# Inquiry Lesson Plan

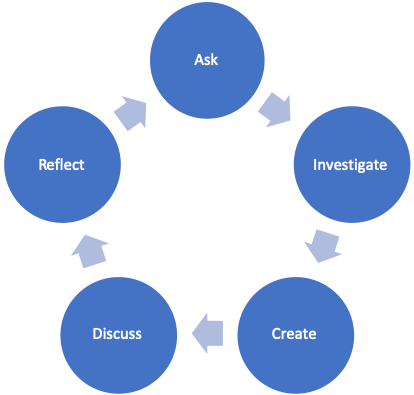
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| **Lesson Title:** | Problems Associated with Waste | **Lesson #** | 2 | **Date:** | 31/3/2021 |
| Name: | Swanshi Dulani | Subject(s): | Environmental Science | Grade(s): | 11 |

Lesson Rationale & Overview

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| **Why does this topic matter to students?**  This topic will help the students to study the impact of waste on the environment by raising awareness among them about the problem of waste in the surroundings. In addition to this, students will be able to brainstorm a list of problems that are associated with waste by researching about them in detail and share their findings. The idea is to present their findings in such a manner that persuade others to think about their own waste production and its harmful effect on the environment.  **How does this lesson fit within the larger inquiry project?**  This lesson will allow the learners to collect more information about the problems related to waste which are affecting the sustainability of the environment. Moreover, the focus is to help the learners think, observe and develop a critical understanding about the topic which is a crucial aspect of any inquiry project.  **How does this lesson incorporate the inquiry cycle?**  This lesson will encourage the learners to challenge their own perspective about the problem of waste and gather some relevant facts about the same. Furthermore, they will be provided with an opportunity to choose and research about any one problem in groups and attempt to encourage people to stop this problem by creating awareness among them. |

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 the problems associated with waste? | Why do you think that waste is a problem?  How the problem of waste is affecting the sustainability of the environment?  How can we solve this problem collaboratively? |



**Inquiry Approach/Style and Rationale**

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| I have incorporated Guided Inquiry with the idea of promoting learning through investigation. The role is to guide the students through the process of inquiry by encouraging them to reason, research and reflect by working individually or in groups. Keeping this into consideration, teacher guides the students to construct the knowledge on their own by supporting them at every stage of their learning. |

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?* | This inquiry facilitates students and teachers to gain an in-depth knowledge about the problems that are associated with waste so that they can reflect and think about solving those problems critically and collaboratively. |
| **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?* | Teacher will allow students to build a strong relationship with each other by involving in the practice of collaborative inquiry. With this, students will be able to perceive the problems that they see around by acknowledging their responsibility towards the community, nature and world. |
| **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?* |  |

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. | **Social Awareness& Responsibility**  Students will develop awareness, understanding, and appreciation of connections among people, including between people and the natural environment. Considering this, they will focus on interacting with others and the natural world in respectful and caring ways. |

BC Curriculum Big Ideas (STUDENTS UNDERSTAND)

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| There are several problems associated with waste that are creating a negative impact on the community and environment. One needs to think as responsible citizens about these problems, their effects and solutions. |

BC Curriculum Learning Standards

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| **(STUDENTS DO)** | **(STUDENTS KNOW)** |
| Learning Standards - Curricular Competencies | Learning Standards - Content |
| [Processing and analyzing data and information](https://curriculum.gov.bc.ca/curriculum/science/11/environmental-science)  * Experience and interpret the local environment * Analyze cause-and-effect relationships   **Evaluating**   * Consider social, ethical, and environmental implications of the findings from their own and others’ investigations * Assess risks in the context of personal safety and social responsibility | Facts related to Great Pacific Garbage Patch; Harmful effects of the waste on the environment by discussing issues such as hurting marine life, polluted streets, polluted waters, wasted resources, wasted money on cleaning, etc. |

BC Curriculum Indigenous Connections/ First Peoples Principles of Learning

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| *How will I incorporate Indigenous knowledge and principles of learning?*  As a teacher, I will encourage students to understand the goals of learning based on the following principles of first people:  Learning is holistic, reflexive, reflective, experiential, and relational (focused on connectedness, on reciprocal relationships, and a sense of place).  Learning involves recognizing the consequences of one’s actions.  Learning involves generational roles and responsibilities. |

Respectful Relations: Inclusion, Personalization and Diversity

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| *How will I invite students of all backgrounds, interests and skills into the inquiry?*  I will allow the students to work in groups to identify the list of problem and share their own observations and perceptions regarding the problems related with waste. With this, students will be able to understand each other’s perspectives by listening and reading to the problems shared by their peers. Ultimately, an inclusive environment will be created that will engage learners of diverse backgrounds, interests and skills. |

Lesson Activities

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| Time Allotted | | Teacher | Students | Assessment Activities |
| Invitation: Ask | 5 minutes | Teacher will ask the students to watch the video “The Trash Talk: What is the Great Garbage Pacific Patch?”. | Students will watch the video and pen down any 5 facts that they have learnt after watching the video. | **Brain Squeezer**  Students will share the facts with their peers in the form of a listening circle. |
| Brainstorm | 5 minutes | Teacher will ask the students to brainstorm a list of problems associated with waste by giving them some ideas about the same that are as follows:  Hurting marine life, Polluted streets, Polluted waters, Wasted resources such as metal, Wasted money spent on cleaning, etc. | Students will identify a list of problems that they can think of that are usually related to waste generation. | **Mind Map**  Students will share the list of problems by creating their own mind maps. |
| Research | 20 minutes | Teacher will divide the students into the groups of 4-5 and will ask them to choose any problem to waste. | Students will be encouraged to research the selected problem in their groups. |  |
| Create | 10 minutes | Teacher will ask the students to work together to create a poster campaign. | Each group will focus on the area they researched and create a poster that explains the problem and attempts to encourage people to stop them. The poster can also provide a positive message about what can be done to solve the problem. | . |
| Reflect | 5 minutes | Teacher will invite the students into the art gallery. | Each group will present the poster and talk about the problem along with the proposed solutions. | **Art Gallery**  This group poster campaign will allow the learners to involve in critical reflection about the waste related problems that they perceive around. |

**(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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| TRASH TALK: What is the great Pacific garbage patch? | OR&R's marine debris program. (n.d.). OR&R's Marine Debris Program |. <https://marinedebris.noaa.gov/videos/trash-talk-what-great-pacific-garbage-patch-0> |

Organizational Strategies (Optional)

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Proactive, Positive Classroom Learning Environment Strategies (Optional)

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Extensions

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| Teacher will encourage the students to extend to use multimedia tools such as Power Point, Pod Cast, etc. to discuss the waste related problem and its solution. |