**Science Rubric (for teachers)**

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|  | **4-Excellent** | **3- Good** | **2- Basic** | **1- Approaches** |
| Understands and makes connections between concepts  (Science and Knowledge) | | | | |
| *Shows understanding by explaining and/or demonstrating the scientific concepts in the program of studies.* | Uses minimal guidance to or independently demonstrates deep understanding of the concepts in various contexts/broader issues.  Shows excellent understanding by evaluating, justifying, and defending different points of view and/or provides new insights into the ideas and concepts accurately and precisely, rarely making errors or omissions.. | Uses minimal guidance to or independently demonstrates makes meaningful connections by analyzing multiple ideas and concepts both between and within topics.  Shows proficient understanding by analyzing and applying information in new ways rarely making errors or omissions. | Needs minimal support to demonstrate basic understanding of concepts and skills by simply recalling, remembering and explaining key ideas/ concepts.    Shows adequate understanding by explaining concepts with partial accuracy, and/or making some errors or omissions. | Needs support to and/or is unable to demonstrate, re-state, clarify or explain concepts/big ideas.  Shows limited and/or incomplete understanding because of limited accuracy frequent errors or omissions. |
| **Explores scientific events and issues in society and the environment**  (Science Technology Society) | | | | |
| *Makes connections between:*  *A) human needs and how Science can serve them*  *B) subject matter and current events locally and worldwide.*  *Identify, analyze and appreciate appropriate and inappropriate uses of technologies related to science in society.* | - makes new connections, asks probing questions  synthesizes info to develop a **perceptive** position supported by **significant** evidence  ***- significant, insightful, astute, perceptive, intuitive, innovative, compelling, , persuasive, explosive*** | - reframes connections, offer new insights  synthesizes info to develop a **convincing** position supported by **relevant** evidence  ***- meaningful, thoughtful, relevant, logical, credible, convincing*** | - makes basic connections OR repeats examples presented in class  synthesizes info to develop a **simplistic** position supported by **reasonable** evidence  - ***predictable, appropriate, routine, rudimentary, obvious, believable, simplistic, plausible, reasonable.*** | * unable to makes connections OR they are superficial   synthesizes info to develop a **vague** position supported by **weak** evidence  - ***superficial,***  ***trivial, unsubstantiated, unconvincing, unrelated, inconclusive, un-supported*** |
| **Analyzes and solves problems through scientific reasoning** | | | | |
| *Initiates and plans: questioning, identifying problems, and developing preliminary ideas and plans.*  *Performs and records: collecting and organizing information.*  *Selecting an appropriate strategy.*  *Formulating a conclusion: Analyzes, interprets and evaluates processes and results by making conclusions and providing recommendations.* | Clearly and correctly identifies and re-frames the problem, independently or with minimal guidance.  Locates, evaluates and selects completely relevant information.  Uses creative strategies.    Makes a compelling conclusion on all the information collected and analyzed.  ***Accurate, insightful, astute, precise.*** | Adequately identifies and re-frames the problem independently or with minimal guidance.  Accurately presents information in an organized manner.  Uses logical strategies.  Makes a valid conclusion based on most of the information collected and analyzed.  ***Logical, credible, relevant.*** | Needs minimal support to identify and accurately re-state the problem.  Locates information but does not always evaluate its relevance. Makes an attempt to present information in an organized manner.  Uses simplistic strategies.  Makes an invalid conclusion based on the information collected and analyzed.  ***Partially accurate, simplistic, plausible, basic.*** | Needs support to and/or is unable to identify and re-state the problem.  Does not locate information or includes completely irrelevant information.  Information is not presented in an organized manner.  Uses strategies which are unrelated or flawed.  Fails to make a conclusion or makes a conclusion that is not based on any of the information collected.  .  ***Flawed, unsupported, inaccurate, irrelevant.*** |
| **Develops skills for inquiry and communication** | | | | |
| *Records and explains reasoning and procedures clearly and completely, including appropriate terminology.*  *Using a variety of ICT and other media and tools to collect, present, and share information.*  *Teamwork collaborate, share work with others.*  *Evaluate individual and group processes.* | Records and explains reasoning and procedures with precision and thoroughness. Able to justify and defend their understanding.  ***Provides a compelling explanation using precise scientific vocabulary.*** | Records and explains reasoning and procedures clearly and completely.  ***Provides a meaningful explanation using effective scientific vocabulary.*** | Able to record and explain reasoning and procedures with partial clarity; may be basic.  ***Provides a plausible explanation using simplistic vocabulary.*** | Unable to completely and/or accurately record and explain reasoning and/or procedures clearly.  ***Provides vague explanation using incorrect scientific vocabulary.*** |
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