

Complete  
**Canadian**   
**Curriculum**

*A handy book to guide you through  
key terms and concepts!*

# Smart Guide Book

Math | English | Social Studies | Science



Popular Book Company (Canada) Ltd.

Grade

# 5

Complete  
Canadian   
Curriculum

# Smart Guide Book



Grade  
**5**

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# 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

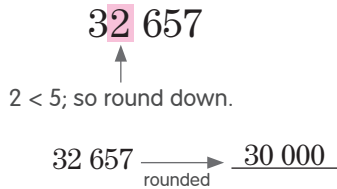
**Written Form:** thirty-two thousand six hundred fifty-seven

## • 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.



## • Multiplication – 2-digit numbers by 2-digit numbers

e.g.

Multiply the ones.

$$\begin{array}{r} \phantom{6} \\ \phantom{\times} \phantom{6} \phantom{7} \\ \times \phantom{6} \phantom{7} \\ \hline 6\ 0\ 3 \end{array}$$



Multiply the tens.

$$\begin{array}{r} \phantom{6} \\ \phantom{\times} \phantom{6} \phantom{7} \\ \times \phantom{6} \phantom{7} \\ \hline 6\ 0\ 3 \\ 1\ 3\ 4\ 0 \\ \hline 1\ 9\ 4\ 3 \end{array}$$

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

So,  $67 \times 29 = \underline{1943}$ .

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

e.g.  $659 \div 8 = \underline{\hspace{2cm}}$

$$\begin{array}{r}
 8 \overline{) 659} \\
 \underline{64} \phantom{0} \\
 19 \\
 \underline{16} \\
 3
 \end{array}$$

So,  $659 \div 8 = \underline{82R3}$  .

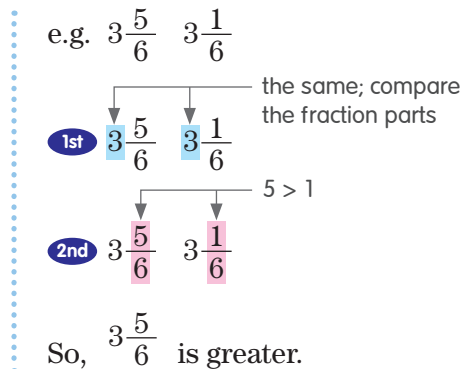
• **Fractions**

**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. $1\frac{1}{2}, 5\frac{2}{3}$                        |

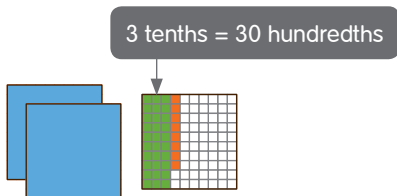
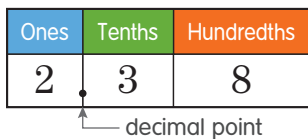
Steps to comparing mixed numbers with the same denominator:

- 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.



• **Decimals**

e.g.



**2.38**

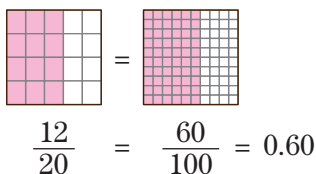
“2” is in the ones place; it means 2.

“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.



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.  $3.25 \times 10 = \underline{32.5}$   
1 zero

$3.250 \times 1000 = \underline{3250}$   
3 zeros

**÷ multiples of 10**

Move the decimal point to the left.

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

$0.48 \div 100 = \underline{0.048}$   
2 zeros

**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.

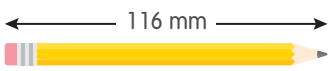
e.g.

