Learning Goals

Based on Ontario’s Curriculum Expectations

• Students will identify, locate, and use a variety of relevant, reliable, and credible research sources
• Students will select a chemical compound and analyse associated safety and environmental issues
• Students will explore the chemical compound that they have selected and use research to understand its properties and its role or use in one or more relevant chemical reactions
• Students will properly document their research and communicate their findings
• Students will present their findings orally and through a slideshow

Purpose of Task

• to conduct research—using current, reliable sources—to explore a chemical compound of your choosing, along with its properties, use(s) in reactions, and environmental and safety implications
• to document and evaluate the quality of your research sources
• to summarize your findings using a one-page template
• to view your research in light of the Grade 10 Focus on Faith Theme: “Stewardship of Creation,” and recognize that those who work with chemicals have an important role to play in preserving the Gifts of Creation for future generations
• to orally communicate your findings with the aid of a slideshow

Task Outline

<table>
<thead>
<tr>
<th>STEP ONE</th>
<th>STEP TWO</th>
<th>STEP THREE</th>
<th>STEP FOUR</th>
<th>STEP FIVE</th>
<th>STEP SIX</th>
<th>STEP SEVEN</th>
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<tr>
<td>Choose a chemical compound from the list provided</td>
<td>Conduct research using THREE current, reliable sources of information</td>
<td>Summarize your research using the Research Summary Template</td>
<td>Document and analyse your research using the Research Sources Analysis Template and the MLA Style Guide (available on our class website)</td>
<td>Prepare a slideshow presentation to communicate your findings to your classmates</td>
<td>Send your slideshow (as an attachment) to your teacher’s HCDSB email address (NOT their Loyola account) the night before it is due</td>
<td>Present your findings to the class and submit your Research Summary Template and Research Sources Analysis Template</td>
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Chemical Compounds

*CHOOSE ONLY ONE*

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<tr>
<th>CaCO₃</th>
<th>KNO₃</th>
<th>Pb(NO₃)₂</th>
<th>Na₂S</th>
<th>K₂CO₃</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ca(OH)₂</td>
<td>Cu(C₂O₄)₂</td>
<td>PbSO₄</td>
<td>Mg(OH)₂</td>
<td>S (or S₈)</td>
</tr>
<tr>
<td>CuSO₄</td>
<td>(NH₄)₃PO₄</td>
<td>Cu(NO₃)₂</td>
<td>NaOH</td>
<td>C₂H₅OH (ethanol)</td>
</tr>
<tr>
<td>KOH</td>
<td>BaSO₄</td>
<td>H₂SO₄</td>
<td>NaClO</td>
<td>C₆H₆ (benzene)</td>
</tr>
<tr>
<td>FePO₄</td>
<td>(NH₄)₂NO₃</td>
<td>KClO₃</td>
<td>Al₂(SO₄)₃</td>
<td>HgS</td>
</tr>
</tbody>
</table>

Presentation Guidelines

• Six slides or fewer (including title slide)
• No more than 2 ½ minutes in length
• Minimal amount of text → “Less is more”
• Relevant images (WHMIS symbol(s) if any; images of selected compound / associated reaction(s); environmental images)
Research Summary Template

Proper chemical name (or name of “active ingredient”)  Common Chemical Name

__________________________________________  ______________________________________

Chemical Formula  WHMIS Symbol(s)
__________________________  Draw here ✓

What properties make this chemical popular/useful/harmful? What are its uses?

• ____________________________________________
• ____________________________________________
• ____________________________________________
• ____________________________________________

Based on your research, make an appropriate suggestion for safely using this chemical:

• ____________________________________________

Based on your research, make an appropriate suggestion for safely storing and/or disposing of this chemical:

• ____________________________________________

In what ways can this chemical harm the environment or solve an environmental issue? Be very specific.

_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Research ONE chemical reaction that is known to involve the chemical that you have chosen. Describe this reaction by writing its word equation. Your chosen chemical must be either a product or reactant.

_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

Under what circumstances (when/where/why) is the above reaction often used?

_____________________________________________________________________________________
_____________________________________________________________________________________

One fascinating fact about this chemical: _______________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________
_____________________________________________________________________________________

If chemical has no symbol, what precautions are advised?
Research Sources – Analysis Template

Use proper MLA documentation for your sources, and make sure you list them in alphabetical order.

