 1320

   120000 ÷ 1000 ÷ 6

   Step 1 : 120000 ÷ 1000 = 120

   Step 2 :

		2	0
6	1	2	0

Pupil comment _____

Topic 2 – Decimal Numbers (Chapter 2)

	👍	✋	👎
1			
2			
3			
4			

1. **What is a decimal ?**

= 1.31

2. **Decimal scales**

Litres 2
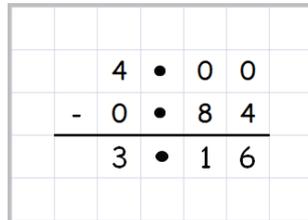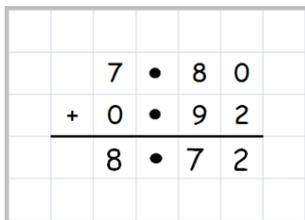
1

0

0.8 litres

1 ÷ 5 = 0.2

going up 0.2 each time
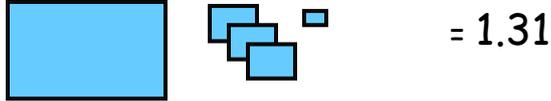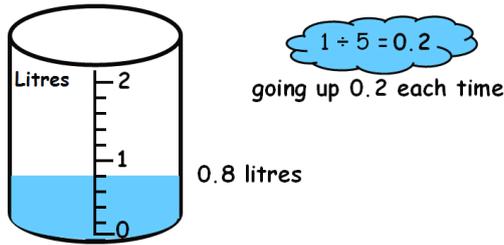
3. **Rounding**

1 decimal place look at 2ⁿᵈ decimal figure   e.g. 2.4<u>6</u>

2 decimal place look at 3ʳᵈ decimal figure   e.g. 6.45<u>6</u>

3 decimal place look at 4ᵗʰ decimal figure   e.g. 3.784<u>6</u>

4. **Addition / Subtract - Layout important**

	7	•	8	0
+	0	•	9	2
	8	•	7	2

	4	•	0	0
-	0	•	8	4
	3	•	1	6

Pupil comment _____

5. **Multiplication by a single digit.**

	2	3	•	6	8
				×	7
1	6	5	•	7	6

6. **Divide by a single digit**

		2	•	8	6
6	1	7	•	1	6

7. **Multiplication** by 10, 100 and 1000

22.7×10

$= 227$

69.2×100

$= 6920$

0.12×1000

$= 120$

8. **Division** by 10, 100 and 1000

$452.4 \div 10$

$= 45.24$

$67 \div 100$

$= 0.67$

$0.86 \div 1000$

$= 0.00086$

Pupil comment _____

Topic 3 – Fraction & Percentages (Chapter 3)

1. Conversion between Fraction Decimal Percentages

Converting a fraction to a percentage

Do the division   x 100

Fraction → Decimal → Percentage

Do the division   x 100

$\frac{3}{4}$ 0.75   75%
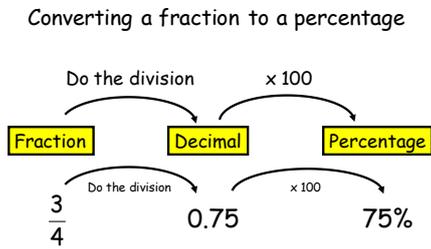
2. Finding a Percentage using a calculator

29% of £250

$$\frac{29}{100} \times 250 = £72.50$$

3. Percentage Rise

Example   Total hours of sunshine in June was 260.
The total for July was 5% higher than June.
What is the total hours of sunshine in July.

$$\frac{5}{100} \times 260 = 13$$

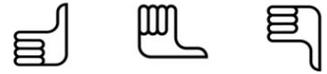July Total Hours = $260 + 13 = 273$

4. Percentage Fall

Example
Last year a house was valued at £90000.
This year the price dropped by 15%.
What was the price this year ?

$$\frac{9}{100} \times 90000 = 8100$$

Price = $90000 - 8100 = £81900$

Pupil comment _____

Topic 4 – Fractions (Chapter 4)

1		
2		
3		
4		

1. **Simplifying a Fraction**

Find HCF $\quad \dfrac{3}{6} = \dfrac{3^{\div 3}}{6^{\div 3}} = \dfrac{1}{2}$

2. **Fraction of a Quantity**

$\dfrac{3}{4}$ of 20 $\quad 4\overline{)20}^{\,5} \quad 5 \times 3 = 15$

3. **Simple Percentages**

$$1\%, \quad 10\%, 20\%, 25\%, 50\%, 75\%$$
$$\frac{1}{100}, \ \frac{1}{10}, \ \frac{1}{5}, \ \frac{1}{4}, \ \frac{1}{2}, \ \frac{3}{4}$$

4. **More Basic Percentages**

$$1\%, \quad 10\%, 30\%, 33\frac{1}{3}\%, 40\%, 60\%, 66\frac{2}{3}\%, 70\%, 80\%, 90\%$$
$$\frac{1}{100}, \ \frac{1}{10}, \ \frac{3}{10}, \ \frac{1}{3}, \ \frac{2}{5}, \ \frac{3}{5}, \ \frac{2}{3}, \ \frac{7}{10}, \ \frac{4}{5}, \ \frac{9}{10}$$

