



# Student Guide

With a bit of planning, it is possible to be successful and even enjoy yourself. Just as you schedule your part-time job, or plan what to wear to a party, you can use the Student Planner to organize your studying strategy. If you follow these guidelines to help you schedule your school work, your rewards will come and you will get where you want to go.



## HOW TO BE IN THE RIGHT PLACE...

- Select a special place to study—your room, the library, even the kitchen table—and use it regularly.
- Work on a flat, well-lit, junk-free surface.
- Sit up straight! A firm upright chair will keep you from dozing off.
- Get a breath of fresh air! Be sure your workplace is not overheated, especially in winter.
- Turn off the television. No one can concentrate effectively on two things at once, and the blaring of the TV or loud music on the radio will only distract you from the business at hand.

## ... AT THE RIGHT TIME

- Use this Student Planner to help you get organized: draw up a schedule of your classes, set regular study times, allow time for extra assignments and exam preparation, include time for any other work responsibilities, and include your calendar of social events.
- Study alone or with a friend, or in a group, depending on what works best for you. However, do not kid yourself, and think you are working when you are just fooling around.
- Work at your most productive time of day, often early in the morning or in the evening after dinner.
- Budget your study time with realistic, attainable objectives.
- Study intervals of 40 to 50 minutes, followed by 10-minute breaks, usually prove more effective than prolonged sessions.
- Complex or lengthy projects should be broken down into smaller units that are easier to tackle.

## EXAM PREPARATION STRATEGY

This three-step programme will help you transform your preparation for examinations into a process—carried on gradually throughout the term—rather than a panic-stricken marathon of cramming at the eleventh hour. Use these steps to help you get started:

## ON YOUR MARK!

- Always attend your classes, pay attention, and take notes. This advice is so obvious it seems pointless to write it down, but too many students skip this essential first step, and then have no foundation to build up their studying strategy later.
- Good study habits require listening attentively to what is being said in class, paying particular attention to the key points stressed at the beginning and end of the lesson.
- Keep your notes in good order and store all notes for one course together. Revise and review your notes weekly.
- Record the date, page number and subject or a title of some sort on all class notes, so that they make sense to you later on.
- Write your own notes in your own words. Someone else's notes are poor substitutes for your own record of the essential points in a class you attended.
- Your notes should summarize the essential points from each class. If you do not understand what the key points are at the end of class, ask your teacher to repeat the main ideas that have to be remembered from the lesson. Write these down.
- Keep up with assigned readings that you are expected to cover outside of class time. Try not to allow a discouraging backlog of unread books to build up on your shelves.

## GET SET!

- Exam preparation should start a few weeks before the exam period. Your weekly reviews of each subject should simplify this process.
- Prepare a special study schedule for the exam period.
- Make up a special summary sheet of essential formulas, or facts, dates and figures you must commit to memory. Review this information periodically, and ask someone to quiz you on these key points.
- Ask your teacher about the exam format, whether essay style, short answer, or multiple choice, and prepare yourself accordingly.
- Do not panic the night before the exam. Avoid staying up late cramming; instead, try to get a good night's sleep and eat something for breakfast.
- Arrive at the exam prepared to write it. Wear layered, comfortable clothing that you can peel off or put on according to the room temperature. Do not forget to bring any equipment you may need, including extra pens and pencils, a calculator, ruler, tissues, etc.

## GO!

- Enter the examination room in as relaxed and confident a state as possible. Breathe deeply and remain calm.
- When the exams are handed out, **STOP**, **LOOK** and **LISTEN**:  
**STOP**—Do not start writing immediately, but take time to review the entire exam;  
**LOOK**—Read all the questions and directions, and look at the marking scheme;  
**LISTEN**—Pay close attention to any verbal instructions given by the teacher.
- Once the exam is under way, plan your time:
  - Proportion your time to correspond with the relative value of the questions.
  - Start with questions you can readily answer and proceed to the more challenging ones later.
  - Read questions and directions carefully. This step cannot be overemphasized.
  - Always start essay-style answers with a restatement of the question asked.
  - Reread your answers to ensure they actually do answer the questions.
  - At the end of the exam, review your answers and correct minor errors.

## KEEPING SCORE

- When your instructor returns exams, essays, or assignments, take the time to read through all comments and corrections.
- When you have done well on the exam or assignment, keep going with the success strategy that works best for you.
- If you have failed an exam, or did not perform as well as you had expected to, try to assess what went wrong in order to avoid repeating the same mistakes. Ask yourself honestly:
  - Was I partying instead of studying?
  - Did I sleep well the night before the exam or did I stay up late cramming?
  - Has working part-time jeopardized my studies?
  - Was drug or alcohol use a factor?
  - Was I under additional stress due to family, financial, emotional or health problems?
- Once you have identified problem areas, get some help:
  - If you are not working systematically or hard enough, use the Student Planner to organize a more effective study schedule.
  - Ask for help! Your teacher or a librarian can guide you in improving your studying strategies.
  - If you have difficulty with the subject matter, ask your teacher or a guidance counsellor for remedial help, or information on other options.
  - If your academic performance is affected due to family, health and/or money-related problems, ask the school nurse, your doctor, or a community health clinic for medical help and/or referral to an appropriate social service agency.

## ACHIEVING YOUR GOALS

These winning strategies should help you achieve success either at school, college, university or at your workplace. Here again are the key points to remember:

1. Set yourself realistic goals and objectives at the start of each year and evaluate your progress periodically.
2. Understand your priorities and study regularly.
3. Be regular in class attendance, reading and assignments.
4. Prepare for exams throughout the term, not at the last minute.
5. When taking stock of your grades, take time to review and, if necessary, revise the goals and objectives of your studying strategy.



# STAND UP to bullying



**Remember that you do not deserve to be bullied or harassed.**

## For those who are experiencing bullying

- Talk to an adult that you trust.
- Spend your time with friends who you can count on to support and stick up for you.
- Appear confident and let the person doing the bullying know that it is not okay.
- Stand up for yourself without being aggressive.

