# Inquiry Lesson Plan

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| **Lesson Title:** | Exploring Zero Waste Practices  | **Lesson #** | 3 | **Date:** | 7/4/2021 |
| Name: | Swanshi Dulani | Subject(s): | Environmental Science | Grade(s): | 11 |

Lesson Rationale & Overview

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| **Why does this topic matter to students?**In order to ensure healthy lives and promote well-being for all at all ages, there is a need to incorporate sustainable waste management practices. Considering this, it is important for the students to acquire information from the surroundings in which they live so that they can observe, act and reflect on the same. Being the youth of the nation, they should understand and realize their accountability and responsibility towards the sustainability of the environment by investigating and integrating waste-reduction practices. **How does this lesson fit within the larger inquiry project?**This is the third lesson of the inquiry project that stimulates the thinking process of the students by providing them an opportunity to learn about some grocery stores located in their surroundings that are following ‘zero waste practices’. Keeping this in line, students will be encouraged to challenge their own waste consumption and how they can work towards reducing the waste. Moreover, it will enable students to rethink prior to creating waste. **How does this lesson incorporate the inquiry cycle?**This lesson will encourage the learners to research about different grocery stores that works on the goal of producing less or zero waste. In addition to this, they will indulge in collaborative inquiry by working together in groups to investigate, create, discuss and share their learnings with each other in the classroom.  |

Key Questions For Inquiry About the Topic of Study

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| Core Question for Inquiry Project | Supporting Question(s) in This Lesson |
| What are some sustainable waste management or reduction practices employed by the people around?  | Is it possible to produce anything without creating waste?What are some waste free options that are available?How can individuals integrate sustainability in their everyday lives?  |

**Inquiry Approach/Style and Rationale**

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| I have selected ‘Guided Inquiry’ with a goal of providing scaffolding to the guide the students to their inquiry-based project. The purpose is to make the students take charge of their own learning by accumulating knowledge from multiple sources of information, figure out things and search solutions for the existing problem. It will also aid the students to feel motivated towards their learning process and acquire higher-level thinking skills, particularly, brainstorming, investigating, analyzing and evaluating.  |

Core Principles of Effective Teaching. Describe two or more core principles in each lesson.

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| **Core Principle 1:** Effective teaching practice begins with the thoughtful and intentional design of learning that engages students intellectually and academically.*\*\*How is the inquiry focused on building disciplinary knowledge and understandings?* |  |
| **Core Principle 2:** The work that students are asked to undertake is worthy of their time and attention, is personally relevant, and deeply connected to the world in which they live.*\*What makes this inquiry valuable, meaningful, and “alive” for the students and teachers?* |  |
| **Core Principle 3:** Assessment practices are clearly focused on improving student learning and guiding teaching decisions and actions.*\*How do I define learning and success in this inquiry? How is learning expressed and articulated in peer, self and teacher assessments?* |  |
| **Core Principle 4:** Teachers foster a variety of interdependent relationships in classrooms that promote learning and create a strong culture around learning.*\*How do I connect students with each other, with experts in the field, with larger communities and nature, and across disciplines?* | This inquiry lesson plan is based on the idea of fostering group learning among students by allowing them to acquire information by researching about different groceries stores that promote sustainable waste reduction practices. Hence, this will provide them a valuable learning experience to learn and connect with each other and their local communities.  |
| **Core Principle 5:** Teachers improve their practice in the company of peers.*\*How do I reflect on the inquiry together, and/or collaborate with others?* | Inquiry is not an isolated process rather it should promote collaboration. Considering this, students will be asked to collaborate with their peers and expand their scope of thinking by investigating and gaining knowledge from multiple sources of information.  |

BC Curriculum Core Competencies

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| Communication | Thinking | Personal & Social |
| **Collaborating**Students will collaborate effectively by recognizing how combining others’ perspectives, strategies, and efforts with their own enhances collective understanding, use, and impact. They value the contributions of group members, interact supportively and effectively using inclusive practices, and strive for shared commitment and mutual benefit. | **Critical Thinking &Reflective Thinking**Students will think critically and reflectively and are analytical and investigative, willing to question and challenge their own thoughts, ideas, and assumptions and challenge those of others. They reflect on the information they receive through observation, experience, and other forms of communication to solve problems, design products, understand events, and address issues. | Personal Awareness & ResponsibilityStudents will understand the connections between personal and social behaviour and well-being. They will demonstrate their competence as creative thinkers when they generate ideas about ways to increase their wellbeing, personal agency, or progress toward their goals.  |