Pupil comment _____

Topic 5 – Distance Speed Time (Chapter 5)

	👍	✋	👎
1			
2			
3			
4			
5			

1.   **Revision of time** – conversions and time intervals

2.   **Distance**   (Remember to convert time !)

$$D = ST \qquad 15\,\text{mins} = 0.25\,\text{hr}$$
$$30\,\text{mins} = 0.5\,\text{hr}$$
$$45\,\text{mins} = 0.75\,\text{hr}$$

3.   **Speed**   (Remember to convert time !)

$$S = \frac{D}{T}$$

4.   **Time**

$$T = \frac{D}{S}$$

5.   **Mixed questions**
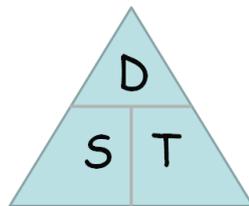
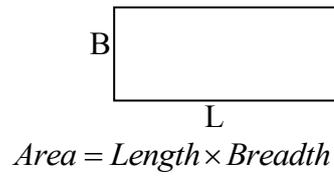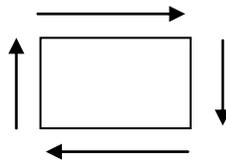Pupil comment _____

Topic 6 – Area and Perimeter (Chapter 6)

	👍	✋	👎

1. **Area – Counting Squares**

2. **Area of a Rectangle**

B

L

Area = Length × Breadth

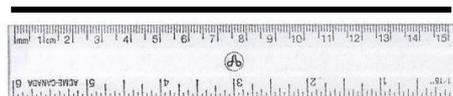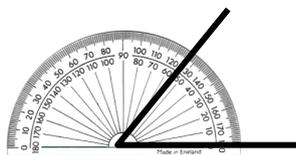3. **Perimeter**

The outside of a shape

4. **Measuring lengths**

5. **Measuring Angles**

Pupil comment _____

Topic 7 – Integers (Chapter 7)

1. **Understand** – concept of +ve and –ve numbers

   Context – Temperature , Bank and Height

2. **Use thermometer**
   – to add / sub integers mentally

3. **Add / Subtract Mathematically**

   (-4) + (-8) = -12

   (-3) – 7 = -10

   6 – 8 = -2

1		
2		
3		

Pupil comment _____

Topic 8 – Ratio and Proportion (Chapter 8)

1. **Understanding Simple Ratios**

Example : There are 2 triangles and 3 rectangles.
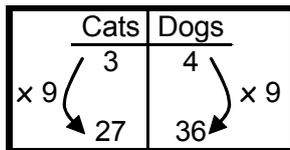
The ratio of triangles to rectangles
is said to be 2 : 3

Note: The ratio of rectangles to triangles
is said to be 3 : 2

2. **Simplifying Ratios**

   6 : 24 is simplified to 1 : 4

3. **Ratio Calculations**

Cats	Dogs
3	4
27	36

× 9 ... × 9

4. **Unitary (for 1) Proportion**

$$Cakes \rightarrow \text{£}$$
$$5 \rightarrow 100$$
$$1 \rightarrow 100 \div 5 = 20$$

5. **Direct Proportion**

   Books   £
   $$6 \rightarrow 420$$
   $$5 \rightarrow \frac{5}{6} \times 420 = \text{£}350$$

1		
2		
3		
4		
5		

Pupil comment _____

Topic 9 – Conversion (Chapter 9)

1.   **Length**

Kilometres (km) ×1000 metres (m) ×100 centimetres (cm) ×10 millimetres (mm)

÷1000   ÷100   ÷10

2.   **Volume**

litres (l) ×100 centilitres (cl) ×10 millimetres (mm)

÷100   ÷10

3.   **Weight**

Tonne(t) ×1000 kilogram (kg) ×1000 grams (g) ×1000 milligrams (mg)