## For those who are bullying others

- Talk to someone you trust who can help you find ways to have healthy relationships.
- Ask a friend to tell you if they notice if you start to bully others.
- You do not have to like everybody, but you do have to respect everybody.
- Challenge yourself to be more inclusive of others and to be a good friend.
- Everyone has power. Use yours in a positive way to help others, not hurt them.

## For those who are witnessing bullying

- By getting help, you are part of the solution.
- If you see somebody who is being bullied, assess the situation; intervene if you feel safe.
- Don't laugh or cheer on bullying—refuse to go along with it.
- Talk to the person who has been bullied. Let them know that they do not deserve to be treated like that and show them that you care.

## No to cyberbullying

- Protect your personal information online—never give out your passwords, even to your closest friends.
- Before you send a text, ask yourself if you are ok if the whole world sees it because private messages and photos can go public.
- If someone is cyberbullying you, ask for help, find tips to help protect yourself at [www.cybertip.ca](http://www.cybertip.ca) and [www.cyberbullying.ca](http://www.cyberbullying.ca), and always save any messages you receive as evidence.
- Be kind online. Do not post or pass on anything negative about another person.

For more information, visit the Canadian Red Cross website by scanning the QR code.



# Catholics Profess God as Creator and Father

*"Our profession of faith begins with God, for God is the First and the Last, The beginning and the end of everything." (CCCB 198)*

To 'profess' means to affirm a belief. To 'proclaim' means to declare something important. You have entered into a stage of school life where the beliefs in your mind, heart and soul, are seeking expression in the world around you. What you profess and proclaim becomes part of the identity you present to the world. It becomes part of your witness.

## Catholics are Communal

From the moment of creation, we are designed to be in relationship.

Our human dignity comes from being made by God and imbued with characteristics that reflect Him in the world. This is the meaning of **Imago Dei**. We have a soul, we can reason, we can love in a covenantal way. Our dignity is **inalienable** and **innate**.

We are in an intimate relationship with the Father from the moment of our creation. Our first human relationship is with family, the domestic church. Our home, our school and parish are part of our Catholic community, as are the universal Latin and Eastern Catholic Churches. We dialogue in relationship with our **Ecumenical** community and our **Interfaith** community. We dialogue in relationship with society.

## Catholics Celebrate their Faith

Catholics participate in the Liturgy of the Eucharist as an act of communal worship. Participating in the songs and responses enable us to actively engage in praise and thanksgiving for God's saving love.

## Catholics seek the Good

God provides guidelines on how to make good **moral** and **ethical** decisions so that we can develop to our full potential in our body, mind, and soul. Virtues are the habits of mind and heart that help us lean towards making good decisions.

Some Catholic schools or classrooms choose a specific virtue to practise. Others focus on a Church teaching, a Scripture verse, or a Catholic graduate goal to help us develop virtuous habits and thoughts. Perhaps I am able to choose my own positive spiritual focus.

## Catholics Pray

Jesus, God's Word, revealed the love of the Father to us. Like Jesus, we can approach our Father with everything on our heart.



God, my Father,

Thank you for the many wonderful gifts you have given me. This school year, help me make positive contributions to my community.

Help me treat everyone I encounter with dignity and respect. Bless my studies and my decisions. Guide me as I grow into the person you want me to be.

Amen

This year, if attending Liturgy of the Eucharist with your school or classroom, try to intentionally respond as part of community prayer.

Remember to note the date and location of the Liturgy of the Eucharist in this Planner.

## Reflection:

How do you envision your spiritual journey taking shape during this school year?

## Inquiry Question!

What does mean for you the words in purple?

This September I am focusing on

Suggestion: Use this focus to help set your weekly objectives.

# September / Septembre 2024

Monday Lundi	Tuesday Mardi	Wednesday Mercredi	Thursday Jeudi	Friday Vendredi	Saturday Samedi	Sunday Dimanche
						1  22 <sup>nd</sup> Sunday in ordinary time
2	3  St. Gregory The Great (M)	4	5	6	7	8  23 <sup>rd</sup> Sunday in ordinary time
9	10	11	12	13  St. John Chrysostom (M)	14  The Exaltation of The Holy Cross (F)	15  24 <sup>th</sup> Sunday in ordinary time
16  St. Cornelius and St. Cyprian (M)	17	18	19	20  St. Andrew Kim Tae-Gón priest, Paul Chông Ha-Sang, and Companions, martyrs (M)	21  St. Matthew (F)	22  25 <sup>th</sup> Sunday in ordinary time
23  St. Pius of Pietrelcina (M)	24	25	26	27	28	29
30  St. Jerome (M)			St. John de Brébeuf and St. Isaac Jogues and Companions (F)	St. Vincent de Paul (M)		26 <sup>th</sup> Sunday in ordinary time

(M) - Memorial (F) - Feast

# September 2024

## Septembre

Then God said, "Let us make humankind in our image, according to our likeness... So, God created humankind in his image, in the image of God he created them. God blessed them..."

(Genesis 1:26-28)

### Weekly Objectives / Objectifs de la semaine

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Young Canadian inventor, **Ann Makosinski**, created a flashlight powered by the heat of the human hand.

### Monday Lundi 16

Day  
Jour

St. Cornelius and St. Cyprian (M)




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LAURENTIEN

### Tuesday Mardi 17

Day  
Jour




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#### Trivia

Over the next 30 years, the number of hot days in a year is expected to be more than double in Canada. What are some ways you can protect yourself from the summer heat?

Answer: Keeping cool in the shade, seeking cool locations, and drinking plenty of water.

ecoschools  
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CANADA

Environmental  
Certification Program  
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Day  
Jour

**Wednesday**  
Mercredi **18**



Day  
Jour

**Thursday**  
Jeudi **19**



Day  
Jour

**Friday**  
Vendredi **20**



St. Andrew Kim Tae-Gõn priest, Paul Chõng Ha-Sang, and Companions, martyrs (M)

LAURENTIEN



**Sunday Gospel**  
Mark 8.27-30

Peter Declares That  
Jesus Is the Messiah

**M T W T F S S**

						1
2	3	4	5	6	7	8
9	10	11	2	13	14	15
16	17	18	19	20	21	22
23/30	24	25	26	27	28	29

# English Language Arts

## Punctuation



Use the period at the end of a sentence that makes a statement, at the end of a command, at the end of an indirect question, and with abbreviations.