Source #1  *Refer to examples/instructions if you are unsure of how to document your source

_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________

Is it current (published within 20 years)? *A source with no date could be a red flag. YES NO

Is it reliable?  How do I know?  Explain your reasoning!
*Who is the publisher? Is the site attempting to sell you something? What is the author’s background/expertise?
_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________

Source #2  *Refer to examples/instructions if you are unsure of how to document your source

_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________

Is it current (published within 20 years)? *A source with no date could be a red flag. YES NO

Is it reliable?  How do I know?  Explain your reasoning!
*Who is the publisher? Is the site attempting to sell you something? What is the author’s background/expertise?
_____________________________________________________________________________________________
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Source #3  *Refer to examples/instructions if you are unsure of how to document your source

_____________________________________________________________________________________________
_____________________________________________________________________________________________
_____________________________________________________________________________________________

Is it current (published within 20 years)? *A source with no date could be a red flag. YES NO

Is it reliable?  How do I know?  Explain your reasoning!
*Who is the publisher? Is the site attempting to sell you something? What is the author’s background/expertise?
_____________________________________________________________________________________________
_____________________________________________________________________________________________
Properly Documenting Your Sources (MLA FORMAT)

- Go to our class website (www.loyolascience10.weebly.com) *Password: 10hawks
- Go to the RESOURCES tab and click on the MLA Style Guide
- Based on the TYPE(S) of sources you have used, document them using the MLA Style Guide

For your convenience, the general format for internet / web sources is as follows:

Last name, First name of author or compiler or editor. “Title of Section Used Title Case and Quotes.” Title of Entire Website in Italics and Title Case. Publisher or sponsor of the site, date of publication in day month and year order. Medium of publication. Date of access.

If the author is unknown:

“Title of Section Used Title Case and Quotes.” Title of Entire Website in Title Case and Italics. Publisher or sponsor of the site, date of publication in day month and year order. Medium of publication. Date of access.

Sample citation of an online magazine or journal article:


Examining an online news article citation:


Other items to note:

- the first (or only) line of a citation is not indented; subsequent lines are indented
- if there is no publication (*be careful: a potential red flag!), write “n.d.”
- for journal articles and online periodicals, the following are typically included (in order):
  
  volume, issue, date, page(s) → for example: 9.4 (2007): 313-315
Are your sources C.R.A.P.?

Based on the original C.R.A.P. TEST created by Librarian Molly Beestrum, Dominican University

LOOK AT YOUR SOURCE’S...

...CURRENCY; RELIABILITY; AUTHORITY; PERSPECTIVE

Before you start using any source, evaluate it. You could save yourself a lot of time later on.

Ask yourself the following questions:

Currency

- Can you locate when the source was written or last updated? The more specific the date, the better.
- Is this source current enough? Is it written in the last 20 years? If not, the information could be outdated.

Reliability

- What type of information is being provided? Is it useful?
- Is the source biased in any way? If so, this could be a red flag.
- Are references included? *Look for a works cited page*

  * “Studies show that...” is not a reliable piece of evidence if specific “studies” have not been cited

Authority

- Who wrote the source? Based on his/her background, is the author an expert in the field?
- Who is the publisher? Is the publisher reputable?

Purpose

- Is the intent of the source to sell a product or persuade you to buy a service? This is a red flag.
- Are there ads? Pop-ups and excessive advertising are also red flags.
- Is the author presenting a fact or an opinion? Can you tell the difference?
ACCESSING LIBRARY DATABASES

STUDENTS:
• Go to www.hcdsb.org → Students → Library Services → Secondary

EBSCO ACCESS:
• From other computers, access the internet and enter: http://search.epnet.com
  Enter the username: halinet      Enter the password: roman

Literary Reference Centre
Reference database that combines information from over 1000 books and monographs, literary encyclopedias, reference works, and literary journals. *Document types include: literary criticism, biographies, reviews, etc.

Canadian Literary Reference Centre
Reference database that consists of book and reference content from Essays on Canadian Writing Press (ECW Press). ECW Press also provides several individual monographs and biographies, essays, and literary criticism.

MasterFILE Premier
Multidisciplinary database that provides full text for more than 1750 general reference publications with full text information dating as far back as 1975. It also includes nearly 500 full text reference books, 86,017 biographies, 105,786 primary source documents, and an image collection of 341,655 photos. *Database updated daily via EBSCOhost.

Canadian Reference Centre
Combines Canadian magazines, newspapers, newswires and reference books to create the largest collection of regional full text content available to Canadian libraries. *Database includes leading Canadian periodicals and international (US and UK) periodicals in full text; full text reference books; full text biographies and an Image Collection.

Science Reference Centre
Comprehensive research database that provides access to a multitude of full text, science-oriented content, including nearly 640 science encyclopedias, reference books, periodicals, etc.

USERNAMES AND PASSWORDS

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**THINKING & INVESTIGATION TOTAL** 17

## PRESENTATION

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**COMMUNICATION TOTAL** 18

## RESEARCH SOURCES – ANALYSIS TEMPLATE

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**APPLICATION TOTAL** 15

DESCRIPTIVE FEEDBACK:

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