



Recommended Grade 4 Curriculum Framework

Topic: Scientific Inquiry (Inquiry skills are assessed in the context of physical, earth/space, and life sciences content.)						
Content (What do your students need to KNOW?)	Demonstrators (What do your students need to be able to DO?)	Assessment (How will you assess what your students ALREADY KNOW, and assess WHAT THEY'VE LEARNED?)	Activities (HOW will you teach it?)	Resources (What MATERIALS will you need?)	Differentiation (How will you reach the DIVERSITY of learners?)	Literacy Connection (How will you use READING and WRITING with this material?)
<p>Scientific Ways of Thinking and Working Students will</p> <ul style="list-style-type: none"> ask simple scientific questions that can be investigated through observations combined with scientific information. use simple equipment (e.g., plant lights, magnifiers), tools (e.g., rulers, thermometers), skills (e.g., describing, classifying, predicting), technology (e.g., electronic media, calculators, World Wide Web), and mathematics in scientific investigations. use evidence (e.g., descriptions, observations, data) from simple scientific investigations and scientific knowledge to develop reasonable explanations. design and conduct different kinds of simple scientific investigations. communicate (e.g., draw, 	<p>The Nature of Science: Experimental Design AE 2.1 Students understand scientific ways of thinking and working and use those methods to solve real-life problems.</p> <p>Demonstrators</p> <ul style="list-style-type: none"> Design, conduct, and report an investigation or experiment. Identify variables that cause or influence an outcome. Infer and formulate explanations or predict an outcome based on data. Record and represent data in an organized form (e.g., tabular, graphic formats). Collect data by using a variety of observation techniques and measurement tools. Classify and order objects by one or more identifiable properties. Observe and communicate properties of objects or organisms using all senses. 					

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<p>graph, write) designs, procedures, observations and results of scientific investigations.</p> <ul style="list-style-type: none"> review and ask questions about scientific investigations and explanations of other students. 	<p>organisms using all senses.</p> <p>Science Process Skills Continuum</p> <p>Students will</p> <ul style="list-style-type: none"> Form a hypothesis by stating a problem to be solved as a question that can be tested by an experiment. Design an experiment by planning how to investigate, manipulate materials, and test hypotheses to find a result. Identify variables by deciding what may affect the outcome of an event while everything else is held constant. Predict by making a forecast about what will happen in the future. Predictions should be based on prior knowledge gained through experiences and collected data. Infer by using past experiences to draw conclusions and make explanations about events not directly observed. Organize data by recording collected data in a chart, diagram, graph, map, report, or table to share it with others or to use it to answer questions. 					

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	<ul style="list-style-type: none">• Collect data by systematically making accurate and clear observations and measurements.• Measure by accurately comparing something to standard or nonstandard units. The basic units for measuring are length, mass, and time. Sometimes estimation may be used, too.• Order by organizing objects or events based on a chosen characteristic or sequence.• Classify by using observations to group objects or events according to similarities and differences.• Communicate giving or receiving information so that someone else can interpret it accurately. Examples include: oral or written communication, charts, diagrams, drawings, graphs, maps, photographs, pictures, reports, symbols, or tables.• Observe using one or more of their senses (seeing, hearing, smelling, tasting, or touching) to find out about objects, events, or living things.					