Use a question mark at the end of a direct question.



Use an exclamation mark at the end of an emphatic declaration, command, or interjection.



Use a comma between all items in a series. To avoid confusion, use commas to separate elements in a sentence.



Use a semicolon to maintain order in a long list that already contains commas.

Use a semicolon to separate closely related independent clauses, instead of using a conjunction.



Use a colon before a list.



Use an apostrophe to construct possessives and contractions.



Use quotation marks to set apart elements that are spoken words or quoted language.

## Parts of speech

A **noun** is the name of a person, place, thing, or idea.

A **pronoun** takes the place of a noun.

An **adjective** is a word that describes or modifies a noun. Adjectives also include the **articles** *a*, *an*, and *the*.

A **verb** transmits a state of being or action in the sentence.

An **adverb** is a word that modifies a verb, an adjective or another adverb.

A **conjunction** is a word that connects parts of a sentence.

A **preposition** is a word that shows a relationship between other words in a sentence.

An **interjection** is a word or a phrase used to exclaim, command or protest. It is either followed by an exclamation mark, or is set apart from the rest of the sentence by a comma.

# Writing an Essay

Writing an essay is a process. The basic steps are outlined below. The process will be more enjoyable if you start work on your essay well before its due date! Allow time to pick a topic, do the research, and make an outline. Then you are ready to do the writing, editing, and rewriting. Lastly, you need to proofread your essay.

## 1. Choosing a topic

If a topic has not been assigned, choose one you would enjoy writing about. Then narrow the topic down. Assigned topics may also require more focus. **For example:** forests—trees—conservation—replanting forests.

Write down your thesis. This sentence should clearly define what your essay will be about.

## 2. Purpose

Determine the approach you want to take. Why are you writing about this topic? Are you giving an explanation of how to do something, trying to persuade someone to see things your way, or providing information?

## 3. Research

Find facts to support the topic. Sources of information include textbooks, reference books, magazines and journals, interviews, and reliable web sites on the Internet. Ask your teacher or librarian if you need some help locating material.

## 4. Outline

Once you have done the research, make a list of the main points you wish to write about. Then, from the list, pick at least three subtopics related to your main topic. As part of your outline, note down three or four facts from your research that support each subtopic.

## 5. Draft

Your first paragraph should introduce the topic and your purpose to the reader. Your thesis is part of this first paragraph. In this paragraph you will also introduce the subtopics that you intend to develop to back up your thesis. Discuss your subtopics in the same order as you introduced them in the

first paragraph. Write one paragraph per subtopic. The first sentence of each paragraph should introduce the subtopic. Complete your paragraph with several sentences supporting your subtopic.

Link your paragraphs with transition words or clauses to connect the ideas and to make your essay flow.

Your concluding paragraph should restate your thesis (in different words) and sum up the facts you presented. Your very last sentence should tie everything together.

## 6. Take a break

When you've completed a draft of your essay, put it aside overnight.

## 7. Reread, edit and revise

Always reread your essay with a fresh eye. Reading it aloud will help you find things you need to change.

Make revisions and read your essay over again to make sure it flows smoothly. It should cover all the points you made in the first paragraph and reach a conclusion.

Proofread your revised essay for errors in spelling, punctuation, and grammar. It's helpful to ask someone else to proofread your work as well—they may see things you missed.

## 8. Final copy

Prepare the final copy of your essay according to the format you were assigned and—proofread it again!

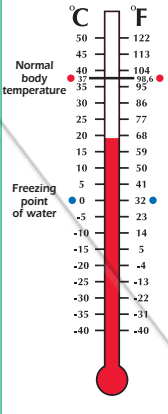
## 9. Turn your essay in

You are now ready to present the essay to your teacher. Be proud of your work!

# Irregular Verbs

INFINITIVE	PAST	PAST PARTICIPLE	INFINITIVE	PAST	PAST PARTICIPLE
to awake	awoke	awoken	to meet	met	met
to be	was/were	been	to pay	paid	paid
to bear	bore	borne	to put	put	put
to beat	beat	beaten	to quit	quit	quit
to become	became	become	to read	read	read
to begin	began	begun	to rid	rid	rid
to bend	bent	bent	to ride	rode	ridden
to bet	bet	bet	to ring	rang	rung
to bid	bid	bid	to rise	rose	risen
to bind	bound	bound	to run	ran	run
to bite	bite	bitten	to saw	sawed	sawn
to bleed	bled	bled	to say	said	said
to blow	blew	blown	to see	saw	seen
to break	broke	broken	to seek	sought	sought
to breed	bred	bred	to sell	sold	sold
to bring	brought	brought	to send	sent	sent
to build	built	built	to set	set	set
to burn	burnt	burnt, burned	to sew	sewed	sewn
to burst	burst	burst	to shake	shook	shaken
to buy	bought	bought	to shear	sheared	shorn
to cast	cast	cast	to shed	shed	shed
to catch	caught	caught	to shine	shone	shone
to choose	chose	chosen	to shoe	shod	shod
to cling	clung	clung	to shoot	shot	shot
to come	came	come	to show	showed	shown
to cost	cost	cost	to shrink	shrank, shrunk	shrunk
to creep	crept	crept	to shut	shut	shut
to cut	cut	cut	to sing	sang	sung
to deal	dealt	dealt	to sink	sank	sunk
to dig	dug	dug	to sit	sat	sat
to do	did	done	to sleep	slept	slept
to draw	drew	drawn	to slide	slid	slid
to dream	dreamt, dreamed	dreamt, dreamed	to sling	slung	slung
to drink	drank	drunk	to slink	slunk, slinked	slunk, slinked
to drive	drove	driven	to slit	slit	slit
to dwell	dwelt, dwelled	dwelt, dwelled	to smell	smelt, smelled	smelt, smelled
to eat	ate	eaten	to sow	sowed	sown
to fall	fell	fallen	to speak	spoke	spoken
to feed	fed	fed	to speed	sped	sped
to feel	felt	felt	to spell	spelt	spelt
to fight	fought	fought	to spend	spent	spent
to find	found	found	to spill	spilt/spilled	spilt/spilled
to flee	fled	fled	to spit	spat	spat
to fling	flung	flung	to split	split	split
to fly	flew	flown	to spoil	spoil, spoiled	spoil, spoiled
to forbid	forbade	forbidden	to spread	spread	spread
to forget	forgot	forgotten	to spring	sprang	sprung
to forgive	forgave	forgiven	to stand	stood	stood
to freeze	froze	frozen	to steal	stole	stolen
to get	got	gotten	to stick	stuck	stuck
to give	gave	given	to sting	stung	stung
to go	went	gone	to stink	stank	stunk
to grind	ground	ground	to stride	strode	stridden
to grow	grew	grown	to strike	struck	struck
to hang	hung	hung	to string	strung	strung
to have	had	had	to strive	strove, strived	striven
to hear	heard	heard	to swear	swore	sworn
to hide	hid	hidden	to sweep	swept	swept
to hit	hit	hit	to swell	swelled	swollen
to hold	held	held	to swim	swam	swum
to hurt	hurt	hurt	to swing	swung	swung
to keep	kept	kept	to take	took	taken
to kneel	knelt	knelt	to teach	taught	taught
to know	knew	known	to tear	tore	torn
to lay	laid	lain	to tell	told	told
to lead	led	led	to think	thought	thought
to lean	leaned	leaned	to throw	threw	thrown
to leap	leapt	leapt	to thrust	thrust	thrust
to learn	learned	learned	to tread	trod	trodden
to leave	left	left	to understand	understood	understood
to lend	lent	lent	to wake	woke	woken
to let	let	let	to wear	wore	worn
to lie	lay	lain	to weave	wove	woven
to light	lit, lighted	lit, lighted	to weep	wept	wept
to lose	lost	lost	to win	won	won
to make	made	made	to wind	wound	wound
to mean	meant	meant	to wring	wrung	wrung
			to write	wrote	written

