

<b>Lesson Plan Information</b>	
<b>Subject/Course:</b> Trans-Disciplinary Potential. Integration possible in: Language Arts, Sciences, Math, History, and Social Studies.	<b>Name:</b>
<b>Grade Level:</b> 7-12	<b>Date:</b> <b>Time:</b>
<b>Topic:</b> Insulin Artifacts/Curatorial Thinking	<b>Length of Period:</b> 125 minutes
<b>Expectation(s)</b>	
<b>Big Idea OR Framing Question (Directly from the Ontario Curriculum):</b>	
<p>CHC2D - Strand B - Framing Question - "In what ways did the lives and struggles of different individuals, groups, and communities help shape Canada during this period? What lasting impact did they have on Canada?" (Canadian and World Studies: Grades 9 and 10, 2018, p. 108).</p>	
<b>Expectation(s) (Directly from the Ontario Curriculum):</b>	
Utilize expectations for the current course being instructed.	
<b>Learning Skills:</b> Critical Thinking ( <i>Curatorial Thinking</i> )	
<b>Content</b>	
<b>What do I want the learners to know and/or be able to do?</b>	
<b>Today learners will:</b>	
<ul style="list-style-type: none"> <li>- Relate your primary learning goal to the specific expectation for the course being currently instructed.</li> <li>- The suggested Learning Goals related to the discovery of insulin are the following:             <ul style="list-style-type: none"> <li>- Begin to select useful artifacts to create a compelling future-focused story                 <ul style="list-style-type: none"> <li>- Note: This process is known as Curatorial Thinking and will be addressed in Lesson 2. The SASS Model - Selecting, Archiving, Sense-making and Sharing can be accessed here: <a href="https://definingmomentscanada.ca/news/curatorial-thinking-about-health-histories-an-educational-framework/">https://definingmomentscanada.ca/news/curatorial-thinking-about-health-histories-an-educational-framework/</a></li> </ul> </li> <li>- Develop an understanding of curatorial thinking and its value.</li> <li>- Develop awareness of important events that shaped Fredrick Banting's life.</li> </ul> </li> </ul>	

## Assessment / Evaluation

(Recording Devices: anecdotal record, checklist, rating scale, rubric, success criteria)

**Based on the application, how will I know that the learners have learned what I intended?**

- Student generated conversation will allow for partial indication of understanding. This can be accomplished using your anecdotal records, exit tickets or another preferred method.
- Students will be generating a storyboard using the Seven Sentence Story Structure Method described in Lesson 1.
  - Note: This is an overarching task, and will continue over the sequence of Insulin100 lessons.

## Learning Context

### A. The Learners

**(i) What prior experiences, knowledge, and skills do the learners bring with them to this learning experience?**

- Learners may be impacted by diabetes and insulin in their own life, or through the experiences of relatives or friends.
- Learners may also be familiar with insulin as it is a common example to use of Canadian innovation and invention.
- Learners will be familiar with the Banting and Best story.
- Learners may have seen the stamp or the heritage minute (to be released).
- Learners will have begun learning about insulin and its story through the Insulin100 Lessons.

**(ii) How will I differentiate the instruction (content, process, and/or product) to ensure the inclusion of all learners? (must include, where applicable, accommodations and/or modification for learners identified as exceptional)**

- Exceptional learners should be provided with their standard accommodations and modifications.
- ELL students should be provided with their standard accommodations.
- COVID19 Limitations
  - Note: This lesson is optimally delivered in a traditional classroom setting. However, due to COVID19 restrictions you may choose to do this in an alternative method than described below. Suggestions for alternatives are as follows:

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## **B. Learning Environment**

Instructors may include a map of their classroom in this section, including desk placement, and the location(s) of resources/materials.

