

THE SEPUP SCORING GUIDES

1. **Designing Investigations** (DI)
2. **Organizing Data** (OD)
3. **Analyzing Data** (AD)
4. **Understanding Concepts** (UC)
5. **Recognizing Evidence** (RE)
6. **Evidence and Trade-offs** (ET)
7. **Communication Skills** (CS)
8. **Organizing Scientific Ideas** (SI)
9. **Group Interaction** (GI)

Scoring Guide: Designing Investigations (DI)

What to Look For

**Response states a design and specifies data to be collected for the investigation.
Procedures are described completely and accurately.**

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| Level 4 <i>Above and beyond</i> | Student accomplishes Level 3 and goes beyond in some significant way such as: <ul style="list-style-type: none">· identifying alternate procedures.· suggesting improved materials.· relating clearly to scientific principles and approaches. |
| Level 3 <i>Complete and correct</i> | Student's design is appropriate and has a reproducible procedure, if required. |
| Level 2 <i>Almost there</i> | Student's design or procedure is incomplete AND/OR has significant errors. |
| Level 1 <i>On your way</i> | Student's design or procedure is incorrect or demonstrates a lack of understanding of the goals of the investigation. |
| Level 0 | Student's design or procedure is missing, illegible, or irrelevant. |
| X | Student had no opportunity to respond. |

Scoring Guide: Organizing Data (OD)

What to Look For

Response accurately records and logically displays data.

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| <p>Level 4 <i>Above and beyond</i></p> | <p>Student accomplishes Level 3 and goes beyond in some significant way such as:</p> <ul style="list-style-type: none"> · using innovation in the organization or display of data. |
| <p>Level 3 <i>Complete and correct</i></p> | <p>Student logically presents complete and accurate data.</p> |
| <p>Level 2 <i>Almost there</i></p> | <p>Student reports data logically BUT records are incomplete.</p> |
| <p>Level 1 <i>On your way</i></p> | <p>Student reports data BUT records are illogical OR records contain major errors in the data.</p> |
| <p>Level 0</p> | <p>Student's data is missing, illegible, or irrelevant.</p> |
| <p>X</p> | <p>Student had no opportunity to respond.</p> |

Scoring Guide: Analyzing Data (AD)

What to Look For

Response accurately summarizes data, detects patterns and trends, and draws valid conclusions based on the data used.

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| Level 4 <i>Above and beyond</i> | Student accomplishes Level 3 AND goes beyond in a significant way, such as <ul style="list-style-type: none">· explaining unexpected results.· judging the value of investigation.· suggesting additional relevant investigation. |
| Level 3 <i>Complete and correct</i> | Student analyzes and interprets data correctly and completely AND student's conclusion is compatible with the analysis of the data. |
| Level 2 <i>Almost there</i> | Student notes patterns or trends BUT does so incompletely. |
| Level 1 <i>On your way</i> | Student attempts an interpretation BUT ideas are illogical OR ideas show a lack of understanding. |
| Level 0 | Student's analysis or interpretation of data is missing, illegible, or irrelevant. |
| X | Student had no opportunity to respond. |

Scoring Guide: Understanding Concepts (UC)

What to Look For

Response identifies and describes scientific concepts relevant to a particular problem or issue.

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| <p>Level 4 <i>Above and beyond</i></p> | <p>Student accomplishes Level 3 AND goes beyond in significant way, such as</p> <ul style="list-style-type: none"> · using relevant information not provided in class to elaborate on your response. · using a diagram to clarify scientific concepts. · relating your response to other science concepts. |
| <p>Level 3 <i>Complete and correct</i></p> | <p>Student accurately and completely explains or uses relevant scientific concepts.</p> |
| <p>Level 2 <i>Almost there</i></p> | <p>Student explains or uses scientific concepts BUT has some omissions or errors.</p> |
| <p>Level 1 <i>On your way</i></p> | <p>Student incorrectly explains or uses scientific concepts.</p> |
| <p>Level 0</p> | <p>Student's response is missing, illegible, or irrelevant.</p> |
| <p>X</p> | <p>Student had no opportunity to respond.</p> |

Scoring Guide: Recognizing Relevant Evidence (RE)

What to Look For

Response states correct and relevant evidence such as facts, data and observations.