÷1000   ÷1000   ÷1000

Pupil comment _____

	1	2	3
1			
2			
3			
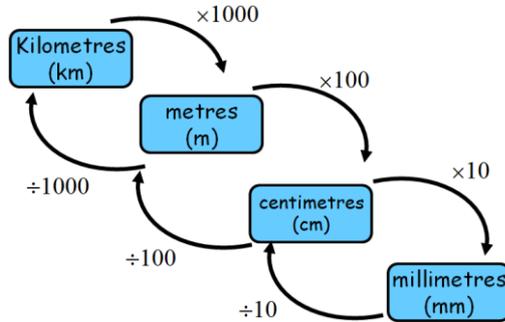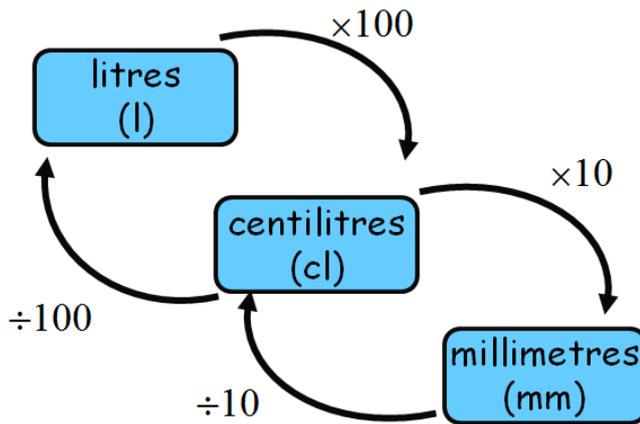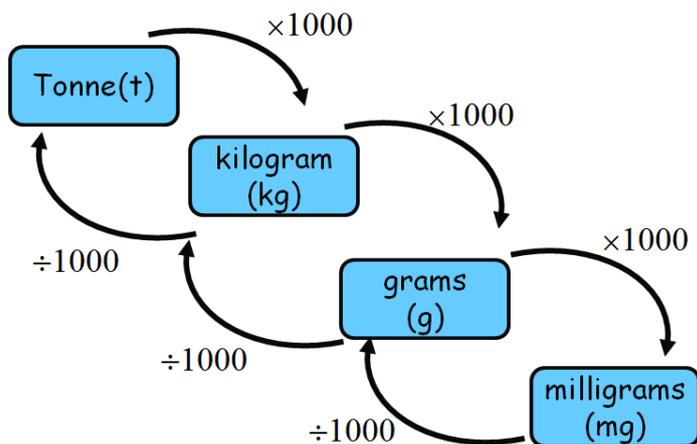
Topic 10 – Volume (Chapter 10)

1. **Counting Cubes for Volume**

2. **Volume Cuboid**

H

B

L
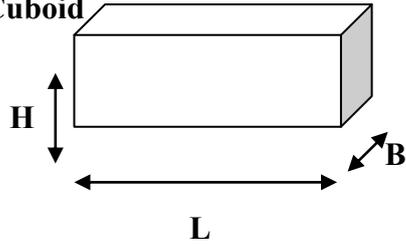
$Volume = Length \times Breadth \times Height$

3. **Liquid Volume**

1 litre = 1000 ml = 1000cm^3
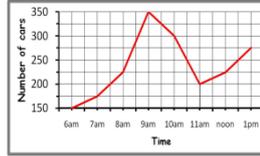
1ml = 1 cm^3

1		
2		
3		

Pupil comment _____

Topic 11 – Graphs Charts and Tables (Chapter 11)

1. **Interpreting Graphs**
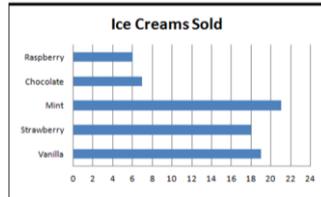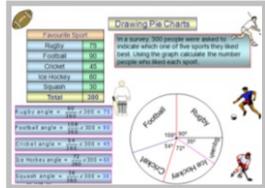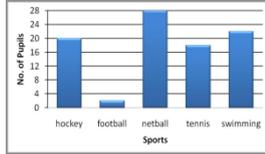
2. **Scattergraphs**

3. **Stem and leaf Diagrams**
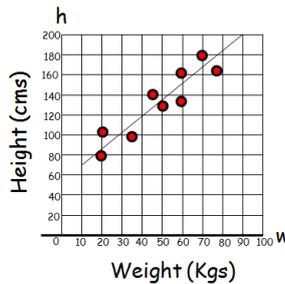
Weight (kgs)	
1	2 2 3 5 5
2	1 3 9
3	2 2
4	0 0 1 1
5	1 4 5 5 5 7
stem	leaves
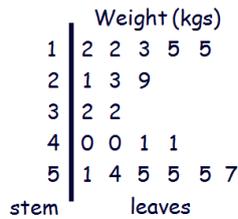
n = 20 Key : 2 │ 3 means 23

4. **Interpreting Tables**

Three mobile phone companies each have a contract available at the same price.

Company Plan	A	B	C
Calls (minutes)	120	180	230
Texts	900	500	400
Internet (Mb)	500	750	1000

1			
2			
3			
4			

Pupil comment _____

Topic 12 – Probability (Chapter 12)

👍	✋	👎
1		
2		

1. **Likelihood Line**

```
0                    0.5                  1
|___|___|___|___|___|___|___|___|___|___|
Impossible              Evens          Certain
     Not very                  Very
     likely                    likely
```
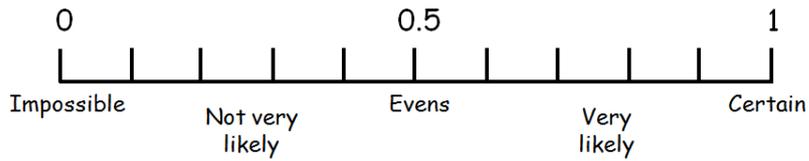
2. **Simple Probability**

To work out probability

$$\text{Probability} = \frac{\text{number of favourable outcomes}}{\text{number of possible outcomes}}$$

Range is between 0 and 1

Pupil comment _____

My Achievements		
Skill	Activity	Date & Teacher Signature

Pupil comment _____

My Achievements		
Skill	Activity	Date & Teacher Signature

Pupil comment _____