

Model: Inquiry Training Model

Purposes:

To give students practice at inquiry and the formation of hypothesis.

To help students gain a better understanding of water and its properties.

Context:

Students have been studying matter and its reactions to different forms of energy.

Phase One: Confrontation with the Problem

The teacher has a large beaker of water with two electrodes sitting on the desk as the students come into the classroom. The electrodes have bubbles coming up from them and there are two test tubes filling up with some type of gas. One test tube has twice as much air in it as the other.

As class begins, some of the students ask the teacher, "What have you got going there?"

Explain to students they are to form a hypothesis about what is happening. They may ask any question they like as long as it has a yes or no answer.

Phase Two and Three: Data Gathering Verification/Experimentation

Teacher answers questions from the students. If a student asks a question that is not yes or no, then the teacher reminds the students of the rules.

Verification-students should first ask questions about what the components of the demonstration are.

Experimentation-students should use questions to isolate variables and hypothesis relationships.

It may be necessary to help students formulate appropriate answers if they have not practiced this type of exercise before

Phase Four: Organizing, Formulating and Explanation

Students should formulate a description for what is happening

Phase Five: Analysis of the Inquiry Process

Students and teacher analyze the questions and the order to evaluate the questioning strategy and develop a more effective approach to similar problems.