# Conversion Table for Units of Measure

TEMPERATURE		VOLUME				
 <p><b>Conversion °F to °C</b></p> <ul style="list-style-type: none"> <li>• subtract 32</li> <li>• multiply by 5/9</li> </ul> <p><b>Conversion °C to °F</b></p> <ul style="list-style-type: none"> <li>• multiply by 9/5</li> <li>• add 32</li> </ul>		<ul style="list-style-type: none"> <li>• 1 cubic centimetre = 0.061 cubic inch</li> <li>• 1 cubic decimetre = 0.035 cubic foot</li> <li>• 1 cubic metre = 1.308 cubic yards</li> <li>• 1 cubic inch = 16.387 cubic centimetres</li> <li>• 1 cubic foot = 28.317 cubic decimetres</li> <li>• 1 cubic yard = 0.765 cubic metre</li> </ul>				
MASS						
<ul style="list-style-type: none"> <li>• 1 gram = 0.035 ounce</li> <li>• 1 kilogram = 2.205 pounds</li> <li>• 1 metric tonne = 2204.600 pounds</li> <li>• 1 ounce = 28.35 grams</li> <li>• 1 pound = 453.59 grams</li> <li>• 1 ton (short) = 907.18 kilograms</li> <li>• 1 ton (long) = 1016.05 kilograms</li> </ul>						
LENGTHS AND DISTANCES						
<ul style="list-style-type: none"> <li>• 1 centimetre = 0.3937 inch</li> <li>• 1 decimetre = 0.3281 foot</li> <li>• 1 metre = 3.2810 feet</li> <li>• 1 kilometre = 0.6214 mile</li> <li>• 1 kilometre = 0.5390 nautical mile</li> </ul>		<ul style="list-style-type: none"> <li>• 1 inch = 2.5400 centimetres</li> <li>• 1 foot = 0.3048 metre</li> <li>• 1 yard = 0.9144 metre</li> <li>• 1 mile = 1.6093 kilometres</li> <li>• 1 nautical mile = 1.8520 kilometres</li> </ul>				
CAPACITY						
<b>Liquid measures (USA)</b> <ul style="list-style-type: none"> <li>• 1 pint = 0.473 litre</li> <li>• 1 quart = 0.946 litre</li> <li>• 1 gallon = 3.785 litres</li> <li>• 1 bushel = 35.239 litres</li> <li>• 1 litre = 0.264 gallon</li> </ul>		<b>Dry measures (Imperial)</b> <ul style="list-style-type: none"> <li>• 1 pint = 0.568 litre</li> <li>• 1 quart = 1.137 litres</li> <li>• 1 gallon = 4.546 litres</li> <li>• 1 bushel = 36.369 litres</li> <li>• 1 litre = 0.220 gallon</li> </ul>				
AREA						
<ul style="list-style-type: none"> <li>• 1 square centimetre = 0.155 square inch</li> <li>• 1 square metre = 10.760 square feet</li> <li>• 1 hectare = 2.471 acres</li> <li>• 1 square kilometre = 0.386 square mile</li> <li>• 1 square inch = 6.452 square centimetres</li> </ul>		<ul style="list-style-type: none"> <li>• 1 square foot = 929.030 square centimetres</li> <li>• 1 square yard = 0.836 square metre</li> <li>• 1 acre = 0.405 hectare</li> <li>• 1 square mile = 258.999 hectares</li> </ul>				
DISTANCES		GASOLINE CONSUMPTION		TIRE PRESSURE		
km	miles	miles/imp. gal.	miles/USA gal.	litres/100 km	KPa	pounds/sq. inch
10	6.21	10	8.3	28.2	160	23.2
20	12.43	15	12.5	18.8	170	24.7
30	18.64	20	16.7	14.1	180	26.1
40	24.85	25	20.8	11.3	190	27.6
50	31.07	30	25.0	9.4	200	29.0
60	37.28	35	29.1	8.1	210	30.5
70	43.50	40	33.3	7.1	220	31.9
80	49.71	45	37.5	6.3	230	33.4
90	55.92	50	41.6	5.6	240	34.8
100	62.14	55	45.8	5.1	250	36.3
500	310.69	60	50.0	4.7	260	37.7
1000	621.37	65	54.1	4.3	270	39.2



