Thinking Like a Scientist: Unit Overview

SNC1W, Grade 9 Science (De-streamed), Unit 1. 8 classes of 75 minutes, plus time for the summative investigation (about two weeks).

The big question

How do scientists and engineers find answers they can trust?

Students build the STEM skills they will use all year: lab safety and WHMIS, testable questions and variables, careful measurement and graphing, a paper-helicopter fair test, research with SIFT, Python coding to analyse data, an engineering design challenge, and the contributions of scientists from many communities, including how AI is changing STEM careers. The unit ends with an independent fair test investigation and lab report. All data sets and scenarios are original, and every lab uses cheap, common materials.

Lessons

#	Lesson	Classes	Question	Expectations	What's inside
1	**Welcome to the Lab**	1	How do scientists stay safe?	A1.5, A1.2	Safe or not safe; WHMIS 2015 pictograms; safety scavenger hunt; safety contract
2	**Asking Testable Questions**	1	What makes a question testable?	A1.2, A1.1	Testable questions; variables; hypotheses; plan a fair test
3	**Measuring and Recording Data**	1	How do we collect data we can trust?	A1.2, A1.4, A1.5	SI units; ruler-drop reaction time; averages; graphs
4	**The Fair Test Lab**	1	How does wing length affect fall time?	A1.2, A1.5, A1.4	Paper helicopters; three trials; conclusion; lab report
5	**Research Like a Scientist**	1	How do we know which claims to trust?	A1.1, A2.4	Research process; SIFT; claim check; citations
6	**Code the Data**	1	How can code help scientists?	A1.4, A1.2	Python variables, lists and loops; reaction-time program
7	**Engineering Design Challenge**	1	How do engineers solve problems?	A1.3, A2.1, A1.5	Design process; paper tower; skilled trades
8	**Who Does Science?**	1	Who does science, and who decides what's studied?	A2.5, A2.2, A2.3	Canadian scientists; Indigenous knowledge; AI and careers; summative preview

© 2026 K9solutions

Assessment

Type	In this unit
Assessment for learning	Symbol check, variable detective, ruler-drop data, helicopter lab, claim check, trace it, design log, scientist profile, exit tickets
Assessment as learning	Self-checks against success criteria, peer checks of hypotheses
Assessment of learning	Fair Test Investigation and lab report, with a rubric in the Summative Task file (suggested weight: 6% of the final mark)

What's included

In the Start Here folder:

- **Summative Task and Rubric:** the Fair Test Investigation, with five question options and safety notes
- **Lab Skills Kit:** safety contract, lab report template, graph paper and engineering design log, for use all year

Safety: every student needs a signed safety contract before Lesson 4. Every hands-on activity has safety notes in its lesson plan. Follow your board's science safety guidelines and your school's emergency procedures. Coding uses free Python (python.org) or a free browser-based editor approved by your board.

What's in each lesson

- Teacher lesson plan with expectations, timed sequence, differentiation, look-fors and answer guides
- Slides with speaker notes
- Student handouts and organizers
- Editable Word and PowerPoint files, plus PDFs

© 2026 K9solutions