

INQUIRY PROCESS: KEYWORDS

Lesson Plan

Purpose: This lesson allows students to pull out the key concepts that form the basis of their inquiry. Thinking of synonyms for the keywords they highlight will aid them in considering alternative ways that the information is stored and classified. This will help them prepare for the search phase as well as provide better understanding of how to specify their needs.

OUTCOMES

LESSON GOALS	QEP COMPETENCIES
<p>Students will be able to...</p> <ul style="list-style-type: none"> • Extract the main concepts from each of the Little Questions. • Revise and rewrite the main concepts as terms that are searchable. 	<p><i>Arts Education: Visual Arts</i> 2 – To produce media works in the visual arts</p> <p><i>Languages: English Language Arts</i> 3 – To represent her/his literacy in different media 4 – To use language to communicate and learn</p> <p><i>Cross Curricular</i> 1 – To use information 3 – To exercise critical judgment 6 – To use information and communication technologies 8 – To cooperate with others 9 – To communicate appropriately</p>

Materials:

- Computers and Internet access.
- Interactive whiteboard e.g., SmartBoard.
- Worksheets of the Synonym considerations exercise (*see the teacher resources page for the worksheet*).
- Thesauri and dictionaries.
- *Optional: Worksheets of the Keywords exercise (see the teacher resources page for the worksheet).*

DEFINING KEYWORDS AND SYNONYMS

- 1) *Call on* volunteers to define a “keyword”.
Elicit responses until students express that a keyword is the word(s) that the question is about. They are the important words in the Little Question.
- 2) *Project* some example Little Questions and ask students to identify the keywords.
Have the class discuss and come to consensus on the key words in the Little Question.

Some keywords are really key phrases, such as “medieval times”, “endangered species” or “national parks”. It would not make sense to break up these phrases into individual words.



Some examples:

- What is the relationship of clouds to rain?
- What kind of economy was practiced during the medieval times?
- What is Canada's Food Guide's recommended serving of fruits and vegetable for children aged 9-13?

Teacher Tip

Inform students that they do not need to pull out stop words such as 'the', 'an', 'if', or 'but'. These words aren't indexed by search engines so they should not be used here.

- 3) *Call on* volunteers to define a "synonym".
Elicit responses until students express that a synonym is a word or phrase that has the same meaning as another word or phrase.
Some keywords won't have a synonym, such as 'cloud', 'tsunami', or 'flood'.

Teacher Tip

Inform students that when they are thinking about selecting synonyms for their keywords, it is important they consider the context of their topic. Synonyms should be selected based on the audience and format of the material they expect to find. The purpose is to find important related terms, which if they were not searched on, would risk missing relevant information. For example, "medieval time" or "middle ages".

- 4) *Determine* appropriate synonyms for the keywords in the previous examples.
Return to the example questions you used earlier.

Some examples:

- What is the relationship of clouds to rain?
 - Clouds: no synonym.
 - Rain: synonym could be 'precipitation'.
- What kind of economy was practiced during the medieval times?
 - Medieval times: synonym could be 'middle ages'.
 - Economy: synonym could be 'economic system'.
- What is Canada's Food Guide's recommended serving of fruits and vegetables for children aged 9-13?
 - Canada's Food Guide: proper name – no synonym.
 - Fruits and vegetables: no synonym.
Note: 'legume' and 'produce' can be synonyms of fruits and vegetables, but for the context of this question, using the keywords 'fruits' and 'vegetables' is likely to be more successful at finding the desired information.
 - Children aged 9-13: synonym could be 'kids' or 'pre-teens'.



SYNONYM CONSIDERATIONS

- 1) *Introduce* the activity by explaining that selecting synonyms will depend on the context of the topic.
While a word may have many synonyms, you might only want to use only one of them to successfully locate information relevant to your inquiry need.
- 2) *Hand out* the 'Synonym Consideration' worksheet to groups of 2.
The worksheet can be found on the teacher resources page.

Teacher Tip

The first 2 questions focus on the cultural differences among terms. The third question helps students see how the term used will influence the type of information and audience of the sources that is generated in the search results. It is important to carefully consider which synonym(s) to use, as it will impact the search results.

- 3) *Give* students time to locate the answers via the Internet.
- 4) *Ask* students to share their answers with the class.
Have students justify their choices by explaining why the synonym(s) are appropriate for the context. Reinforce correct answers and guide students to understand why some synonyms would not be ideal for certain contexts or to search on because they will yield many false hits. Students might want to avoid keywords that are:
 - Homographs: common words with different meanings
ex: 'pin' could mean:
 - a piece of jewelry or a brooch.
 - a safety pin to hold things together.
 - to affix or fasten, such as pin this to the hem of the skirt.
 - to blame, such as pin the crime on him.
 - to hold, such as pin him down during a wrestling match.
 - Generic/Popular terms: their high frequency will not add to the search.
ex: using 'green' for environmental.
 - Weak terms: not specific enough for a particular subject
ex: 'nice'.

DETERMINING KEYWORDS/SYNONYMS FOR THEIR TOPIC

- 1) *Have* students log into IS-21.
Students should navigate to the IS-21 task that they created. They should be on the **KEYWORDS** step.
- 2) *Remind* students to carefully examine their Little Questions for keywords.
With their partners, students should look at each individual Little Question and pull out the main concepts for each one. They should write these keywords or key phrases in the appropriate text boxes.



Teacher Tip

If students need a reminder about what a keyword, key phrase, or synonym is then have them to go to the IS-21 help text. They can get there by clicking on the help button. ?

- 3) *Direct* students to list a synonym if appropriate. With their partners, students will come up with one synonym for the keyword or key phrase. Let them know that while keywords might have more than one synonym, IS-21 will only allow them to input one synonym. This is because if students add too many synonyms then they will have a harder time locating information when the time comes. Remind them that not all words have a synonym so they should not feel frustrated if they cannot think of one for some of their keywords.

Teacher Tip

If some students want to use 2 synonyms for a key concept but are frustrated that IS-21 will only allow them to enter one into the system, have them reconsider their keyword. Is it the best term to use or would 2 of the synonyms be better? If it is the later then they can replace the keyword with one of the synonyms.

- 4) *Circulate* around the class and view students' work. Ensure that each group's Little Questions have about 2-3 keywords and at least most of those have a synonym.
- 5) Use the **Report** feature of IS-21 to review the students' work.

ePEARL Users

Remember the Report may also be viewed in a student artifact. Think about viewing it there and providing feedback through the Teacher Feedback feature.

Optional Modifications to the Lesson

If you do not have access to the computer lab for this lesson, you can use the worksheet entitled Review and Selecting Main Concepts.

If students are having difficulty coming up with the best synonym, suggest that they brainstorm multiple possibilities on a separate sheet of paper or in a word document. Once they have listed as many as they can think of, they can review it and select the one they feel is best for their needs. They can then input that one into the IS-21 software or on their worksheet.

REFLECTION

For students that have completed the step quickly, suggest they use the extra class time to begin reflecting. Direct them to the reflections window in IS-21 and suggest they use the prompts as needed. There are additional prompts listed on the teacher resource page if you would like to have them broken down by each step.



This is an individual task. Students should not be completing this portion with their group member(s). Even if reflection is not a big part of your classroom, we recommend that you have students reflect at least once.

ePEARL Users

There are two locations that students can reflect- either within their IS-21 task or within the ePEARL artifact that is automatically created whenever a new IS-21 task is started. The reflection ends up in the same place though!

This lesson is an adaptation of a lesson from *AT&T/UCLA's Initiative for the 21st Century Literacies'* teacher resources. It was modified with permission.