# Symbols

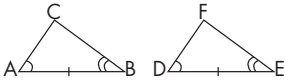
WORD	ABBREVIATION	WORD	ABBREVIATION	WORD	ABBREVIATION
alpha	$\alpha$	gray	Gy	parsec	pc
ampere	A	hectare	ha	pascal	Pa
beta	$\beta$	henry	H	pound	lb
British Thermal Unit	BTU	hertz	Hz	radian	rad
calorie	cal	hour	hr	revolution per minute	RPM
candela	cd	inch	"	second	s
centimetre	cm	joule	J	square	$\dots^3$
coulomb	C	kilogram	kg	tesla	T
cube, cubic	$\dots^3$	kilohertz	kHz	theta	$\theta$
cubic metre	$m^3$	kilojoule	kJ	tonne	t
curie	Ci	kilometre	km	volt	V
day	d	kilopascal	kPa	watt	W
decimetre	dm	kilowatt	kW	tera	( $= 10^{12}$ ) T
degree Celsius	$^{\circ}\text{C}$	kilowatt-hour	kWh	giga	( $= 10^9$ ) G
degree Fahrenheit	$^{\circ}\text{F}$	litre	L	mega	( $= 10^6$ ) M
degree Kelvin	K	metre	m	kilo	( $= 10^3$ ) k
delta	$\delta$	micrometre	$\mu\text{m}$	hecto	( $= 10^2$ ) h
electronvolt	eV	milliampere	mA	deca	( $= 10^1$ ) da
equal	=	milligram	mg	deci	( $= 10^{-1}$ ) d
farad	F	millilitre	ml	centi	( $= 10^{-2}$ ) c
foot	'	minute	min	milli	( $= 10^{-3}$ ) m
furlong	fur	mole	mol	micro	( $= 10^{-6}$ ) $\mu$
gamma	$\gamma$	newton	N	nano	( $= 10^{-9}$ ) n
gram	g	ohm	$\Omega$	pico	( $= 10^{-12}$ ) p

# Multiplication Table

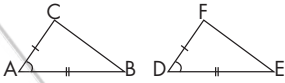
X	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
2	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30
3	3	6	9	12	15	18	21	24	27	30	33	36	39	42	46
4	4	8	12	16	20	24	28	32	36	40	44	48	52	56	60
5	5	10	15	20	25	30	35	40	45	50	55	60	65	70	75
6	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90
7	7	14	21	28	35	42	49	56	63	70	77	84	91	98	105
8	8	16	24	32	40	48	56	64	72	80	88	96	104	112	120
9	9	18	27	36	45	54	63	72	81	90	99	108	117	126	135
10	10	20	30	40	50	60	70	80	90	100	110	120	130	140	150
11	11	22	33	44	55	66	77	88	99	110	121	132	143	154	165
12	12	24	36	48	60	72	84	96	108	120	132	144	156	168	180
13	13	26	39	52	65	78	91	104	117	130	143	156	169	182	195
14	14	28	42	56	70	84	98	112	126	140	154	168	182	196	210
15	15	30	45	60	75	90	105	120	135	150	165	180	195	210	225

# Geometry

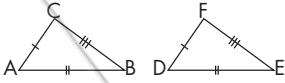
## Congruent triangles



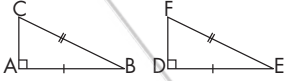
**ASA** Angle, Side, Angle  
 $\triangle ABC \cong \triangle DEF$



**SAS** Side, Angle, Side  
 $\triangle ABC \cong \triangle DEF$



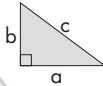
**SSS** Side, Side, Side  
 $\triangle ABC \cong \triangle DEF$



**HS** Hypotenuse, Side  
 (right  $\triangle$ 's only)  
 $\triangle ABC \cong \triangle DEF$

## Pythagorean theorem

$$a^2 + b^2 = c^2$$



## Area and volume

$$\pi = 3.14159265\dots$$

**Circle of radius  $r$**   
 circumference =  $2\pi r$   
 area =  $\pi r^2$

**Sphere of radius  $r$**   
 surface area =  $4\pi r^2$   
 volume =  $\frac{4}{3}\pi r^3$

**Right circular cylinder of radius  $r$  and height  $h$**   
 surface area =  $2\pi r^2 + 2\pi r h$   
 volume =  $\pi r^2 h$

**Right circular cone of radius  $r$ , height  $h$  and slant height  $s$**   
 surface area =  $\pi r^2 + \pi r s$   
 volume =  $\frac{1}{3}\pi r^2 h$

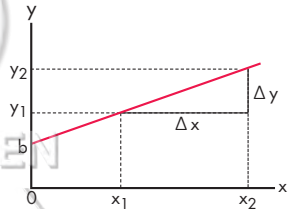
## Equations of a straight line

**Standard form:**  $Ax + By = C$

$A, B \neq 0$

**Slope-Intercept form:**  $y = mx + b$   $m = \frac{\Delta y}{\Delta x} = \text{slope}$   
 $b$  is the  $y$ -intercept

**Point-Slope form:**  $y - y_1 = m(x - x_1)$   $m = \text{slope}$   
 $(x_1, y_1) = \text{point on the line}$



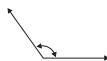
## Angles



**Acute**  
 (less than  $90^\circ$ )



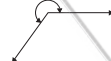
**Right**  
 (equal to  $90^\circ$ )



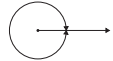
**Obtuse**  
 (greater than  $90^\circ$   
 and less than  $180^\circ$ )



**Straight**  
 (equal to  $180^\circ$ )



**Reflex**  
 (greater than  $180^\circ$   
 and less than  $360^\circ$ )



**1 revolution**  
 (equal to  $360^\circ$ )

Two complementary angles have a sum of  $90^\circ$  • Two supplementary angles have a sum of  $180^\circ$

## Triangles



**Scalene**  
 (three unequal sides)



**Isosceles**  
 (two equal sides)



**Equilateral**  
 (three equal sides)



**Right**  
 (one right angle)



**Acute**  
 (three acute angles)



**Obtuse**  
 (one obtuse angle)

# Algebra

## Order of Operations

Mathematical operations are always performed in the following order:

1. Parentheses (and other grouping symbols)
2. Exponents
3. Multiplication and Division
4. Addition and Subtraction

Use the expression **Please Excuse My Dear Aunt Sally** to help you remember!

