Inquiry Demonstration Plan 3

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| **Lesson Title:** | What are the significant factors in global warming? | **Lesson #** | 3 | **Date:** | 23-march-2021 |
| Name: | Nidhi Saini ( T00671429) | Subject(s): | Environmen-tal Education | Grade(s): | 7th |

Lesson Rationale & Overview

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| Why does this topic matter to students?On the 3rd day, the significant factors in global warming will be taught to students through a video presentation. This would draw the interest of students and allow them to have in-depth knowledge of the topic through visual demonstration. How does this lesson fit within the larger inquiry project?This session will help the students to develop a comprehensive understanding of the significant factors in global warming using video presentation and power point presentation. The main focus of this session will be to interact with the students regarding the impact of global warming using the defined stage as well as the design thinking lifecycle so as to facilitate the learning activities for the next day. How does this lesson incorporate the inquiry cycle?By using the 5 phases of inquiry lifecycle, that is ask, investigate, create, discuss, and reflect the project will be incorporated and accompanied in 5 days of workshop.  |

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 significant factors in global warming? | * What is the relationship between global warming and acid rain?
* How is global warming affecting ozone layer depletion?
* How can global warming be addressed and prevented?
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**Inquiry Approach/Style and Rationale**

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| The inquiry-based learning will be used. It is an efficient approach that helps in fostering curiosity and motivation of learners and allow them to develop as critical thinkers and active listeners (Onyema, Ogechukwu& Anthonia, 2019). By using inquiry-based learning approach the experience of students can be enhanced, the skills that is required for all areas of learning can be developed among students, curiosity among students can be fostered, deepening understanding of the topic can beensured, and increased engagement and interstate towards the study and the topic can be nurtured.  |

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?* | Through the considered inquiry approach, the educator can help promote the skills of critical thinking and active listening among students which can further allow the students to build a disciplinary knowledge and understanding of the area of study.  |
| **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?* | Through the inquiry-based learning approach, the misconception and lack of knowledge regarding global warming, acid rain and ozone layer depletion among students can be addressed which can further help students explore how these scientific factors are impacting their lives. This relatedness of the topic with the lives of students can make the sturdy meaningful, valuable. This approach also involves sharing of individuals ideas. Hence, encouraging interactive sessions and debates can keep the process alive for both students and the teacher.  |
| **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?* | Improved understanding and conceptualization of the significant factors related to global warming through video presentation. Video animations and demonstrations can help respondents (students) in the process of learning (Ismail, Othman, Amiruddin&Ariffin, 2017). |
| **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?* | Firstly, it is important to develop an effective teacher and student relationship. Secondly, the students will be taught through video presentations. Therefore, it is important to make use of things like themes, stories, and topics in this process so that students can feel the relatedness. Furthermore, collaboratives among the students must be encouraged through team work, peer reviewing and interactive sessions. |
| **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?* | The learning abilities and competencies of the tutor will be developed through effective interaction with other peers and sharing knowledge.  |

BC Curriculum Core Competencies

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| Communication | Thinking | Personal & Social |
| Having Communication skills is need for the most significant and key competency. The teacher must have ICT skills. Teachers must have to perform their professional work in a digital environment (Claro *et al*. 2018). | Critical thinking ability.  | The tutor must have effective interpersonal skills and skills to communicate with others (students). The teacher must respond to the questions and queries of students and motivate them for their hard work.  |

BC Curriculum Big Ideas (STUDENTS UNDERSTAND)

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| **Science** Emission of greenhouse gas results in Ozone layer depletion, acid rain and raises other environmental concerns. Hence scientific actions must be taken to prevent such environmental concerns. **Geography** Global warming affects biodiversity, climate and geographic locations. **Moral science** Humans must take corrective measures to reduce global warming and its adverse effects.  |

BC Curriculum Learning Standards

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|  **(STUDENTS DO)** | **(STUDENTS KNOW)** |
| Learning Standards - Curricular Competencies | Learning Standards - Content |
| **Science-** Scientific justifications **Geography**: Question-answers **Moral Science**: Moral responsibilities and performance | **Science**: Reasoning**Social Studies:** Composition and asking questions and answering questions |

BC Curriculum Indigenous Connections/ First Peoples Principles of Learning

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| *How will I incorporate Indigenous knowledge and principles of learning?* By encouraging experiential learning, teaching students the importance of values, interaction with the community, role of the family and community towards global warming indigenous knowledge and its principles of learning can be incorporated.  |

Respectful Relations: Inclusion, Personalization and Diversity

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| *How will I invite students of all backgrounds, interests and skills into the inquiry?* The teacher needs to develop attracting learning opportunities for all students irrespective of their differences. The tutor needs to communicate and make students feel that they can explore their areas of interest through this study. Moreover, the teacher must develop a student portfolio to develop knowledge of the background, interests and skills of different students.  |

Lesson Activities

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| Time Allotted | Teacher | Students | Assessment Activities |
| Invitation: Ask | 15 minutes  | Asking questions about the significant factors related to global warming.  | Active listening and responding to the teacher.  | Development of handouts and questionnaires to ask.  |
| Investigate  | 30 minutes  | Helping students to investigate through video presentation  | Active participation in finding the answers to the asked questions.  | Video presentation and demonstration.  |
| Create | 30 minutes  | Helping in the creation of understanding through audio-visuals. | Students will correlate their previous understanding with new information.  | Video presentation, PowerPoint presentation. |
| Discuss | 20 minutes  | Participating in a discussion session with students.  | Participating in a discussion session with the teacher about the findings. | Participation in group discussion and debate.  |
| Reflect | 10 minutes  | Helping students to reflect upon their learning through the journey.  | Reflecting upon their learning through the journey.  | Keeping a track on the project log book.  |

Materials and Resources (use APA citation format)

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| Chart paper and markers -Notes and paper-Flowcharts -AV equipment and projectorPowerPoint presentation -Handouts -Study materials -Question sets -Video presentation  |

Organizational Strategies (Optional)

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| Online and digitized learning can be facilitated to the students for ensuring better and in depth learning through audio-visual and real time information.  |

Proactive, Positive Classroom Learning Environment Strategies (Optional)

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| To promote a positive and proactive classroom learning environment, the teacher must encourage students to abide by the rules and regulations of the classroom and promote an interactive classroom session.  |

Extensions

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| Encouraging students in experiential learning through observation and Video demonstration.  |

Reflections (to be completed after the Lesson Demonstration ONLY)

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**References**

Onyema, E. M., Ogechukwu, U., & Anthonia, E. C. D. (2019). Potentials of Mobile Technologies in Enhancing the Effectiveness of Inquiry-based Learning Approach. *International Journal of Education (IJE)*, *2*(01).

Ismail, M. E., Othman, H., Amiruddin, M. H., &Ariffin, A. (2017, May). The use of animation video in teaching to enhance the imagination and visualization of student in engineering drawing. In *IOP conference series: materials science and engineering* (Vol. 203, No. 1, p. 012023). IOP Publishing.

Claro, M., Salinas, Á., Cabello-Hutt, T., San Martín, E., Preiss, D. D., Valenzuela, S., &Jara, I. (2018). Teaching in a Digital Environment (TIDE): Defining and measuring teachers' capacity to develop students' digital information and communication skills. *Computers & Education*, *121*, 162-174.