## **C. Resources/Materials (*cite resources as may be necessary*)**

- 20 artifacts from Fredrick Banting's life (a balance of texts, images and objects)
- Appendices (see attached file)
  - Appendix 1: Analysis Sheet for Reading Around Artifacts (Selection and Archiving)
  - Appendix 2: Reading Into Written Documents (Sense-making and Archiving)
  - Appendix 3: Developing Sound Inferences
  - Appendix 4: Interrogating an Image (Sense-making and Archiving)
  - Appendix 5: Interrogating an Object (Sense-making and Archiving)
  - Appendix 6: Connecto-Map
- Chalkboard/Chalk
- Whiteboard/Markers
- Smartboard (Optional)
- Projector

## **Teaching/Learning Strategies**

## INTRODUCTION

### ***How will I engage the learners? (e.g., motivational strategy, hook, activation of learners' prior knowledge, activities, procedures, compelling problem)***

- Inform students that their challenge will be to use selected artifacts to construct an inspiring visual story that tells of Banting's life and what it takes to become a groundbreaking scientist.
  - Note: Remind students that a groundbreaking scientist creates a positive impact for the common good.
  - Optionally: Ask students what it means to be a groundbreaking scientist.

## MIDDLE

### ***Teaching: How does the lesson develop? How we teach new concepts and processes (e.g., gradual release of responsibility – modeled, shared, and guided instruction; content and strategies).***

- Provide students with a definition of what it means to “curate”. For example: To curate is to select items from among a large number of possibilities for self or others to use and enjoy.
  - Alternatively, ask students if they have heard the word “curate” or “curation” before. This can generate meaningful discussion about museums and other curated collections.
  - Suggest to students that curating can be done thoughtfully (carefully considered and the selection is based on a set of clear criteria) or thoughtlessly (selection is either random or based on personal preferences, no criteria is involved)
- Present students with the following examples and ask them to sort the examples into two groupings:
  - Curating done thoughtfully vs Curating done thoughtlessly.
    - Note: Many of the examples could be grouped under either heading depending on assumptions that are made.
  - Encourage students to place at least 4 in each category and for 2 of their selections they should explain the assumptions they are making to determine the grouping.
  - For example, if the items placed in the time-capsule were randomly selected items it would fit under Curating done thoughtlessly. If the selection was based on a purpose such as telling the story of your family's arrival and life in your community and criteria such as informative, provides unique insights and represents something important, then it would fit under Curating done thoughtfully.
    - • Creating a playlist
    - • Filling a scrapbook with pictures and mementoes from a trip
    - • Preparing a time-capsule
    - • Selecting your favourite snacks for a party

- • Selling items you no longer use at a garage sale
- • Setting out a selection of books on a bookshelf in a family room
- • Selecting games you enjoy to take on a vacation
- • Preparing your backpack for the first day of school
- Optionally, if learners are unsure about the sorting process, hand out the *Curatorial Thinking Optional Task Sheet* for students to work through. This can be done as a class as well.
- Co-construct a definition for “curatorial thinking” by inviting students to suggest words or phrases that describe an important difference between curating thoughtlessly and curating thoughtfully. If helpful, share the following chart to help solidify students' understanding of what distinguishes curatorial thinking from curation.

CURATION	CURATORIAL THINKING
Creating a playlist	Creating a playlist to support Black Lives Matter organized to illustrate the history of racism and resistance
Preparing a time-capsule	Creating a time-capsule that illustrates your family’s history in the community that you live
Hanging family photos on a wall in your home	Hanging a set of carefully selected photos organized so that they present the story of your family
Instagram posts	Posting a selection of related images with relevant captions that share a story of an event
Filling a scrapbook with pictures and mementoes from a trip	Creating a scrapbook that includes the most important and informative pictures and mementoes organized so that they capture the lasting impacts of a trip

- When co-constructing a definition consider that curatorial thinking:
  - Extends curation beyond the selection of items/artifacts to involve quality thinking in the selection, analysis, archiving, and sharing of information