## Factoring

$$x^2 - y^2 = (x + y)(x - y)$$

$$x^2 + 2xy + y^2 = (x + y)^2$$

$$x^2 - 2xy + y^2 = (x - y)^2$$

$$x^3 - y^3 = (x - y)(x^2 + xy + y^2)$$

$$x^3 + y^3 = (x + y)(x^2 - xy + y^2)$$

$$x^3 - 3x^2y + 3xy^2 - y^3 = (x - y)^3$$

$$x^3 + 3x^2y + 3xy^2 + y^3 = (x + y)^3$$

## Quadratic formula

The roots of the quadratic equation  $ax^2 + bx + c = 0$  are:  $x = \frac{-b \pm \sqrt{b^2 - 4ac}}{2a}$   $a \neq 0$

## Laws of Exponents

$$x^0 = 1 \quad x \neq 0$$

$$x^a = \underbrace{x \cdot x \cdot x \dots}_{(a \text{ times})}$$

$$x^a = \frac{1}{x^{-a}} \quad x \neq 0$$

$$\sqrt[a]{x} = x^{\frac{1}{a}} \quad x > 0$$

$$x^{\frac{a}{b}} = \sqrt[b]{x^a} = (\sqrt[b]{x})^a \quad x > 0$$

$$x^a \cdot x^b = x^{a+b}$$

$$\frac{x^a}{x^b} = x^{a-b} \quad x \neq 0$$

$$(x^a)^b = x^{ab}$$

$$(xy)^a = x^a y^a$$

$$\left(\frac{x}{y}\right)^a = \frac{x^a}{y^a} \quad y \neq 0$$

## Logarithms

$$y = 10^x \iff x = \log y \quad (\text{common log})$$

$$\log_{10} x = \log x$$

$$\log 10 = 1 \quad \log 1 = 0$$

$$\log(ab) = \log a + \log b \quad a, b > 0$$

$$\log\left(\frac{a}{b}\right) = \log a - \log b \quad a, b > 0$$

$$\log a^b = b \log a \quad a > 0, b \in \mathbb{R}$$

$$\log \sqrt[b]{a} = \frac{1}{b} \log a \quad a, b > 0$$

$$y = e^x \iff x = \ln y \quad (\text{natural log}) \quad e = 2.71828\dots$$

$$\ln e = 1 \quad \ln x = \log_e x$$

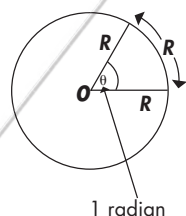
$$e^{\ln x} = x; \quad x > 0 \quad \ln e^x = x; \quad x \in \mathbb{R}$$

# Trigonometry

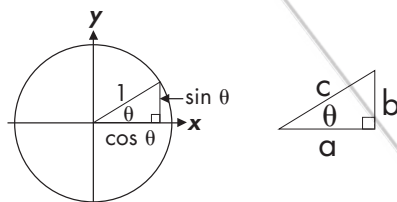
## Radian measure

$$\theta = 1 \text{ radian}$$

$$\pi \text{ radians} = 180^\circ$$



## Trigonometry functions



$$\sin \theta = \frac{b}{c} = \frac{\text{opposite}}{\text{hypotenuse}} \quad \cos \theta = \frac{a}{c} = \frac{\text{adjacent}}{\text{hypotenuse}} \quad \tan \theta = \frac{b}{a} = \frac{\text{opposite}}{\text{adjacent}}$$

$$\csc \theta = \frac{c}{b} = \frac{1}{\sin \theta} \quad \sec \theta = \frac{c}{a} = \frac{1}{\cos \theta} \quad \cot \theta = \frac{a}{b} = \frac{1}{\tan \theta}$$

$$\sin^2 \theta + \cos^2 \theta = 1 \quad \tan^2 \theta + 1 = \sec^2 \theta \quad 1 + \cot^2 \theta = \csc^2 \theta$$



# Canadian Politics and Flags of the Provinces

## PRIME MINISTERS OF CANADA (SINCE CONFEDERATION - 1867)

1. The Right Honourable Sir John A. Macdonald.....	July 1, 1867 - Nov. 5, 1873
2. The Honourable Alexander Mackenzie.....	Nov. 7, 1873 - Oct. 8, 1878
3. The Right Honourable Sir John A. Macdonald.....	Oct. 17, 1878 - June 6, 1891
4. The Honourable Sir John C. Abbott.....	June 16, 1891 - Nov. 24, 1892
5. The Right Honourable Sir John S.D. Thompson.....	Dec. 5, 1892 - Dec. 12, 1894
6. The Honourable Sir Mackenzie Bowell.....	Dec. 12, 1894 - April 27, 1896
7. The Right Honourable Sir Charles Tupper.....	May 1, 1896 - July 8, 1896
8. The Right Honourable Sir Wilfrid Laurier.....	July 11, 1896 - Oct. 6, 1911
9. The Right Honourable Sir Robert L. Borden.....	Oct. 10, 1911 - July 9, 1920
10. The Right Honourable Arthur Meighen.....	July 10, 1920 - Dec. 28, 1921
11. The Right Honourable William Lyon Mackenzie King.....	Dec. 29, 1921 - June 28, 1926
12. The Right Honourable Arthur Meighen.....	June 29, 1926 - Sept. 24, 1926
13. The Right Honourable William Lyon Mackenzie King.....	Sept. 25, 1926 - August 6, 1930
14. The Right Honourable Richard Bedford Bennett.....	August 7, 1930 - Oct. 22, 1935
15. The Right Honourable William Lyon Mackenzie King.....	Oct. 23, 1935 - Nov. 14, 1948
16. The Right Honourable Louis Stephen St-Laurent.....	Nov. 15, 1948 - June 20, 1957
17. The Right Honourable John G. Diefenbaker.....	June 21, 1957 - April 21, 1963
18. The Right Honourable Lester B. Pearson.....	April 22, 1963 - April 19, 1968
19. The Right Honourable Pierre Elliott Trudeau.....	April 20, 1968 - June 3, 1979
20. The Right Honourable Charles Joseph Clark.....	June 4, 1979 - March 2, 1980
21. The Right Honourable Pierre Elliott Trudeau.....	March 3, 1980 - June 29, 1984
22. The Right Honourable John Napier Turner.....	June 30, 1984 - Sept. 17, 1984
23. The Right Honourable Brian Mulroney.....	Sept. 17, 1984 - June 24, 1993
24. The Right Honourable Kim Campbell.....	June 25, 1993 - Nov. 3, 1993
25. The Right Honourable Jean Chrétien.....	Nov. 4, 1993 - Dec. 11, 2003
26. The Right Honourable Paul Martin.....	Dec. 12, 2003 - Feb. 6, 2006
27. The Right Honourable Stephen Harper.....	Feb. 6, 2006 - Nov. 4, 2015
28. The Right Honourable Justin Trudeau.....	Nov. 4, 2015 -



