

NECAP Science Inquiry Constructs for all Grade Levels

NECAP Science Schema for Assessing Scientific Inquiry (with DOK levels for constructs)				
Broad Areas of Inquiry to be Assessed	Formulating Questions & Hypothesizing	Planning and Critiquing of Investigations	Conducting Investigations	Developing and Evaluating Explanations
<p>Constructs for each Broad Area of Inquiry</p> <p>(including intended DOK Ceiling Levels, based on Webb Depth of Knowledge Levels for Science – see also Section II)</p> <p><i>Inquiry Constructs answer the question: What is it about the broad area of Inquiry that we want students to know and be able to do?</i></p>	<p>1. Analyze information from observations, research, or experimental data for the purpose of formulating a question, hypothesis, or prediction: (DOK 3)</p> <p>1a. Appropriate for answering with scientific investigation</p> <p>1b. For answering using scientific knowledge</p> <p>2. Construct coherent argument in support of a question, hypothesis, prediction (DOK 2 or 3 depending on complexity of argument)</p> <p>3. Make and describe observations in order to ask questions, hypothesize, make predictions related to topic (DOK 2)</p>	<p>4. Identify information/evidence that needs to be collected in order to answer the question, hypothesis, prediction (DOK 2 – routine; DOK 3 non-routine/ more than one dependant variable)</p> <p>5. Develop an organized and logical approach to investigating the question, including controlling variables (DOK 2 – routine; DOK 3 non-routine)</p> <p>6. Provide reasoning for appropriateness of materials, tools, procedures, and scale used in the investigation (DOK 2)</p>	<p>7. Follow procedures for collecting and recording qualitative or quantitative data, using equipment or measurement devices accurately (DOK 1 – use tools; routine procedure; DOK 2 – follow multi-step procedures; make observations)</p> <p>8. Use accepted methods for organizing, representing, and manipulating data (DOK 2 – compare data; display data)</p> <p>9. Collect sufficient data to study question, hypothesis, or relationships (DOK 2 – part of following procedures)</p> <p>10. Summarize results based on data (DOK 2)</p>	<p>11. Analyze data, including determining if data are relevant, artifact, irrelevant, or anomalous (DOK 2 – specify relationships between facts; ordering, classifying data)</p> <p>12. Use evidence to support and justify interpretations and conclusions or explain how the evidence refutes the hypothesis (DOK 3)</p> <p>13. Communicate how scientific knowledge applies to explain results, propose further investigations, or construct and analyze alternative explanations (DOK 3)</p>