- Is a subset of critical thinking as it relies on the ability to thoughtfully select, organize and use information to communicate a compelling story.
- Has a purpose that is primarily explanatory rather than evaluative, and consequently, curators hope to open doors to intriguing stories and invite others in.
- If time permits and you wish to have your students consider the importance of curatorial thinking, ask them to consider the following five statements (a-e) and select the three most convincing statements. Invite them to explain their selection by commenting on why they believe the statements selected are convincing.
  - a. In an information-rich world we are all curators on a daily basis. We select news from a wide range of sources, skim through various social media platforms, listen to views from our friends and family. We decide what to share, what to ignore, what to read.
  - b. Without curatorial thinking we rely on others to determine what is accepted as truth.
  - c. Curatorial thinking invites everyone to contribute to building knowledge of the past and present, removing control over our collective memory from the hands of a small elite group of scholars.
  - d. As we consume information we decide how it fits with what we already know, what it adds to our body of knowledge and how it challenges our beliefs.
  - e. If we are unable to curate information we will become overwhelmed with the information that we encounter every day.
- Teach the tools for curatorial thinking (the way in which students make sense of overwhelming mounds of information they encounter on a daily basis).
  - Inform students that curatorial thinking involves an iterative process. Three iterative or repeating phases lead to the final phase of sharing: The three iterative phases are Selection, Archiving, and Sense Making. Each of these phases are informed by the other. After an initial selection of trustworthy artifacts, students will begin to cluster artifacts in related groupings. As they engage in sense-making through deeper analysis of the artifacts they may see new connections across and within clusters. Remind students that often artifacts will not speak directly to them but may reveal important insights through sound inferencing.
    - Note, the analysis and making connections involved in sense making require that students are able to form sound inferences. Inferring is a key tool in becoming a competent curatorial thinker. If students are unfamiliar with how to form sound inferences consider using Appendix 3: Developing Sound Inferences. They may also realize that some artifacts are revealing insights they had not initially recognized or that other artifacts are expendable as they are not offering any new information or insights. Hence, the iterative nature of curatorial thinking.

**SELECTION | ARCHIVING | SENSE-MAKING | ARCHIVING | SHARING**

- Selection: The scrutinizing of artifacts

- Involves consideration of the usefulness of a variety of artifacts
    - Usefulness depends on three essential criteria:
      - validity (can the artifact be trusted to provide accurate information?)
      - Relevance (does the artifact contribute information that relates to the issue being explored?)
      - Adds value (does the artifacts provide helpful evidence or insights that adds to what is already known?)
  - Sense Making: Coming to understand what artifacts can tell us
    - Involves careful reading or examination of the artifacts that have been selected
    - Requires both observation and inference to draw out useful conclusions about the artifact
    - Requires making connections between the evidence and insights that the artifact yields and the broader understanding of the issue
  - Archiving: Grouping artifacts to help discern trends, patterns and to detect overlapping evidence
    - Requires determining which artifacts are essential to constructing understanding; which are helpful and worth keeping; and which are expendable
    - Involves determining how to cluster artifacts to create a cohesive story
    - Allows for the recognition of a range of perspective
    - Contributes to prospective thinking (forward focus) by revealing trends, patterns
    - Supports the generation of innovative ideas that are inspired by the emerging clusters
  - Sharing: Constructing and sharing narratives
    - Involves the use of the selected artifacts to construct a narrative account of the event that is accurate, informative and insightful
    - Requires the careful consideration of purpose (is the intent of the narrative primarily to entertain, inform, warn, persuade, celebrate etc.) and audience (for whom is the narrative intended?) in the construction of the narrative
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- Suggest to students that a helpful framework when engaging with curatorial thinking is the Read Around the Artifact; Read Into the Artifact; and to Read Beyond the Artifact.
  - Bring back the 18 artifacts that began the lesson. Assign artifacts to students in a way that differentiates their learning (see Opportunities for Differentiation for suggestions) and invite students to begin with a “Read Around” their artifact(s).
  - Introduce “reading around the artifact”
  - Explain that “reading around an artifact” involves quickly scanning the object—not engaging in careful analysis for the moment. Suggest that peripheral clues to

understanding the artifact may include the following features:

