

Grade 7/8 Multi-week Inquiry for the Literacy Block

How does science and technology relate to society and the environment?

Reading Expectations: OE 1

Writing Expectations: OE 1,2,3

Oral Communication: OE 2

Media Literacy: OE 3

Enduring Understandings:

Grade 7/8 Science: Students will understand the impact of science and technology on their lives, the lives of all Canadians, and the environment. Students will develop the skills, strategies, and habits of mind required for scientific inquiry and technological problem solving.

Enduring Understandings:

Reading: Students will identify a variety of texts related to their investigation in order to establish background knowledge and compare previous scientific research to their current investigation topic
 Writing: Students will be able to write a complete scientific report using organization appropriate to the text form
 Oral Communication: Students will use speaking skills and strategies to present their investigation in a formal judging situation
 Media Literacy: Students will produce a visual display board of their investigation

Grade: 7 Any Strand OE 1

Grade: 8 Any Strand OE 1

This unit can be used with any strand in the Ontario Grade 7 or 8 Science Curriculum.

Culminating Tasks (reading incorporated in all)

Say: An oral presentation which describes their research, experiment or invention using diagrams, charts, graphs and/or written descriptions

Write: A scientific report

Do: A science experiment, invention or study based on a specific question that arises from a practical problem or issue

Resources (Think of your 'Big Idea', curriculum expectations, text variety, zone of proximal development): Mentor Texts, Shared, Guided, Independent, Content, Media Literacy, Ministry/Professional Resources

Pearson Investigating Science and Technology 7 and 8; Nelson Science and Technology Perspectives 7 and 8; Think Literacy: Cross-Curricular Approaches Grades 7-12; Think Literacy: Science and Technology; Write Source 2000: A guide to Writing, Thinking and learning; QRSTF Website

• **Some content-specific reading/research/inquiry/mapping will be done during content timetable blocks.**

Gradual Release of Responsibility (read alouds; shared reading, writing; guided reading, writing; independent reading, writing; oral discourse)

Week #1	Week #2	Week #3	Week #4	Week #5
<p>ASKING QUESTIONS Read Aloud: Microbiologists at Work (Pearson 8 p.55) related to cluster question</p> <p>Oral Communication: (based on read aloud text) Brainstorm as a class how scientists came to understand what caused disease and the impact this had on medicine and our society and understanding of the environment</p> <p>Shared Writing: As a class brainstorm a list of science related questions that arise from practical problems or issues (<i>Think Literacy: Science and Technology 7-8 pp.2-5</i> will support you in teaching students to generate ideas and questions as well as refine the questions)</p> <p>Independent Writing: Students write their own list of scientific questions that have arisen from practical problems or issues in their daily lives</p> <p>FORMULATING OPINIONS THROUGH RESEARCH</p> <p>Shared Writing: As a class using "Writing an Outline" framework (<i>Think Literacy: Science and Technology 7-8 pp.6-7</i>) write an outline for one of the science questions posed on Day 1. You may want to include a KWL Chart</p>	<p>PLANNING INVESTIGATIONS TO ANSWER QUESTIONS</p> <p>Shared Reading: Read "Searching for Information" pp.260-281 <i>Write Source 2000</i> to introduce to students to sources of information for conducting research based on a scientific question they have developed</p> <p>Independent Reading: Students gather and read resources relevant to their scientific question</p> <p>Reading Response: Students respond using the resources they have read related to their scientific question to: "Write a response that details anything that you have learned and/or that challenges your thinking?"</p> <p>COLLECTING DATA</p> <p>Shared Reading: "Reading Charts" pp.301-306 <i>Write Source 2000</i> guides students through understanding graphs, tables and diagrams</p> <p>Guided Reading: In groups, have students examine a variety of graphs, tables and diagrams and discuss why the author has chosen the particular structure to represent their data (this could also be a focus in math through the Data Management strand)</p>	<p>COMMUNICATING IDEAS THROUGH REPORT WRITING</p> <p>Shared Reading: Mentor text Science Fair Report Sample-Throughout week breakdown structure of report and signal words. Create an anchor chart that lists features specific to a science fair report as well as some of the signal/linking words used in this type of report (background, question, hypothesis, variables, materials, method, observations, conclusions, applications, references)</p> <p>Shared Writing: Use "Writing a Procedure" <i>Think Literacy: Cross-Curricular Approaches</i> pp.142-143 or "Writing for a Purpose: Using Templates" <i>Think Literacy: Science and Technology 7-8 pp.28-33</i> to write a science fair report together (base it on a any well known cause effect relationship or draw from your current science unit experiments). Use the previously created anchor chart and ensure that signal words are included. This will be used as a model to compliment the anchor chart.</p> <p>**Students are developing their hands on scientific investigations in the Science block</p>	<p>COMMUNICATING IDEAS THROUGH REPORT WRITING</p> <p>Guided Reading: Give groups of students a draft science fair report and ask them to look for the signal words and key features that are part of structure of a science fair report. Have them refer to the previously created anchor chart. Have them record any features that may be different or missing</p> <p>Guided Writing: In groups, engage students in identifying areas for improvement in a draft science fair report and then revise report accordingly. Use Sample Peer-Editing Checklist from <i>Think Literacy: Science and Technology 7-8 p.24/p.27</i></p> <p>Independent Writing: Student write their own draft science fair report based on their scientific question and experiment, innovation or study which they have been working on during the science content timetable block. They are to identify areas for improvement prior to final draft. You may want to have a peer editing session using the peer-editing checklist above.</p>	<p>COMMUNICATING IDEAS THROUGH REPORT WRITING AND ORAL PRESENTATION</p> <p>Independent Writing: Student writes the final draft of their science fair report based on the experiment, study or innovation they have been developing in science content timetable block</p> <p>Oral Communication: Using the previous draft science fair report discuss with students how they might deliver the information orally to a panel of judges. Create an anchor chart that lists the key speaking points, language and body language a student presenter would use to be effectively communicate in a judging situation ("Preparing a Speech" pp.347-354 <i>Write Source 2000</i> may be a useful resource for informational speeches) Students then develop an oral presentation based on their science fair report</p>
<p>Assessment: Diagnostic: question list</p>	<p>Assessment: Formative: Reading response</p>	<p>Assessment: Formative: group writing of report</p>	<p>Assessment: Formative: draft report</p>	<p>Assessment: Summative: written report, experiment, invention or study and the oral presentation</p>