Complete
Canadian
Curriculum

Grade
5

Math

Popular Canada

Number Sense and Numeration

- **5-digit Numbers**

e.g.

Ten Thousands	Thousands	Hundreds	Tens	Ones
3	2	6	5	7

3 is in the ten thousands place and means 30 000.

Standard Form: 32 657 ← Starting from the right, add a space for every 3 digits.

Expanded Form: 30 000 + 2000 + 600 + 50 + 7

Written Form: thirty-two thousand six hundred fifty-seven

- **Rounding** – changing a number to a simpler number

Steps to rounding a number to the nearest ten thousand:

1st Look at the digit in the thousands place.

2nd If it is 5 or greater, round the number up; otherwise, round the number down.

e.g. Round 32 657 to the nearest ten thousand.

32 657

2 < 5; so round down.

32 657 → (rounded) 30 000

- **Multiplication** – 2-digit numbers by 2-digit numbers

e.g.

Multiply the ones.

$$\begin{array}{r} {\scriptstyle 6\ \ } \\ 67 \\ \times\ 29 \\ \hline 603 \end{array}$$

Multiply the tens.

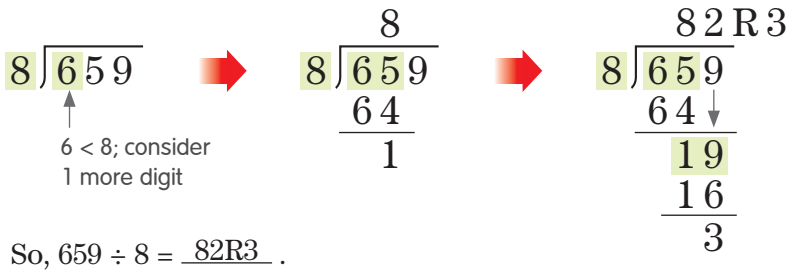
$$\begin{array}{r} {\scriptstyle 1\ \ } \\ 67 \\ \times\ 29 \\ \hline 603 \\ 1340 \\ \hline 1943 \end{array}$$

When multiplying the number in the tens place, remember to add a zero.

So, $67 \times 29 =$ 1943 .

- **Division** – 3-digit numbers by 1-digit numbers

e.g. $659 \div 8 =$ _____



So, $659 \div 8 =$ 82R3 .

- **Fractions**

Three Types of Fractions

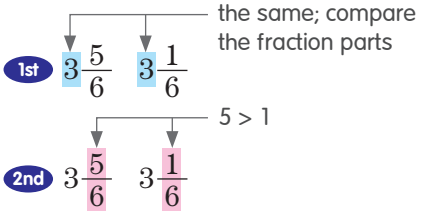
Proper Fraction	Improper Fraction	Mixed Number
a fraction with its numerator smaller than its denominator	a fraction with its numerator equal to or greater than its denominator	a number made up of a whole number and a proper fraction
e.g. $\frac{2}{3}, \frac{5}{8}$	e.g. $\frac{11}{5}, \frac{4}{4}$	e.g. $1\frac{1}{2}, 5\frac{2}{3}$

Steps to comparing mixed numbers with the same denominator:

1st Compare the whole number parts. The one with a greater number is greater. If they are the same, go to Step 2.

2nd Compare the fraction parts. The one with a greater numerator is greater.

e.g. $3\frac{5}{6}$ $3\frac{1}{6}$



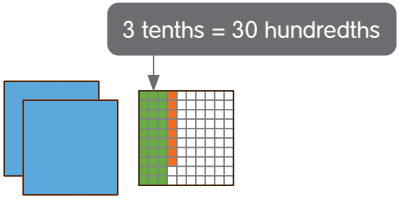
So, $3\frac{5}{6}$ is greater.

- **Decimals**

e.g.

Ones	Tenths	Hundredths
2	3	8

decimal point



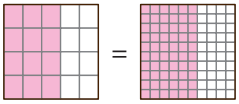
2.38

"2" is in the ones place; it means 2.

"3" is in the tenths place; it means 0.3.

"8" is in the hundredths place; it means 0.08.

Equivalent Decimal Form

e.g. 

$$\frac{12}{20} = \frac{60}{100} = 0.60$$

$\underline{0.60}$ is the equivalent decimal form of $\frac{12}{20}$.

Mental Strategies for Multiplying/Dividing by Multiples of 10, 100, or 1000

× multiples of 10

Move the decimal point to the right.

e.g. $3.25 \times \underset{\text{1 zero}}{10} = 32.5$

$3.250 \times \underset{\text{3 zeros}}{1000} = 3250$

÷ multiples of 10

Move the decimal point to the left.

e.g. $4.8 \div \underset{\text{1 zero}}{10} = 0.48$

$04.8 \div \underset{\text{2 zeros}}{100} = 0.048$

Addition/Subtraction of Decimals

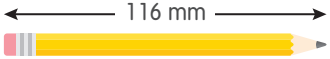
When you add or subtract decimal numbers, remember to align the decimal points. Then add or subtract as you would do with whole numbers.

e.g. (align)

$$\begin{array}{r} 3.68 \\ +\ 12.75 \\ \hline 16.43 \end{array}$$

Measurement

- **Length**

e.g. 

