

## **SCORING CRITERIA - Problem Solving and Critical Thinking**

**Description:** Students will demonstrate Problem Solving and Critical Thinking by applying processes to define problems, evaluating possible outcomes, and persevering in solving complex problems. Students will be able to...

| Performance Indicator:                      | Beginning                                       | Developing  | Proficient   | Expanding   |
|---|---|---|--|---|
| 1. Observe, identify and analyze a problem. | Make observations about a problem or situation. | <b>Describe</b> the problem and <b>identify</b> the parts of the problem. | Summarize the problem, identify variables, and analyze how elements of the situation define the problem. | <b>Evaluate</b> the relevance and importance of elements that define the problem and limit the solutions. |

| Performance Indicator:                                 | Beginning  | Developing   | Proficient   | Expanding  |
|--|--|--|--|--|
| 2. Identify, collect and analyze relevant information. | Find information in sources provided and describe the information/data gathered. | List resources relevant<br>to the plan or process<br>of approach, identify<br>simple patterns and<br>trends in<br>information/data, and<br>determine whether<br>information is sufficient<br>or if more is needed. | Identify relevant information/data from resources and analyze patterns and trends to identify relationships. | Identify information/data crucial to the problem and identify and prioritize patterns and trends in information/data most relevant to the problem. |



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|--|---|--|--|---|
| 3. Generate options and provide reasoning for a plan or approach to solve a problem. | Identify and choose a potential plan or process of approach from a list of possibilities. | Identify opportunities for new thinking or creative problemsolving.  Generate a plan or process of approach. | Describe opportunities for new thinking or creative problemsolving using resources and design procedures.  Generate a range of plans or processes of approach, select one and support the chosen plan or approach with information/data. | Analyze opportunities for new thinking or creative problemsolving using resources and design procedures needed for collecting, managing, and analyzing information.  Generate a range of possible solutions that do not simply borrow from past examples and select and justify a chosen solution using evidence from an analysis of the options. |

| Performance Indicator:  | Beginning                          | Developing  | Proficient   | Expanding  |
|---|------------------------------------|---|--|--|
| 4. Implement a plan or process of approach using tools and information. | Identify tools to solve a problem. | Identify a range of appropriate tools to help solve a problem and begin to implement a plan or process of approach. | Utilize information, appropriate tools, and/or technology strategically to implement a plan or process of approach to provide a potential solution or product. | Demonstrate creativity and innovation in selection and use of tools and anticipate and address possible implementation challenges. |



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|---|--|--|--|--|
| 5. Show flexibility and persist through frustrations; continue to revise a plan or process of approach in order to arrive at a viable solution. | Identify a strategy that could be used to overcome an obstacle in problem solving. | Make an attempt to reach a viable solution by applying a strategy. | Make multiple<br>attempts, persisting as<br>needed, to reach a<br>viable solution by<br>applying and adjusting<br>varied strategies and<br>approaches. | Make multiple attempts, if needed, until an effective solution is reached by applying, evaluating and adjusting strategies and approaches. |

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|--|---|---|---|--|
| 6. Evaluate, justify and defend the relative effectiveness of the plan or process of approach. | Describe the data/information gathered from plan or approach and state whether the plan or process of approach was effective. | Identify relationships in data/information gathered from plan or approach and describe whether the plan or process of approach was effective. | Analyze patterns and trends to identify relationships in data/information gathered from the plan or approach and to evaluate the effectiveness of the plan or approach. | Justify a data collection strategy by analyzing strengths and weaknesses and critiquing the potential effectiveness of a range of solutions with consideration of real-life constraints. |