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

align ↓

# Measurement

## Length

e.g. 

$$116 \text{ mm} = 110 \text{ mm} + 6 \text{ mm}$$

$$= \underline{11 \text{ cm } 6 \text{ mm}}$$

### 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 =  $2 \times \text{length} + 2 \times \text{width}$   
 Area = length  $\times$  width

Perimeter =  $2 \times 10 + 2 \times 6 = 32 \text{ (cm)}$   
 Area =  $10 \times 6 = 60 \text{ (cm}^2\text{)}$

## Mass

| mg         | g | kg       | t |
|------------|---|----------|---|
| small unit |   | big unit |   |

e.g.  4 kg 650 g

$$= 4000 \text{ g} + 650 \text{ g}$$

$$= \underline{4650 \text{ g}}$$

### Relationships Between Units

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

## Capacity and Volume

### A Centimetre Cube



Volume =  $\underline{1 \text{ cm}^3}$

### A Cubic Container

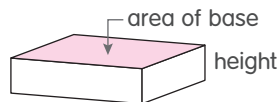


Capacity =  $\underline{1 \text{ mL}}$

So,  $\underline{1 \text{ cm}^3 = 1 \text{ mL}}$  .

### Volume of a Rectangular Prism

Volume = area of base  $\times$  height



# Geometry

## • 2-D Shapes

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

e.g.



↑  
a regular polygon

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

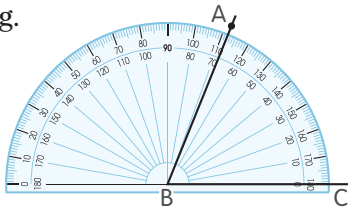
## • Angles

### Kinds of Angles

| Acute            | Right            | Obtuse           | Straight          |
|------------------|------------------|------------------|-------------------|
| <br>$< 90^\circ$ | <br>$= 90^\circ$ | <br>$> 90^\circ$ | <br>$= 180^\circ$ |

### Measuring an Angle

e.g.



$$\angle ABC = \underline{68^\circ}$$

### Steps

Measuring an angle:

- 1st** Put the  $0^\circ$  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

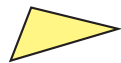
**Equilateral Triangle**  
(3 equal sides)



**Isosceles Triangle**  
(2 equal sides)



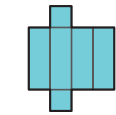
**Scalene Triangle**  
(no equal sides)



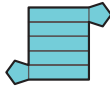
## • 3-D Figures

### Nets of Prisms

e.g.



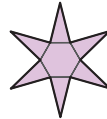
rectangular prism



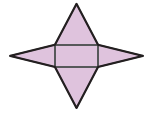
pentagonal prism

### Nets of Pyramids

e.g.



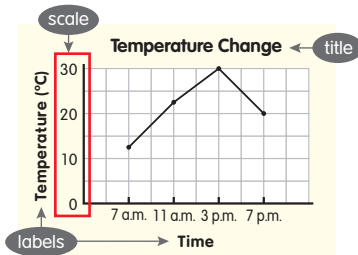
hexagonal pyramid



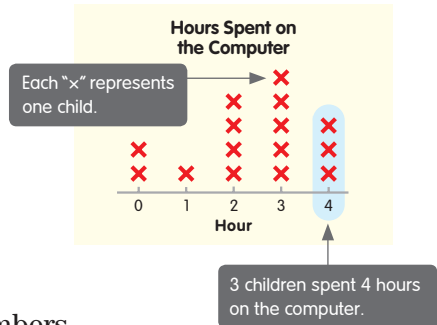
rectangular pyramid

## 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.

$$\text{Mean} = 36 \div 15 = 2.4$$

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

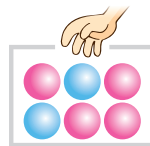
## Probability

### • Probability

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

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

e.g.



**Probability of picking a blue ball**

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



## Grammar

### Pronouns

A pronoun is a word used to refer to a noun.

#### Subject Pronoun

- refers to the subject of a sentence
- I, you, he, she, it, we, they

#### Object Pronoun

- refers to the object of a sentence
- me, you, him, her, it, us, them

#### Possessive Pronoun

- expresses ownership
- mine, yours, his, hers, ours, theirs

#### Interrogative Pronoun

- asks a question
- who, whom, what, which, whose

e.g. **Who** will win, Kate or Sue?