Canada



Newfoundland and Labrador



Nova Scotia



Prince Edward Island



New Brunswick



Quebec



Ontario



Manitoba



Saskatchewan



Alberta



British Columbia



Yukon Territory



Northwest Territories



Nunavut

## GOVERNORS GENERAL OF CANADA\* (SINCE CONFEDERATION - 1867)

1. The Viscount Monk.....	1867 - 1868
2. Lord Lisgar.....	1869 - 1872
3. The Earl of Dufferin.....	1872 - 1878
4. The Marquess of Lorne.....	1878 - 1883
5. The Marquess of Lansdowne.....	1883 - 1888
6. Lord Stanley of Preston.....	1888 - 1893
7. The Earl of Aberdeen.....	1893 - 1898
8. The Earl of Minto.....	1898 - 1904
9. The Earl Grey.....	1904 - 1911
10. H.R.H. The Duke of Connaught.....	1911 - 1916
11. The Duke of Devonshire.....	1916 - 1921
12. Lord Byng.....	1921 - 1926
13. The Viscount Willingdon.....	1926 - 1931
14. The Earl of Bessborough.....	1931 - 1935
15. Lord Tweedsmuir.....	1935 - 1940
16. The Earl of Athlone.....	1940 - 1946
17. The Viscount Alexander.....	1946 - 1952
18. The Right Honourable Vincent Massey.....	1952 - 1959
19. Major General the Right Honourable Georges P. Vanier.....	1959 - 1967
20. The Right Honourable Roland Michener.....	1967 - 1974
21. The Right Honourable Jules Léger.....	1974 - 1979
22. The Right Honourable Edward Schreyer.....	1979 - 1984
23. The Right Honourable Jeanne Sauvé.....	1984 - 1990
24. The Right Honourable Ramon John Hnatyshyn.....	1990 - 1995
25. The Right Honourable René Lévesque.....	1995 - 1999
26. The Right Honourable Adrienne Clarkson.....	1999 - 2005
27. The Right Honourable Michaëlle Jean.....	2005 - 2010
28. The Right Honourable David Lloyd Johnston.....	2010 - 2017
29. The Right Honourable Julie Payette.....	2017 - 2021
30. The Right Honourable Mary Simon.....	2021 -

\* The titles of rank shown for governors general are those held during their term of office.

# World Map



## America

Antigua-and-Barbuda, St. John's  
 Argentina, Buenos Aires  
 Bahamas, Nassau  
 Barbados, Bridgetown  
 Belize, Belmopan  
 Bermuda, Hamilton  
 Bolivia, La Paz, Sucre  
 Brazil, Brasilia  
 Canada, Ottawa  
 Chile, Santiago  
 Colombia, Bogotá  
 Costa Rica, San Jose  
 Cuba, Havana  
 Dominica, Roseau  
 Dominican Republic, Santo Domingo  
 Ecuador, Quito  
 El Salvador, San Salvador  
 French Guyana, Cayenne  
 Grenada-and-Carriacou, St. George's

Guatemala, Guatemala City  
 Guyana, Georgetown  
 Haiti, Port-au-Prince  
 Honduras, Tegucigalpa  
 Jamaica, Kingston  
 Mexico, Mexico City  
 Nicaragua, Managua  
 Panama, Panama City  
 Paraguay, Asuncion  
 Peru, Lima  
 Saint Lucia, Castries  
 Saint Vincent and the Grenadines, Kingstown  
 Suriname, Paramaribo  
 Trinidad-and-Tobago, Port-of-Spain  
 Uruguay, Montevideo  
 U.S.A., Washington D.C.  
 Venezuela, Caracas

## Europe

Albania, Tiranë  
 Andorra, Andorra la Vella  
 Austria, Vienna  
 Belgium, Brussels  
 Bosnia Herzegovina, Sarajevo  
 Bulgaria, Sofia  
 Belarus, Minsk  
 Croatia, Zagreb  
 Czech Republic, Prague

Denmark, Copenhagen  
 Estonia, Tallinn  
 Finland, Helsinki  
 France, Paris  
 Germany, Berlin  
 Greece, Athens  
 Greenland, Nuuk  
 Hungary, Budapest  
 Iceland, Reykjavik  
 Ireland, Dublin  
 Italy, Rome

Latvia, Riga  
 Liechtenstein, Vaduz  
 Lithuania, Vilnius  
 Luxembourg, Luxembourg  
 Malta, Valletta  
 Moldova, Chisinau  
 Monaco, Monaco  
 Montenegro, Podgorica  
 Netherlands, Amsterdam

Norway, Oslo  
 Poland, Warsaw  
 Portugal, Lisbon  
 Republic of Macedonia, Skopje  
 Romania, Bucharest  
 San Marino, San Marino  
 Serbia, Belgrade  
 Slovak Republic, Bratislava  
 Slovenia, Ljubljana

Spain, Madrid  
 Sweden, Stockholm  
 Switzerland, Berne  
 Ukraine, Kiev  
 United Kingdom, London