BC Curriculum Big Ideas (STUDENTS UNDERSTAND)

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| Human beings can integrate waste reduction or zero waste practices by thinking and reflecting critically about their responsibility towards maintaining the sustainability of the environment.  |

BC Curriculum Learning Standards

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|  **(STUDENTS DO)** | **(STUDENTS KNOW)** |
| Learning Standards - Curricular Competencies | Learning Standards - Content |
| [Planning and conducting](https://curriculum.gov.bc.ca/curriculum/science/11/environmental-science)* Collaboratively and individually plan, select, and use appropriate investigation methods

[Processing and analyzing data and information](https://curriculum.gov.bc.ca/curriculum/science/11/environmental-science)* Experience and interpret the local environment
* Apply First Peoples perspectives and knowledge, other ways of knowing, and local knowledge as sources of information

[Evaluating](https://curriculum.gov.bc.ca/curriculum/science/11/environmental-science)* Consider social, ethical, and environmental implications of the findings from their own and others’ investigations
 | Students will get to learn about the concept of ‘Sustainable Stores’ and their contribution in producing less waste or zero waste products. Moreover, they will get an opportunity to identify and research about such stores that will facilitate them in developing an in-depth understanding of the topic.  |

BC Curriculum Indigenous Connections/ First Peoples Principles of Learning

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| *How will I incorporate Indigenous knowledge and principles of learning?* Students will seek and analyze information from their surroundings and gain knowledge from diverse sources by communicating with their peers who belong to different communities. Through this, students will understand a very significant first peoples principles of learning, that is, “Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place)”.  |

Respectful Relations: Inclusion, Personalization and Diversity

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| *How will I invite students of all backgrounds, interests and skills into the inquiry?*Students will be invited to work in different groups and research about different stores that work on creating waste free products. Every student will gather information from their surroundings and collaborate with their peers to listen and share the same with others. This will develop an enriching environment that involves learning from and with diverse people and places.  |

Lesson Activities

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| Time Allotted | Teacher | Students | Assessment Activities |
| Invitation: Ask | 5 minutes | Teacher will divide the students into groups of 3-4 and will ask them to select any store that produces sustainable or zero waste products. Teacher will provide them the list of options to get an overview.  | Students will work together in groups and select any one store that works on the goal of ‘zero waste’. They can choose from the list of options provided by the teacher or find any one in their surroundings.  |  |
| Investigate  | 20 minutes  | Teacher will ask the students to investigate in detail about one store and its working.  | Students will involve in a practice of collaborative inquiry by accumulating information and develop an in-depth understanding of any one store either by watching video or reading a relevant article about the same.  | **K-W-L Chart** Students will be asked to prepare a K-W-L Chart to in groups to give a proper direction to their research. (There are 3 categories in K-W-L Chart:1.What do you already know?2. What do you want to know?3. What have you learned?)Students will be asked to fill in the first 2 categories.  |
| Create  | 10 minutes | Teacher will invite the students to create a 5–7-minute presentation about the research that they have done.  | Students will create a group presentation of the investigation they have performed about a particular store.  |  |
| Present and Discuss | 10 minutes | Teacher will allow the students to present the knowledge that they gathered about the store.  | Students will present their learning in the form of a group presentation.  | **K-W-L Chart**Students will be asked to fill in the last category of K-W-L Chart, that is, ‘What have you learned?’’ individually.  |
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**(This lesson plan will indulge the learners into the inquiry process for a week.)**

Materials and Resources (use APA citation format)

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| Plastic-free grocery stores. (n.d.). Plastic Action Centre. <https://plasticactioncentre.ca/directory/plastic-free-grocery-stores/>(n.d.). YouTube. <https://www.youtube.com/watch?v=XIjnr9AOr_w>(n.d.). YouTube. <https://www.youtube.com/watch?v=1aH7RwOD0RE> |

Organizational Strategies (Optional)

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Proactive, Positive Classroom Learning Environment Strategies (Optional)

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Extensions

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| Students will be asked to watch the ‘The Big Waste Video’ and write any 5 facts they have learnt after watching it.  |