116 mm = 110 mm + 6 mm
= 11 cm 6 mm

Relationships Between Units

1 km = 1000 m
1 m = 10 dm = 100 cm
1 dm = 10 cm
1 cm = 10 mm

- **Perimeter and Area**

Perimeter = 2 × length + 2 × width
Area = length × width

e.g. 

Perimeter = 2 × 10 + 2 × 6 = 32 (cm)
Area = 10 × 6 = 60 (cm^2)

- **Mass**

mg	g	kg	t
small unit			big unit

e.g. 

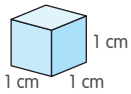
4 kg 650 g
= 4000 g + 650 g
= 4650 g

Relationships Between Units

1 t = 1000 kg
1 kg = 1000 g
1 g = 1000 mg

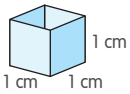
- **Capacity and Volume**

A Centimetre Cube



Volume = 1 cm^3

A Cubic Container

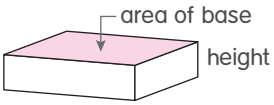


Capacity = 1 mL

So, 1 cm^3 = 1 mL .

Volume of a Rectangular Prism

Volume = area of base × height



Geometry

- **2-D Shapes**

A regular polygon has all sides equal and all angles equal.

e.g. square

a regular polygon

- 4 equal sides
- 4 equal angles
- Can be cut into 2 congruent triangles
- 2 pairs of parallel sides
- 4 lines of symmetry

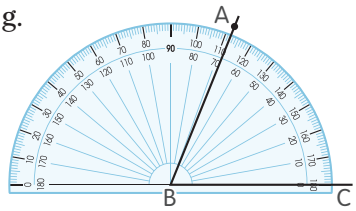
- **Angles**

Types of Angles

Acute	Right	Obtuse	Straight
< 90°	= 90°	> 90°	= 180°

Measuring an Angle

e.g.



$\angle ABC = 68^\circ$

Steps

Measuring an angle:

1st Put the 0° line on one arm of the angle.

2nd Place the centre of the protractor at the vertex.

3rd Mark the reading of the angle and record it.

- **Triangles**

Naming Triangles by Angles

Acute Triangle
(3 acute angles)

Obtuse Triangle
(2 acute angles and 1 obtuse angle)

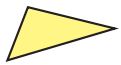
Right Triangle
(2 acute angles and 1 right angle)

Naming Triangles by Sides

Equilateral Triangle
(3 equal sides)

Isosceles Triangle
(2 equal sides)

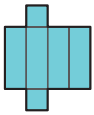
Scalene Triangle
(no equal sides)



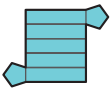
- **3-D Figures**

Nets of Prisms

e.g.



rectangular prism

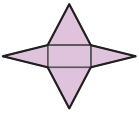


pentagonal prism

Nets of Pyramids

e.g.

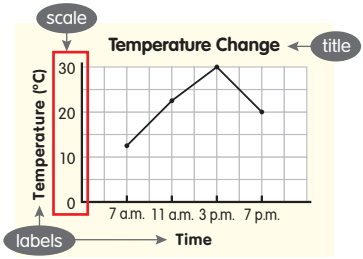
hexagonal pyramid



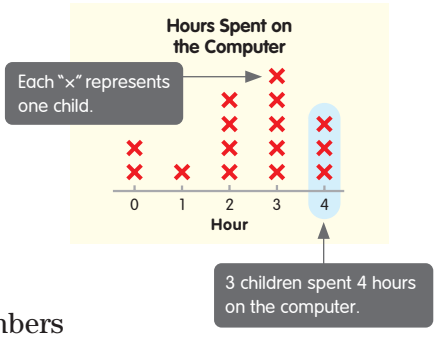
rectangular pyramid

Graphs

Broken-line Graph



Line Plot



Mean – the average of a set of numbers

Refer to the line plot above. It shows the record of 15 children who spent 36 hours in total on the computer.

Mean = 36 ÷ 15 = 2.4

So, the mean time spent on the computer was 2.4 h .

Probability

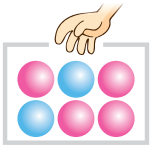
- **Probability**

  a number showing how likely it is that an event will happen

Probability

$$= \frac{\text{No. of outcomes of a particular event}}{\text{Total no. of outcomes}}$$

e.g.



Probability of picking a blue ball

$$= \frac{2}{6} \quad \begin{matrix} \leftarrow \text{2 blue balls} \\ \leftarrow \text{6 balls in total} \end{matrix}$$