# Inquiry lesson Plan 2

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| **Inquiry Title:** | What measures can reduce air pollution?  | **Lesson**  | 2 | **Date:** | 5th April |
| Name: | Vani Dewan | Subject(s): | Environ-mentalStudies | Grade: |  7th  |

Inquiry Project Rationale & Overview

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| *Why does this topic matter to students?*On the second day, the students would be asked regarding the measures of air pollution and the investigation is going to be mainly based upon the causes and impact of air pollution. In this regard, it can be mentioned that for the students of class seven, it is important to know the details of air pollution and its measures. It is seen that air pollution has become a public health concern, henceforth, the measures should be taught from a young age as the concerned pollution affects everybody equally, especially children. How does this lesson fit within the larger inquiry project?The flowchart that is related to air pollution would be investigated by students so that students can obtain a clear idea regarding the research topic before the actual learning journey starts. The flowchart depicts the factors contributing to air pollution and the measures that control air pollution. This flowchart will be presented after the students have discussed their opinions so that they would have a chance to present their views and then learn about the actual measures. This learning process will bridge the gap in their knowledge and enhance their learning abilities. The causes and impact of air pollution would be investigated on day 2 by students and teachers. The measures for controlling air pollution would be investigated by students and teachers would help them in this investigation.*How does this project incorporate the inquiry cycle?*The concerned project should be presented incorporating with the inquiry cycle to the children of class seven for the benefits of them. In this regard, it is seen that the concerned inquiry cycle is the procedure which is capable of enhancing the cognitive ability and engaging students to ask as well as answer questions based on the gathered information (Hadianti *et al.* 2018). In this way, incorporating the inquiry cycle with the concerned subject, the students can lead towards the creation of new ideas and concepts on the topic.  |

Key Questions For Inquiry About the Topic of Study

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| Core Question | Supporting Questions |
| What measures can reduce the air pollution?* What is air pollution?
* What are the causes of air pollution?
* How does air pollution impact everyone?
* What can be the possible solution to air pollution?
 | * What are the agencies that help in reducing air pollution?
* How can students be part of reducing air pollution?
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**Inquiry Approach/Style and Rationale**

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| In order to shed light on the approach of inquiry, it can be stated that out of four different inquiry based approaches (confirmation, structured, guided, and open inquiry), the structured inquiry style is appropriate for the given situation (Husni, 2020). In this regard, to provide rationale, it can be mentioned that the structured inquiry refers to the style where the concerned students are given the question as well as the method of achieving the result, however, the goal is to offer an explanation which is associated with the evidence collected during and through the investigative procedure (Suarez *et al.* 2018).  |

Core Principles of Effective Teaching (Sharon Friesen)

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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?* | In the second day of the workshop, the teacher has to enter into details and start the activities and focus on the development of knowledge on the causes and impacts of air pollution. Henceforth, in order to build the disciplinary knowledge and understanding, the teacher has to ensure that the presentation of the topic should be meaningful, which can help the students to learn best.  |
| **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?* | The concerned structure inquiry approach is for the students of class seven which is going to incorporate the measures of air pollution topic, the significance of the topic considering today's environmental concern due to polluted air is making the inquiry meaningful (Malik & Garg, 2017). It is seen that millions of tons of dangerous gases as well as pollutants are released into the air every year, which affects the lungs if anyone inhales it. Therefore, in class seven, while growing up, the concerned students should develop their understanding regarding the topic and also know the value of reducing air pollution by taking the right measures from an early age. Also, it is acknowledged that the implementation of the structured inquiry style can help to make the learning alive to the students, as students get the opportunity on day 2 of the workshop to investigate on the topic by themselves, however, the questions and way would be guided by the teacher, which eventually helps them.  |
| **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?* | The learning as well as success in this inquiry could be defined as beneficial for the students as the structure based inquiry learning approach can deepen the understanding of the kids of class seven regarding the topic, the skills can be cultivated for all areas of learning. In peers, self, and teacher assessments, the learning can be expressed as well as articulated through the approach of structure based inquiry, where the students are capable of investigating the topic following the teacher suggested question through a prescribed process, and gets the explicit step by step guidelines at each steps, which eventually leads to the predetermined findings. In this way, the students can get to know all the causes and impacts of air pollution which they should know by themselves which enhance thor creativity.  |
| **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?* | In the second day of the workshop, to strengthen the connection among students, the teacher has to develop an understanding regarding the students, their skills, and knowledge to direct and motivate them towards the investigation on the topic. With creating a welcoming learning environment for students to increase their comfort and significance in the learning. For connecting with the experts, larger communities,and nature, the teacher can set and communicate expectations for the students.  |
| **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?* | By creating learning activities properly under the inquiry, focusing on strengthening and stretching expertise, the teacher can collaborate with others.  |

BC Curriculum Core Competencies

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| Communication | Thinking | Personal & Social |
| Assertive communication is appropriate to take into consideration  | For the day 2 of the workshop, the critical thinking approach would be appropriate to use for the students.  | The effect of personal as well as social factors within the learning activities can enhance the likelihood of project accomplishments.  |

BC Curriculum Big Ideas (STUDENTS UNDERSTAND)

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| Solid and liquid particles along with certain gas which are suspended in air caused the air pollution and it mainly affects the lungs of an individual, especially children.  |

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.
* Construct, analyze, and interpret graphs, models, and/or diagrams.

Evaluating* Exercise a healthy, informed skepticism and use scientific knowledge and findings to form their own investigations to evaluate claims in primary and secondary sources.
* Assess risks in the context of personal safety and social responsibility.
 | Particular books for the class seven students and video material can be used as the resource in the particular workshop.  |

Indigenous Connections/ First Peoples Principles of Learning

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| *How will I incorporate Indigenous knowledge and principles of learning?* Using different resources which are available for the indegenous knowledge can potentially integrate the principles of learning.  |

Respectful Relations

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| *How will I invite students of all backgrounds, interests and skills into the inquiry?* Avoiding any kind of discrimination in the classroom among the students and make all the students understand the significance of the fellow classmates and not considerin their background can be a way of dealing with the concerned factor.  |

Project Overview

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| Time Estimate | Teacher and Student Activities | Assessment Activities |
| Ask | 1 hours  | Teachers can ask questions on the topic to the students.* What are the causes of air pollution?
* How does air pollution impact everyone?
 | The assessment would be developed based on the findings from the session.  |
| Investigate | 1 hours  | Teachers would guide the students and give them appropriate time conduct proper investigation regarding the questions.  | the investigation process can be effectively discussed in the activities.  |
| Create | 1 hours 30 minutes  | Students can use charts, flow charts, and other learning tools to introduce their answers within the given time of teacher.  | the development of students and their capability of creation can significantly be noted in the assessments.  |
| Discuss | 1 hours  | addressing the finding of the students, the teachers can analyze and discuss the answers so that the students can develop proper understanding  | Assessment would be focused on alternativeness and the discussion  |
| Reflect | 30 minutes  | Teachers can ask them to reflect their experience of the second day | Students ability of reflection can be mentioned  |

Materials and Resources (use APA citation format)

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| Journals on causes and impacts of air pollution  |

Organizational Strategies (Optional)

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| Disciplinary approaches need to be considered to engage students into activities  |

Proactive, Positive Classroom Learning Environment Strategies (Optional)

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| The classroom environment should be supportive towards inquiry based learning and capable of enhancing students' creativity.  |

Extensions

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| The second day may increase their potential, creativity, and understanding.  |

Reflections (to be completed after Project Completion)

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**References**

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