#### Relative Pronoun

- refers to a noun occurring earlier in a sentence
- who, whom, which, whose, that

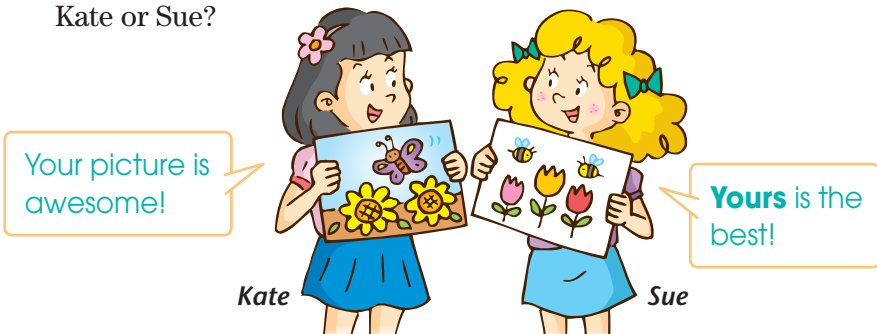
#### Reflexive Pronoun

- shows that the subject of a sentence does something that turns back upon the subject
- myself, yourself, yourselves, himself, herself, itself, ourselves, themselves

#### Reciprocal Pronoun

- shows that the subjects of a sentence do the same thing
- each other, one another

e.g. Kate and Sue praised **each other**.



## Direct and Indirect Objects

The direct object is the noun that receives the action of the verb. The indirect object is the noun that the action is directed to.

e.g. Tracy wrote a song.  
direct object

Justine wrote her grandmother a song.  
indirect object



## Transitive and Intransitive Verbs

Verbs can fall into two groups. A transitive verb must take an object. An intransitive verb does not need an object.

e.g. Ethel gave Ronald a book. (transitive)

My parents work hard. (intransitive)

## Compound Subjects and Verbs

This means there are two or more subjects and two or more verbs.

e.g. Katie and Perry laughed and danced.  
compound subject      compound verb



## Comparatives and Superlatives

We use “more” (comparative) and “most” (superlative) with adjectives that have two or more syllables.

Use comparatives when comparing two things and superlatives when comparing more than two things.

## Tenses

### Present

#### Simple Present Tense

- to talk about a habit or a simple truth  
e.g. Dion studies every night.

#### Present Progressive Tense

- to talk about something that is going on or something that is planned for the future  
e.g. Dion is studying tonight.

### Past

#### Simple Past Tense

- to talk about something that happened habitually or at a particular time in the past  
e.g. Simita visited her friend last week.

#### Past Progressive Tense

- to talk about something that continued to happen before and after a particular time in the past  
e.g. I was cooking when the lights went out.

### Future

#### Simple Future Tense

- to talk about something that will happen  
e.g. I will visit Italy next year.

#### Future Progressive Tense

- to talk about something that will happen over a period of time  
e.g. I will be travelling a lot next year.



## Active and Passive Voice

- **Active Voice** – focuses on the performer of the action
- **Passive Voice** – focuses on the receiver of the action

e.g. Petra adopted a puppy. (active voice)

A puppy was adopted by Petra. (passive voice)

## Phrases

A phrase is a group of words that can take the same spot in a sentence as a single word.

- A **noun phrase** contains a noun and other words, and functions like a noun or pronoun. It may be the subject, object, or complement in a sentence.
- An **adjective phrase** contains an adjective and other words, and functions like an adjective.
- An **adverb phrase** contains an adverb and other words, and functions like an adverb.

e.g. The little kitten was very hungry so

noun phrase                      adjective phrase  
as the subject

it drank all the milk very quickly.

noun phrase    adverb phrase  
as the object



## Verbals

A verbal is a verb form that does not function like a verb in a sentence.

- A **gerund** is a verbal that functions like a noun.

e.g. Jogging is my favourite activity.

gerund

- A **present** or **past participle** is a verbal that functions like an adjective.

e.g. This pair of running shoes was a gift from my parents.

present participle

## Early Canada

European explorers began arriving in Canada as early as 800 CE. The first Europeans came from Scandinavia, England, and France. When they first arrived, the Europeans faced many challenges, such as adjusting to a new lifestyle and adapting to the cold climate. However, they also received help from the First Peoples in Canada.



