Official Scientific Inquiry Scoring Guide
Grades 4 and 5

Progress Report Score	ODE WS Score	SI- Forming a Question or Hypothesis *Based on observations and science principles, select a question or form a hypothesis that can be tested through scientific investigation.*	SI- Designing an Investigation. *Design a scientific investigation to answer a question or test hypotheses using appropriate tools and procedures.*	ODE WS Score	Progress Report Score
4	**5/6****	• Forms a testable question or forms a hypothesis that clearly guides the design of a scientific investigation. • Uses specific observations and relevant scientific principles from multiple sources to independently frame an investigation.	• Designs a practical and reproducible plan that includes relevant tools and detailed procedures for an investigation that addresses the question. • Describes a logical procedure that identifies the relevant variables for collecting accurate and reliable data. • Presents a detailed, systematic plan and procedure incorporating consistent multiple trials or observations.	**5/6****	**4**
3	**4**	• Selects a testable question or forms a hypothesis that can be used to guide the design of a scientific investigation. • Uses observations and relevant scientific principles to frame an investigation.	• Designs a practical plan that includes relevant tools and procedures for an investigation that addresses the question. • Describes a logical procedure for collecting appropriate data. • Presents a plan and procedure incorporating multiple trials or observations.	**4**	**3**
2	**3**	• Selects a question or forms a hypothesis that is of partial use in the design of a scientific investigation. • Uses observations and limited scientific principles to frame an investigation.	• Designs a plan that includes inappropriate tools or limited procedures which do not adequately address the question. • Describes a procedure which would result in the collection of incomplete data. • Presents a plan and procedure with inadequate trials or observations.	**3**	**2**
1/NP	**1/2***	• Selects a question that cannot be used to design a scientific investigation or form a hypothesis. • Uses limited observations and/or scientific principles to frame an incomplete investigation.	• Designs a plan that does not address the question. • Describes a procedure which would result in the collection of inaccurate or irrelevant data. • Presents a plan and procedure lacking multiple trials or observations.	**1/2***	**1/NP**

**5 for preponderance (most) completed, 6 for all completed.
* 2 for preponderance (most) completed, 1 for less completed or missing. A hypothesis may be stated as a claim.
Observations may include background information.

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Progress Report Score	ODE WS Score	SI- Collecting and Presenting Data *Collect, record, and organize data from investigations. (Student directed with Teacher Support)*	SI- Analyzing and Interpreting Results *Summarize, analyze and interpret data from an investigation that address the identified question or hypothesis.*	ODE WS Score	Progress Report Score
4	5/6**	• Designs a detailed and logical data-collection method using multiple trials and/or observations. • Collects and records accurate and detailed data or observations consistent with the planned procedure. • Accurately transfers original data into a useful format that enhances thorough analysis (e.g., graphs, tables, diagrams, averages, percentages) with minimal teacher support.	• Uses data or observations to clearly support and defend a thorough and accurate explanation of the results. • States a detailed conclusion which identifies and explains variables, results. Suggests changes to improve the investigation. • Clearly communicates and identifies the most relevant results to fully address the original question or hypothesis.	5/6**	4
3	4	• Designs an appropriate data-collection method using multiple trials and/or observations. • Collects and records data or observations generally consistent with the planned procedure. • Transfers original data into a useful format for analysis (e.g., graphs, tables, diagrams, averages, percentages).	• Uses data or observations to support a reasonable explanation of the results. • States a conclusion which discusses some variables, errors, limitations, patterns in the data, or possible explanations for results. • Clearly communicates the relationship of the results to	4	3
2	3	• Designs a data-collection method lacking multiple trials and/or observations. • Collects and records data or observations only partially consistent with the planned procedure. • Transfers original data into a format that is not useful for analysis (e.g., graphs, tables, diagrams, averages, percentages) or is presented with several errors.	• Partially uses the data or observations to support a reasonable explanation of the results. • States a conclusion with minimal discussion of variables, errors, limitations, patterns in the data, or possible explanations for results. • Partially communicates the relationship of the results to the original question or hypothesis.	3	2
1/NP	1/2*	• Designs a data-collection method that includes unclear or disconnected observations. • Collects and records data or observations inconsistent with the planned procedure. • Incorrectly or does not transfer original data.	• Data or observations are not connected to an explanation of the results. • States a conclusion that does not include discussion of variables, errors, limitations, patterns in the data, or possible explanations for results. • Inaccurately communicates the relationship of the results to the original question or hypothesis.	1/2*	1/NP

**5 for preponderance (most) completed, 6 for all completed.
* 2 for preponderance (most) completed, 1 for less completed or missing.
(Teacher guidance in safety and ethics is necessary.)