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| ACTIVITY PLAN | | | | |
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| **Theme** | **Subtopic** | **Activity Title** |
| Collaboration and Communication in EcoSTEAM Projects | Integration of Technical Skills and Environmental Awareness | Integrating Technology for Environmental Awareness |

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| Introduction part (or activity overview) |
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| **Introduction part (or activity overview)** | This activity aims to help students integrate technical skills with environmental awareness through a simpler, hands-on project. Students will work collaboratively to use basic technology to observe and analyze an environmental issue in their local area. |
| **SETTING** | Location: Classroom and outdoor environment (schoolyard or local park).  Educational Context: Collaborative group work (4-5 students per group). |

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| Materials Needed |
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| **Materials Needed** | Smartphones or tablets with camera functionality  Basic environmental testing kits (e.g., pH strips for water testing, soil moisture meters)  Internet access for research  Poster boards and markers for presentations  Data recording sheets |

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| **Learning Outcomes** | * Understand how to use basic technology to observe and document environmental conditions. * Develop skills in data collection, analysis, and presentation. * Enhance teamwork and communication abilities. |  |
| **Activity Contents** | **Theoretical Part (Duration: 30 minutes)**: Begin with an introduction to the importance of technology in monitoring and addressing environmental issues. Discuss simple technologies that students can use to observe and record environmental data.   * **Introduction to Environmental Monitoring**:   + Explain the role of smartphones and basic testing kits in environmental observation.   + Discuss the types of data that can be collected using these tools (e.g., water quality, soil moisture, air quality). * **Video Resources**:   + "Using Smartphones for Environmental Monitoring" – A video demonstrating how smartphones can be used for basic environmental monitoring.   + "Simple Tools for Environmental Observation" – An overview of using basic environmental testing kits.   **Task 1: Environmental Observation Walk (Duration: 45 minutes)** **Objective**: To use smartphones and basic testing kits to collect environmental data in a local area.   * **Step 1**: Form groups and assign each group an environmental parameter to observe (e.g., water quality, soil moisture, air quality). * **Step 2**: Walk around the schoolyard or a local park, using smartphones to take pictures and record observations. * **Step 3**: Use basic testing kits to gather data on the assigned parameter (e.g., test water pH, measure soil moisture). * **Step 4**: Record all data and observations on the provided data recording sheets.   **Task 2: Data Analysis and Presentation (Duration: 45 minutes)** **Objective**: To analyze the collected data and present findings to the class.   * **Step 1**: Return to the classroom and analyze the data collected during the observation walk. * **Step 2**: Discuss findings within the group and identify any patterns or notable observations. * **Step 3**: Create a poster presentation summarizing the findings, including photos and data. * **Step 4**: Each group presents their findings to the class, explaining the significance of their observations and any recommendations for action.   **Task 3: Reflection and Discussion (Duration: 30 minutes)** **Objective**: To reflect on the experience and discuss the integration of technology and environmental awareness.   * **Step 1**: Facilitate a class discussion on what students learned about using technology for environmental observation. * **Step 2**: Encourage students to share their thoughts on the importance of environmental monitoring and how it can lead to positive changes. * **Step 3**: Discuss potential next steps for further environmental observation and action in the local community. |  |
| **Assessments** | Effectiveness in using technology to collect environmental data.  Quality and accuracy of data analysis.  Clarity and creativity of the presentation.  Team collaboration and communication.  Reflection on the importance of integrating technology and environmental awareness. |  |
| **Key Competences** | Practical application of technology for environmental monitoring  Data collection and analysis  Effective communication and presentation skills  Teamwork and collaboration  Environmental awareness and stewardship |  |
| **Connections with Eco STEAM** | Eco: Understanding and documenting local environmental conditions.  Science: Applying scientific methods to observe and analyze environmental data.  Technology: Utilizing smartphones and basic testing kits for data collection.  Engineering: Considering simple engineering principles in the use of tools and data analysis.  Arts: Creating visually appealing presentations to communicate findings.  Math: Analyzing data to identify patterns and draw conclusions. |  |
| **References** | - |  |
| **Notes** | This activity can be extended by repeating the observation walk in different seasons or locations to compare data and observe changes over time. |  |

**Evaluation Criteria Table for Integrating Technology for Environmental Awareness Activity**

| **Evaluation Criteria** | **Points Available** | **Comments** |
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| **1. Effectiveness in Using Technology** | 20 | Assess the ability to use smartphones and testing kits to collect accurate environmental data. |
| **2. Quality of Data Analysis** | 20 | Evaluate the thoroughness and accuracy of the data analysis. |
| **3. Clarity and Creativity of Presentation** | 20 | Rate the clarity, creativity, and effectiveness of the presentation. |
| **4. Team Collaboration and Communication** | 20 | Assess the level of teamwork, including communication, cooperation, and mutual support among team members. |
| **5. Reflection on Environmental Awareness** | 20 | Evaluate the depth of reflection on the integration of technology and environmental awareness. |

**Total Points:** 100