**SLED Implementation Plan Analysis Instrument (Rubric)**

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| **Criteria** | **Performance** |  |
| **Present / Exemplary****2** | **Attempted / Making Progress****1** | **Lacking / Needs Improvement****0** | **Score and Comments** |
| **I. Alignment with SLED Endorsed Practices** |  |
| **A. Science content** | One or more links to appropriate IASS (science content)*Core Academic Standards* | Direct and explicit links to appropriate content standards | Contributes to one or standard that is not explicitly clear or is ignored | Not well aligned with standards or absent |  |
| **B. Scientific practices** | One or more links to appropriate IASS *Nature of Science Standards* | Direct and explicit links to appropriate process standards | Contributes to one or standard that is not explicitly clear or is ignored | Not well aligned with standards or absent |  |
| **C. Engineering practices** | One or more links to appropriate IASS *The Design Process Standards* | Direct and explicit links to appropriate process standards | Contributes to one or standard that is not explicitly clear or is ignored | Not well aligned with standards or absent |  |
| **II. Lesson Design and Implementation – Propositional Knowledge Features** |  |
| **A. Goal orientation** | Learning objectives are inclusive or compromise of science concepts and/or engineering design practices | Explicit goals and objectives are comprehensive | Goals are implied rather than stated; do not encompass science; too vague | Goals are not implied; reflect inaccurate understanding; incomplete |  |
| **B. Science conceptual understandings** | Science concepts/vocabulary are complete and align with IASS content standards and objectives | Vocabulary is accurate and complete with respect to the IASS and objectives | Vocabulary is mostly accurate and may not completely reflect the IASS and objectives | Inaccurate concepts or other errors are present |  |
| **C. Conceptual understandings related to the engineering design process** | Design-based vocabulary is complete and align with IASS design process standards and objectives | Vocabulary is accurate and complete with respect to the IASS and objectives | Vocabulary is mostly accurate and may not completely reflect the IASS and objectives | Inaccurate concepts or other errors are present |  |
| **D. Content presentation / Overview of lesson activities** | Overview or sequence of lesson activities is providedExamples of activities are included | Relatively high level of detailSequencing of activities is clear and logicalExamples of activities are included | Level of detail is adequate but difficult to follow (somewhat implied or assumed)Sequencing of activities is moderately clear and logicalAppropriate examples are lacking | Little to no detailIllogical Difficult to followInappropriate examples are included |  |

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| **E. Integration of the engineering design task**(***how*** not where it is being integrated into the curriculum) | The design task proposed by SLED Design Team is purposefully integrated into the sequence of activities and/or existing curriculum | The design task is situated within the context of a unit as: 1) an introduction, 2) a cumulating activity or 3) a way to reinforce essential practices/skills/vocabularyWell-developed attempt at integrating the design task | The design task is listed; Little explanation as to how it is being integratedAdequate attempt at integrating the design task | The design task is mentioned; appears as if it is inserted and not made relevant to the curriculum |  |
| **F. Building on or Leveraging Existing Curriculum**(***where*** not how it is being integrated into the curriculum) | Demonstrates evidence of a plan to build on or use existing science or math learning activities | Reference to discrete activities before and after the design task that build on or support the objectives of the task/vocab | Little detail or reference to where in the curriculum the design task fits | No detail or reference to where in the curriculum the design task fits |  |
| **G. Student reflection on science** | Students, either individually and/or as a class, are given opportunities to reflect on their science conceptual understandings during the unit.  | Student reflection is well-developed; reflection prompts or questions are provided | Student reflection is listed with little detail of how or what questions build on students’ learning of science | Weak or incomplete attempt to include student reflection |  |
| **H. Student reflection on design** | Students, either individually and/or as a class, are given opportunities to reflect on their engineering design process conceptual understandings (of during the unit. | Student reflection is well-developed; reflection prompts or questions are provided | Student reflection is listed with little detail of how or what questions build on students’ learning of design | Weak or incomplete attempt to include student reflection |  |
| **I. Assessment**  | Includes references to measures or strategies to be used for assessing students’ knowledge of science and/or design | Includes discrete, teacher-created forms of assessment that align with the objectives, standards, and/or practicesIncludes examples of productive questions | Includes vague forms of assessment; Assessments may or may not be teacher-createdDoes not include examples of questions | Lacking examplesIncompleteLists only SLED pre/post test |  |
| **III. Lesson Design and Implementation – Procedural Knowledge Featur*es*** |  |
| **A. Appropriate use of technology, equipment, and/or resources** | Appropriate use of available technology, lab equipment, and/or resources (e.g., probeware, balances, microscopes) | Appropriate use  | Could better utilize available technologies and/or equipment.  | Inappropriate or lacking use of technologies and/or equipment. |  |

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| **B. Modifications to design task to prompt teacher innovation or creativity**  | Attempts to include teacher-designed or modified activities and/or modified approaches to the design task | Purposeful modifications, enhancements to design task (making it their own) | Limited attempts to modify, adapt, or enhance the design task | No attempt to modify, adapt or enhance |  |
| **C. Variety – Interdisciplinary** | Demonstrates evidence of interdisciplinary collaboration with other areas (e.g., humanities, arts, economics) | Three or more purposeful cross-curricular connections | At least two cross-curricular connections | One or no (or weak) cross-curricular connection |  |
| **IV. Portrayal and Use of the Practices of Science and Engineering** |  |
| **A. Use of hands-on exploration** | Demonstrates evidence of opportunities for students to engage in hands-on activities that require the manipulation of materials or supplies. | Purposeful attempts are presented;Clearly explained and align with objectives or practices | Provides opportunities for student hands on exploration but is not clearly explained or aligns with objectives or practices | Does not provide opportunities for hands on exploration;Lacks details and purpose |  |
| **B. Portrayal of Scientific [Inquiry] Practices** | Students are *doing* or *applying* one or morescience practice (questioning, experimental design, testing hypotheses, measurement, data collection and analysis, using evidence to make claims) | Explicit activities are described | Activities are listed but lack detail | Lacking or incomplete  |  |
| **C. Portrayal of Engineering Design Practices** | Students are engaged in one or more aspect of the design process (identifying a problem, constraints, context and user; share and developing a plan; creating and testing; communicating results, gathering feedback; and improving and retesting) | Explicit activities are described | Activities are listed but lack detail | Lacking or incomplete  |  |