**First Peoples**

- new lands to settle
- warm clothing to keep warm
- methods of travel such as the canoe
- herbal medicine to treat diseases
- food and beaver pelts

- metal tools to make lives easier
- grains as an alternative food source
- farm animals to provide stable food sources
- horses to travel faster and greater distances



**Europeans**

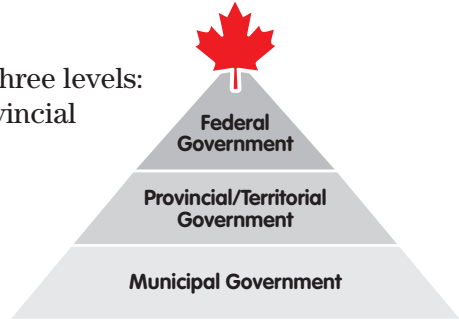
The Fur Trade was established between the Europeans and the First Peoples. The Europeans gave the First Peoples metal tools and the First Peoples gave them animal pelts to take back to Europe.

However, the Fur Trade ultimately led to overhunting which negatively affected the animal population and the food supply of the First Peoples.



## Government of Canada

The Canadian Government has three levels: the federal government, the provincial government, and the municipal government.



### Health Care

Canada's health care system provides services on the basis of need rather than the ability to pay. Through taxes, the values of fairness and equity are demonstrated by sharing health care resources.



### Water Management

The federal government conserves and protects water resources. The provincial government governs water quality and sanitation. The municipal government delivers safe drinking water.



### Transportation

Transportation is a joint responsibility of all three levels of government. The federal government is in charge of interprovincial transportation, the provincial government is in charge of intra-provincial transportation, and the municipal government is in charge of urban transportation.

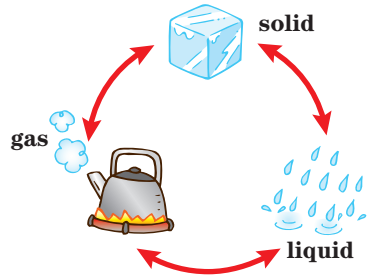


### Homelessness

The federal government is trying to reduce the homeless problem by funding different social programs and services. The provincial and municipal governments are responsible for the implementation of the programs.

## Matter

Matter is anything that takes up space. Matter exists in three states: solid, liquid, and gas. The state of matter can change from one to another.



## Measuring Matter

### Mass

measures the amount of matter in a substance

### Density

measures the amount of matter in a given space

### Volume

measures the amount of space matter takes up

## Most Common Properties of Matter

|         |            |
|---------|------------|
| colour  | hardness   |
| size    | viscosity  |
| taste   | texture    |
| state   | lustre     |
| clarity | solubility |

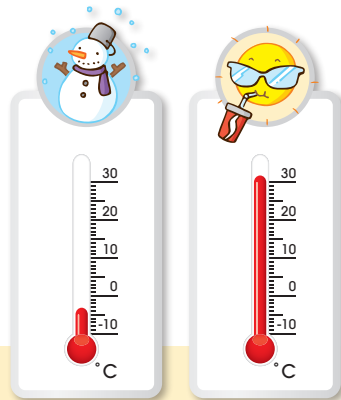
## Weather and Climate

**Weather** is what is going on in the air – temperature, moisture, and movement – at a certain place and time.

**Climate** is a pattern of weather in large areas over a long period of time.

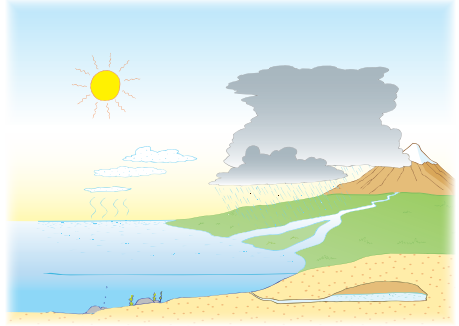
Air temperature is measured by a thermometer.