- Type and condition of the material,
  - Dominant features of the artifact,
  - Any headings or subheadings,
  - Stamps or markings,
  - Opening and closing salutations.
- Provide students with a copy of Appendix 1: Analysis Sheet for Reading Around Artifacts. Remind students to consider the criteria for useful artifacts by asking themselves these questions:
    - Is the artifact relevant to the issue I am exploring?
    - Considering by whom and when the artifact was created, can I trust the clues it provides?
    - Does my scan of the artifact suggest that it is likely to add value (new information) to what I already know?
  - Once students have had an opportunity to “read around” their artifact and to make observations and draw inferences encourage them to rate the usefulness of the artifact in helping to tell an inspiring story of Fredrick Banting’s life that also reveals what it takes to make someone a groundbreaking scientist. Invite students to share (via short statement to the class or a brief post online) why they believe the artifact they examined should be kept or set aside.
  - Introduce “reading into” the artifact
    - Re-distribute the artifacts that students have recommended be kept. Inform students that after having read around the artifacts they will now do a more careful examination of the evidence by “reading into” the artifacts.
    - “Reading into” the artifacts involves two important steps.
      - Step 1: Suggest students do a “lateral” examination of their artifact. A lateral examination involves a skimming of written artifacts or a scan of images or items to get a general sense of what the text/image is about or the object might be.
        - To affirm the validity of the source or the soundness of their assumptions based on their scan, encourage students to consult 2-3 reputable sources (a textbook, a website they are familiar with, an encyclopedia).
        - If the sources consulted support the initial reading students are ready to go to step 2.
        - If the sources consulted raise concerns, students should set aside the artifact and try to do additional research to see if there is a conflict between the artifact and sources, or if the validity of the artifact, is called into question.
      - Step 2: Inform students they are now ready to do a deep dive into their artifact by doing a careful examination and analysis of their artifact. If the artifact students are examining is:
        - Written text, provide students with a copy of Appendix 2: Reading

- Into Written Documents
    - An image, provide them with a copy of Appendix 4: Interrogating an Image
    - An object, provide them with a copy of Appendix 5: Interrogating an Object
  - Review each of the Appendices and if necessary work through an example for each to ensure students understand how to use the analysis sheet to help them “read” their artifact.
- Introduce Reading Beyond
  - Inform students that “reading beyond the artifact” involves making connections between the artifact they have examined and what they already know to be true and/or what has been revealed through the examination of related artifacts.
- Invite students to share (through discussion or posting) key insights they have learned from the individual artifacts they examined that will be helpful in constructing an inspiring story of Fredrick Banting’s life and that also reveals what it takes to make someone a ground-breaking scientist.
- Provide students with Appendix 6: Connecto-Map. As the insights revealed by each of the artifacts is presented, encourage students to make connections in support of developing a complete picture of the various elements that made up the character of Fredrick Banting and influences that helped to shape his life and make him a groundbreaking scientist.
  - Encourage students to consider how the insights presented help us to understand 1 or more aspects of Banting’s life and character. Also, encourage them to use arrows to make connections between related insights to show how they help to form a complete picture of Banting as a person.
- Applaud students for their perseverance in completing their careful study of historical artifacts. Remind them that they are now ready to construct (or curate) an insightful (and informative) story of the life of Fredrick Banting that reveals what it takes to make someone a groundbreaking scientist.

**Consolidation and/or Recapitulation Process: How will I check for understanding?**

- Understanding will be checked for through student discussion and demonstration of reading into, around and beyond their artifacts.

**Application: What will learners do to demonstrate their learning? (moving from guided, scaffolded practice, and gradual release of responsibility)**

- Students will continue to work on their 7-Sentence Story Structure Thoughtbook.

- Students will incorporate Curatorial Thinking and the artifacts they believe are relevant to their stories.

## **CONCLUSION**

### ***How will I conclude the lesson?***

- Review from Lesson 1, the details of the Seven Sentence Story Structure from their Thoughtbook. Ask students to sequence 9 artifacts that have been studied during this lesson to set out a story that:
  - Provides accurate and important information about events and experiences that shaped Banting's life;
  - Highlights important contributions Banting made during his life; and points to important character traits that contributed to Banting becoming a groundbreaking scientist
- Invite students to go back to their insulin story they began to construct in Lesson 1 and encourage them to add artifacts from Banting's life that contribute to telling the story of the discovery of insulin that highlights Banting's role as a ground-breaking scientist.
  - Remind students to add ideas from this lesson to their 7 Sentence Story Structure Thoughtbook so that they are continuing to build their compelling story that highlights the attributes of ground-breaking scientists.

## **My Reflections on the Lesson**

### ***What do I need to do to become more effective as a teacher in supporting learning?***

## References

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\*This lesson plan template has been adapted from the Nipissing University Schulich School of Education Bachelor of Education lesson planning template.