

Grade 8 Science Annual Learning Plan

Every unit, and every lesson inside it, for the whole school year. Nothing here is a summary: this is the list the material is built from.

10

UNITS

48

LESSONS

28

DOCUMENTS

516

PRINTED PAGES

What this course is

For a student about to start high school science, who needs the gaps found now rather than in October.

This is the last year before high school science counts. The pack ends with a readiness assessment that does not just give a mark: it names which topic each lost mark came from, so the summer can be spent on the right four things.

How it is arranged

Seven units, in the order they are meant to be taught. Every unit contains the same set of documents: Study Book, Workbook, Drill Book and a Unit Test. A unit is roughly a month of work at two classes a week, so the seven units are a school year.

It is written to be province-neutral. It follows what a Canadian student is expected to know in Grade 8 Science, without being tied to the wording of one province.

What is not in it

There are no answers printed anywhere in this course. A child who can see the answer stops working out the question, and the working is the point. Marking guides exist and they stay with the tutor.

The year, unit by unit

Seven units, 48 lessons. The lesson names below are the real headings inside the Study Books.

WHEN	UNIT	THE LESSONS INSIDE IT
Month 1	Science Skills	Explain why the method decides the answer, Tell a control group from a controlled variable - the..., Record a reading as $\pm$ half the smallest division and..., Keep accuracy, Design a results table with repeats in their own columns, Choose between a bar chart, Calculate a gradient as rise $\div$ run, Separate random from systematic error, Write a conclusion and a separate evaluation
Month 2	Cells	Name every part of a compound light microscope, Calculate total magnification as eyepiece $\times$ objective, Use actual size = image size $\div$ magnification, State the three parts of cell theory and give the..., Name every organelle in a plant and an animal cell..., Explain diffusion and osmosis as movement down a..., Calculate a surface area to volume ratio, Tie the shape of five specialised cells to the job..., Answer to the command word - analyse
Month 3	Fluids	Explain, Define viscosity as internal friction, Calculate density from $\rho = m \div V$, and rearrange it to..., Find the volume of an irregular solid by displacement, State Archimedes' principle - the buoyant force equals..., Explain how a submarine, Calculate pressure from $p = F \div A$ in pascals, Explain the hydraulic multiplier, Evaluate a real decision about moving fluids - a...
Month 4	Systems in Action	Describe any system as input, Calculate work from $W = F \times d$ in joules, Name the six simple machines and say which force each..., Identify a first, Calculate mechanical advantage two ways - from forces..., Work out a gear ratio from the teeth, Calculate efficiency as a percentage, Explain how hydraulic and pneumatic systems do work, Evaluate a decision to replace a human task with a machine
Month 5	Water Systems	State how Earth's water is divided - 97.5% salt, Name every stage of the water cycle and say which of..., Use watershed, Describe an aquifer, Explain how differences in temperature and salinity..., Explain how a glacier forms and moves, Interpret dissolved oxygen, Calculate a flow rate from a volume and a time, Put the five treatment stages in order and say what..., Evaluate a real water decision
Month 6	Review and Grade 9 Readiness	Review and Grade 9 Readiness
Month 7	Term and Year-End Tests	Term and Year-End Tests

Tests, and what you can see

Assessment plan

WHAT	WHEN	COVERS
Unit test	End of each unit	The nine lessons of that unit, nothing from outside it.
Term 1	After Unit 3	Units 1 to 3 together.
Term 2	After Unit 6	Units 4 to 6, with Units 1 to 3 assumed.
Term 3	After Unit 9	Units 7 to 9, with everything before it assumed.
Final	End of Unit 10	The whole year, in one assessment.

How to use the year

Take one unit at a time and keep the order. Read the Study Book lesson first, because it teaches: one idea, a picture, a worked example, and the words to say. Then your child does the Workbook page that follows it. Keep the unit test for the end of the unit rather than partway through, so it measures the unit and not the lesson.

Print one unit at a time. Everything is built for ordinary letter paper, 8.5 by 11 inches.

What comes with the pack

- ✓ 28 printable documents, 516 pages
- ✓ A test at the end of every unit and a full assessment at the end of the year
- ✓ This plan, so you always know where you are
- ✓ Unit 1 free, before you decide anything

If the explaining is the hard part

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