

Structured Inquiry	Guided Inquiry	Student-Initiated Inquiry
Hands-on activity in which students draw their own conclusions, but follow precise instructions.	Students take responsibility for developing the procedure, but are given a question to investigate.	Students generate their own questions about a teacher assigned topic, and plan their own investigative procedures.
<b>Students...</b>	<b>Students...</b>	<b>Students...</b>
<ul style="list-style-type: none"> <li>* focus on <u>one</u> aspect of inquiry (i.e., data collection)</li> <li>* make connections to the larger problem through teacher intervention</li> </ul>	<ul style="list-style-type: none"> <li>* focus on more than one aspect of inquiry</li> <li>* make connections to the larger problem with teacher guidance</li> </ul>	<ul style="list-style-type: none"> <li>* focus on all aspects of inquiry</li> <li>* make connections to the larger problem through teacher intervention</li> </ul>
<b>Teachers...</b>	<b>Teachers...</b>	<b>Teachers...</b>
<ul style="list-style-type: none"> <li>* support aspects of inquiry to provide a rich learning experience</li> <li>* facilitate reasoning individually, in small groups, and in whole class discussions</li> </ul>	<ul style="list-style-type: none"> <li>* support aspects of inquiry to provide a rich learning experience</li> <li>* facilitate reasoning individually, in small groups, and in whole class discussions</li> </ul>	<ul style="list-style-type: none"> <li>* provide set parameters to the investigation with learning goals</li> <li>* guide reasoning with discretion</li> </ul>

### 3 Levels of Inquiry

**Structured Inquiry**—The teacher provides students with a hands-on problem to investigate, as well as the procedures, and materials, but does not inform them of expected outcomes. Students are to discover relationships between variables or otherwise generalize from data collected. These types of investigations are similar to those known as cookbook activities. Structured inquiry is used to teach a specific concept, fact, or skill and provides the groundwork for open inquiry. **Example:** "Students are given a step-by-step procedure, including diagrams for making various types of electrical circuits, including series and parallel. Questions prompt students to remove individual bulbs from each circuit and record their observations." (Colburn, Alan, Science Scope, "An Inquiry Primer," March 2000)

**Guided Inquiry**—The teacher provides the materials and problem to investigate. Students devise their own procedure to solve the problem. The teacher facilitates the investigation and encourages student's generated questions that may lead to further investigations. **Example:** "Students are given batteries, bulbs, wires, and other materials. Procedures instruct them to make a bulb light as many ways as they can using the supplies provided. Later, they are instructed to make two bulbs light, again, using different combinations of materials. Finally, students are asked to note what happens when they remove individual bulbs from their circuits." (Colburn, Alan, Science Scope, "An Inquiry Primer," March 2000)

**Open Inquiry**—This is similar to guided inquiry, with the addition that students also formulate their own problem to investigate. Open inquiry allows students to develop their understanding of a concept and use scientific reasoning. An important goal for all students would be to conduct open inquiry independently. **Example:** "Students are given batteries, bulbs, wires, and other materials. They are instructed to investigate how bulbs light in electrical circuits." (Colburn, Alan, Science Scope, "An Inquiry Primer," March 2000)

(<http://www.mcps.k12.md.us/curriculum/science/instr/inq3levels.htm>)