Many things we do are based on what the temperature is outside.



## The Water Cycle

- Water in the ocean evaporates and becomes water vapour.
- Clouds form when water vapour joins with dust particles.
- Water droplets in clouds join together, getting so heavy they come down from the clouds as precipitation.



## Energy

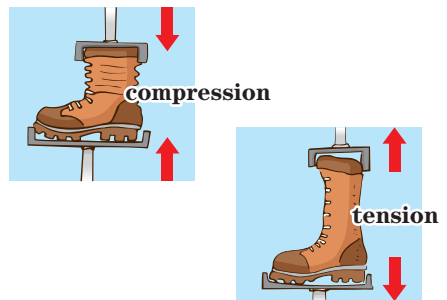
The energy that we use comes from various places and it is either renewable or non-renewable.

**Renewable Energy** – e.g. wind, solar, hydro

**Non-renewable Energy** – e.g. coal, biomass, oil

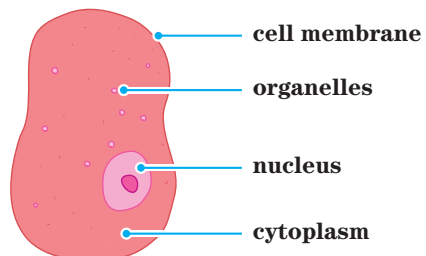
## Forces

There are many different types of forces that act upon structures. Most structures must be able to withstand two common types of forces: compression and tension.



## Cells

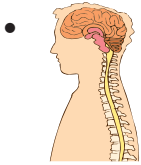
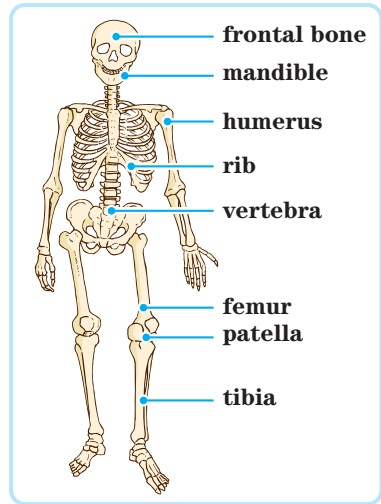
Cells are the building blocks of all living things. They can be in different shapes and sizes but they all have the same parts.



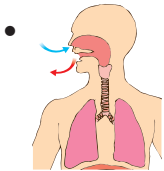


## Systems of the Human Body

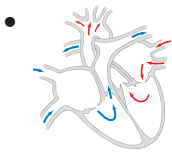
- Bones hold our body up and protect our organs. Skeletal muscles work with the bones to let us move. This is our **musculoskeletal system**. Joints are where two bones connect. Different joints allow for different movements.
- The **defence system** is the body's different ways of defending itself against things that make us ill.



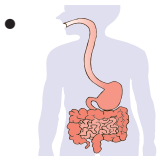
The **nervous system** is made up of the brain, spinal cord, and many nerves placed all over the body.



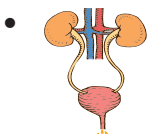
The **respiratory system** does the job of getting oxygen to our blood cells, and releasing as waste the carbon dioxide we do not need.



The **circulatory system** includes the heart with its left and right sides working together to pump and receive blood.








The food we eat travels through the body's **digestive system**, a group of organs that takes in the nutrients and expels the waste from food.







The **excretory system** cleans the blood and produces urine.

## **I have learned concepts in these subject areas:**



### **Math**

-  Number Sense and Numeration
-  Measurement
-  Geometry and Spatial Sense
-  Patterning and Algebra
-  Data Management and Probability





### **English**

-  Grammar
-  Oral Communication
-  Reading
-  Writing

### **Social Studies**

-  Heritage and Identity
-  People and Environments

### **Science**

-  Life Systems
-  Structures and Mechanisms
-  Matter and Energy
-  Earth and Space Systems