

Official Scientific Inquiry Scoring Guide Grades 4 and 5

Progress Report Score	ODE WS Score	SI- Forming a Question or Hypothesis	SI- Designing an Investigation.	ODE WS Score	Progress Report Score
4	5/6**	<p><i>Based on observations and science principles, select a question or form a hypothesis that can be tested through scientific investigation.</i></p> <ul style="list-style-type: none"> 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. 	<p><i>Design a scientific investigation to answer a question or test hypotheses using appropriate tools and procedures.</i></p> <ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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*	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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 <i>Collect, record, and organize data from investigations. (Student directed with Teacher Support)</i>	SI- Analyzing and Interpreting Results <i>Summarize, analyze and interpret data from an investigation that address the identified question or hypothesis.</i>	ODE WS Score	Progress Report Score
4	5/6**	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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). 	<ul style="list-style-type: none"> 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	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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*	<ul style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> 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.)