## Africa

Algeria, Algiers  
 Angola, Luanda  
 Benin, Porto-Novo  
 Botswana, Gaborone  
 Burkina Faso,  
 Ouagadougou  
 Burundi, Bujumbura  
 Cameroon, Yaoundé  
 Cape Verde, Praia  
 Central African Rep.,  
 Bangui  
 Chad, N'Djamena  
 Comoros, Moroni  
 Congo, Brazzaville  
 Côte d'Ivoire,  
 Yamoussoukro  
 Dem. Rep. of the  
 Congo, Kinshasa  
 Egypt, Cairo  
 Equatorial Guinea,  
 Malabo  
 Eritrea, Asmara  
 Ethiopia, Addis  
 Ababa  
 Gabon, Libreville  
 South Africa, Pretoria  
 Ghana, Accra  
 Guinea, Conakry  
 Guinea-Bissau, Bissau  
 Kenya, Nairobi  
 Lesotho, Maseru  
 Liberia, Monrovia  
 Libya, Tripoli  
 Madagascar,  
 Antananarivo  
 Malawi, Lilongwe  
 Mali, Bamako  
 Mauritania, Nouak-  
 chott  
 Mauritius, Port Louis  
 Morocco, Rabat  
 Mozambique,  
 Maputo  
 Namibia, Windhoek  
 Niger, Niamey  
 Nigeria, Abuja  
 Rep. of Djibouti,  
 Djibouti  
 Rwanda, Kigali  
 São Tomé and Prin-  
 cipe, São Tomé  
 Senegal, Dakar  
 Seychelles, Victoria  
 Sierra Leone, Free-  
 town  
 Somalia, Mogadishu  
 South Africa, Pretoria  
 Sudan, Khartoum  
 Swaziland, Mbabane  
 Tanzania, Dodoma  
 Togo, Lomé  
 Tunisia, Tunis  
 Uganda, Kampala  
 Zambia, Lusaka  
 Zimbabwe, Harare

## Asia

Afghanistan, Kabul  
 Armenia, Yerevan  
 Azerbaijan, Baku  
 Bahrain, Manama  
 Bangladesh, Dhaka  
 Bhutan, Thimphu  
 Brunei, Bandar Seri  
 Begawan  
 Cambodia, Phnom Penh  
 Cyprus, Nicosia  
 Dem. People's Rep. of  
 Korea, Pyongyang  
 Georgia, Tbilisi  
 India, New Delhi  
 Indonesia, Jakarta  
 Iran, Tehran  
 Iraq, Baghdad  
 Israel, Jerusalem  
 Japan, Tokyo  
 Jordan, Amman  
 Kazakhstan, Astana  
 Kuwait, Kuwait  
 Kyrgyzstan, Bishkek  
 Laos, Vientiane  
 Lebanon, Beirut  
 Malaysia, Kuala Lumpur  
 Maldives, Malé  
 Mongolia, Ulaanbaatar  
 Myanmar, Naypyidaw  
 Nepal, Kathmandu  
 Oman, Muscat  
 Pakistan, Islamabad  
 People's Republic  
 of China, Beijing  
 Philippines, Manila  
 Qatar, Doha  
 Rep. of Korea, Seoul  
 Russia, Moscow  
 Saudi Arabia, Riyadh  
 Singapore, Singapore  
 Sri Lanka, Colombo,  
 Sri Jayawardenapura  
 Kotte  
 Syria, Damascus  
 Tajikistan, Dushanbe  
 Thailand, Bangkok  
 Turkey, Ankara  
 Turkmenistan, Ashgabat  
 United Arab Emirates,  
 Abu Dhabi  
 Uzbekistan, Tashkent  
 Vietnam, Hanoi  
 Yemen, Sana'a

## Oceania

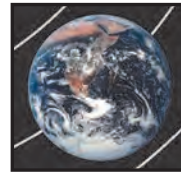
Australia, Canberra  
 Fed. States of  
 Micronesia, Palikir  
 Fiji, Suva  
 Kiribati, Tarawa  
 Marshall Islands,  
 Majuro  
 Nauru, Yaren District  
 New Caledonia,  
 Noumea  
 New Zealand,  
 Wellington  
 Papua New Guinea,  
 Port Moresby  
 Samoa, Apia  
 Solomon Islands,  
 Honiara  
 Tonga, Nuku'alofa  
 Tuvalu, Funafuti  
 Vanuatu, Port Vila



# Solar System

Planet*	Distance from the Sun (10 <sup>6</sup> km)	Diameter (km)	Mass (10 <sup>24</sup> kg)	Rotation period (hours)	Orbital Period (days)	Mean surface temperature (°C)	Number of Moons
Mercury	57.9	4879	0.330	1407.6	88	167	0
Venus	108.2	12 104	4.87	-5832.5	224.7	464	0
Earth	149.6	12 756	5.97	23.9	365.2	15	1
Mars	227.9	6792	0.642	24.6	687	-65	2
Jupiter	778.6	142 984	1898	9.9	4331	-110	79
Saturn	1433.5	120 536	568	10.7	10 747	-140	82
Uranus	2872.5	51 118	86.8	-17.2	30 589	-195	27
Neptune	4495.1	49 528	102	16.1	59 800	-200	14

\* On August 24, 2006, the International Astronomical Union (IAU) formally downgraded Pluto from an official planet to a dwarf planet (like Eris and Ceres).



## Earth

The Earth is the solar system's fifth largest planet and the third in distance from the Sun. It spins from west to east around its polar axis. This rotation causes the alternation of day and night. As it rotates, the Earth also orbits around the Sun. This causes the change of seasons.

### Age of the Earth:

approx. 4.5 billion years

### Orbital speed:

107 218 km/h

### Rotation speed:

1670 km/h

### Equatorial circumference:

40 030 km

### Mass:

5.97 X 10<sup>24</sup> kg

### Surface area:

510 064 472 km<sup>2</sup>

### Continental surface area:

149 500 000 km<sup>2</sup> (29.3%)

### Oceanic surface area:

360 500 000 km<sup>2</sup> (70.7%)

Source: <https://nssdc.gsfc.nasa.gov/planetary/factsheet/NASA>, October 2019





# Timetable

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

LAURENTIEN