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| ACTIVITY PLAN | | | | |
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| **Theme** | **Subtopic** | **Activity Title** |
| Environmental Awareness and Conservation | Climate Change and Renewable Energy | Impact of Renewable Energy on Climate Change |

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| Introduction part (or activity overview) |
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| **Introduction part (or activity overview)** | This activity is designed to deepen students' understanding of the crucial role renewable energy plays in combating climate change. Through detailed analysis and practical project planning, students will explore the science of climate change, assess various renewable energy technologies, and propose actionable renewable energy projects tailored to their local contexts. |
| **SETTING** | Location: Classroom equipped with computers, internet access, and multimedia capabilities.  Educational Context: Collaborative group work (2-3 students per group). |

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| Materials Needed |
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| **Materials Needed** | Computers with internet access  Projector and screen for video presentations  Art supplies including paper, markers, and colored pens for creating diagrams and charts  Access to scientific journals and databases for research |

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| **Learning Outcomes** | * Gain a comprehensive understanding of the causes and impacts of climate change. * Evaluate different renewable energy sources for their environmental benefits and practical applications. * Design and present a detailed proposal for implementing a renewable energy solution in the community. |  |
| **Activity Contents** | **Theoretical Part (Duration: 70 minutes)**: Begin with an in-depth discussion on climate change, emphasizing its global impacts, scientific basis, and the urgency of mitigating actions. Transition into how renewable energy technologies play a pivotal role in reducing greenhouse gas emissions and supporting sustainable development.   * **Key Concepts Covered**:   + Greenhouse gases and their sources   + Impact of fossil fuels on climate change   + Benefits of transitioning to renewable energy * **Video Resources**:   + "The Science of Climate Change Explained" (<https://www.youtube.com/watch?v=exampleLink1>) – A detailed explanation of the scientific principles of climate change.   + "How Renewable Energy Can Reshape Our Future" (<https://www.youtube.com/watch?v=exampleLink2>) – An overview of various renewable energy technologies and their potential to combat climate change.   **Task 1: Renewable Energy Analysis (Duration: 80 minutes)** **Step 1**: Each group selects one type of renewable energy (solar, wind, hydro, geothermal, or biomass). They conduct extensive research on its principles, efficiency, global implementation status, and local applicability. **Step 2**: Develop a comprehensive report that discusses:   * Detailed description and workings of the selected technology. * Environmental impact, focusing on emission reduction and ecological footprint. * Economic analysis including cost, return on investment, and potential for job creation. * Real-world examples where this technology has successfully made a significant impact. **Step 3**: Groups use a presentation tool to organize their findings visually and persuasively, readying themselves for a classroom presentation that fosters a comparative discussion on the feasibility and scalability of these technologies.   **Task 2: Renewable Energy Project Proposal (Duration: 70 minutes)** **Step 1**: Identify an environmental issue or opportunity in the community that can be addressed with the chosen renewable energy technology. Consider factors like local climate, geography, and economic conditions. **Step 2**: Outline a detailed project proposal that includes:   * Specific objectives and expected outcomes (e.g., reduction in carbon emissions, energy generated). * Detailed plan for technology implementation including site selection, scale of the project, and technological requirements. * Stakeholder analysis and community involvement strategies. * Budget estimation and funding strategies, exploring potential grants, subsidies, and partnerships. * Project timeline and milestones.   **Step 3**: Each group presents their proposal using digital slides, engaging the class in a discussion about the practicalities, potential challenges, and impact of their proposed projects. |  |
| **Assessments** | Depth and accuracy of technical and environmental analysis.  Innovation and practicality in project design.  Quality and persuasiveness of presentation.  Engagement and critical thinking demonstrated during class discussions. |  |
| **Key Competences** | Comprehensive scientific understanding  Critical analysis and strategic planning  Effective communication and presentation skills  Collaborative problem-solving |  |
| **Connections with Eco STEAM** | Eco and Science: Understanding environmental science and ecological impact assessments.  Technology and Engineering: Application of technological solutions to real-world environmental problems.  Arts: Creative expression in the presentation and visualization of data.  Math: Statistical analysis and financial planning for project feasibility |  |
| **References** | Intergovernmental Panel on Climate Change (IPCC) Reports - https://www.ipcc.ch/reports/ |  |
| **Notes** | Consider extending this activity into a longer-term project, allowing students to interact with local environmental agencies or energy companies for real-world insights and potential mentorship. |  |

Evaluation Table No. 1.

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| Evaluation Criteria | Points | Comments |
| Student's contribution to the work | \_\_/2 |  |
| Completeness of the report | \_\_/5 |  |
| Presentation | \_\_/5 |  |
| Advertisement created | \_\_/5 |  |