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| Level 4 <i>Above and beyond</i> | Student accomplishes Level 3 and goes beyond in some significant way such as: · questioning or justifying the source, validity, and/or quantity of evidence. |
| Level 3 <i>Complete and correct</i> | Student identifies key evidence with the appropriate facts, data and observations. |
| Level 2 <i>Almost there</i> | Student includes some, but not all, relevant evidence BUT student omits key evidence OR provides an insufficient number of facts, data, and observations. |
| Level 1 <i>On your way</i> | Student states opinion as facts OR student uses incorrect or irrelevant evidence. |
| Level 0 | Student's response is missing, illegible, or irrelevant. |
| X | Student had no opportunity to respond. |

Scoring Guide: Evidence and Trade-offs (ET)

What to Look For

**Response uses relevant evidence to compare multiple options in order to make a choice.
Response takes a position supported by evidence and describes what is given up (traded off) for the chosen option.**

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| <p>Level 4 <i>Above and beyond</i></p> | <p>Student accomplishes Level 3 and goes beyond in some significant way such as:</p> <ul style="list-style-type: none"> · including relevant evidence that was not studied in class. · evaluating the source, quality, or quantity of evidence. · proposing relevant experiments or research. · including a diagram or other visual aid to clarify your ideas. |
| <p>Level 3 <i>Complete and correct</i></p> | <p>Student compares options using accurate and relevant evidence AND takes a position supported by the evidence AND student describes trade-offs of his/her decision.</p> |
| <p>Level 2 <i>Almost there</i></p> | <p>Student discusses one or more options using accurate and relevant evidence and takes a position supported by the evidence BUT reasoning is incomplete and/or part of evidence is missing.</p> |
| <p>Level 1 <i>On your way</i></p> | <p>Student takes a position BUT provides reasons that are subjective, inaccurate, or nonscientific.</p> |
| <p>Level 0</p> | <p>Student's response is missing, illegible, or irrelevant.</p> |
| <p>X</p> | <p>Student had no opportunity to respond.</p> |

Scoring Guide: Communicating Skills (CS)

What to Look For

Response uses communication skills to present ideas in the following formats:

- **written (e.g., report): sentence structure, grammar, spelling**
- **oral (e.g., presentation): enunciation, projection, and eye contact**
- **visual (e.g., poster): balance of light, color, size of lettering, clarity of image**
- **multimedia (e.g., computer slide show): effective use of available technology**

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| <p>Level 4 <i>Above and beyond</i></p> | <p>Student accomplishes Level 3 and enhance communication in some significant way, such as:</p> <ul style="list-style-type: none"> • using additional images or diagrams effectively • using additional formats of communication effectively |
| <p>Level 3 <i>Complete and correct</i></p> | <p>Student communicates ideas clearly with few or no technical errors.</p> |
| <p>Level 2 <i>Almost there</i></p> | <p>Student may have several technical errors BUT they do not prevent the audience from understanding the message.</p> |
| <p>Level 1 <i>On your way</i></p> | <p>Student's communication is unclear OR many technical errors seriously distract the audience from understanding the message.</p> |
| <p>Level 0</p> | <p>Student's response is missing, illegible, or irrelevant.</p> |
| <p>X</p> | <p>Student had no opportunity to respond.</p> |

Scoring Guide: Organizing Scientific Ideas (SI)

What to Look For

Response logically organizes argument, evidence and/or ideas related to a problem or issue by clearly communicating main ideas and using a logical sequence of sentences

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| <p>Level 4 <i>Above and beyond</i></p> | <p>Student accomplishes Level 3 and goes beyond in some significant way such as:</p> <ul style="list-style-type: none"> · highlighting key ideas effectively. · exhibiting originality · using diagrams effectively. |
| <p>Level 3 <i>Complete and correct</i></p> | <p>Student's response is complete and shows a logical order.</p> |
| <p>Level 2 <i>Almost there</i></p> | <p>Student's response shows some logical order BUT there are minor flaws in logic OR there is one missing part.</p> |
| <p>Level 1 <i>On your way</i></p> | <p>Student's response lacks logical order OR student's response is missing multiple parts.</p> |
| <p>Level 0</p> | <p>Student's response is missing, illegible, or irrelevant.</p> |
| <p>X</p> | <p>Student had no opportunity to respond.</p> |

Scoring Guide: Group Interaction (GI)

What to Look For

Group members work together as a team and the ideas of all members were valued and weighed in working toward the common goal.

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| Level 4 <i>Above and beyond</i> | Group members accomplish Level 3 and go beyond in some significant way such as: <ul style="list-style-type: none">· actively asking questions about each others' ideas.· actively helping each other accomplish the task.· building on each other's ideas. |
| Level 3 <i>Complete and correct</i> | All group members participated and respectfully consider each others' ideas. |
| Level 2 <i>Almost there</i> | Unequal group participation OR group respectfully considered some, but not all, ideas. |
| Level 1 <i>On your way</i> | Significantly unequal group participation OR group totally disregarded some members' comments and ideas. |
| Level 0 | Members did not work together OR single individual does entire task. |
| X | Student had no opportunity to respond. |