

1. Learner engages in scientifically oriented questions

What was your question and where did you get it?

2. Learner Gives priority to Evidence

What was your evidence and how did you get it?

3. Learner formulates explanations from evidence

What was your explanation and how did you get to it?

4. Learner connects explanations to scientific knowledge

Learner evaluates explanations in light of alternative explanations, particularly reflecting on scientific understanding.

How reliable do you think your results are? How do your explanations differ from other groups results, from other research? Is there an alternative explanation to consider?

5. Learner communicates and justifies explanations

How did you communicate your results? How did you decide how and what to communicate?

The 5 essential features of inquiry and their variations.				
1. Engages in scientifically oriented questions.	Learner poses a question	Learner selects among questions, poses new questions	Learner sharpens or clarifies question provided by the teacher, material, or other source	Learner engages in question provided by teacher, materials, or other source
2. Gives priority to evidence in responding to questions.	Learner determines what constitutes evidence and collects it	Learner directed to collect certain data	Learner given data and asked to analyze	Learner given data and told how to analyze
3. formulates explanations from evidence.	Learner formulates explanation after summarizing evidence	Learner guided in process of formulating explanations from evidence	Learner given possible ways to use evidence to formulate explanation	Learner provided with evidence
4. Connects explanations to scientific knowledge.	Learner independently examines other resources and forms the links to explanations	Learner directed toward areas and sources of scientific knowledge		Learner given possible connections
5. Communicates and justifies explanations.	Learner forms reasonable and logical argument to communicate explanations	Learner coached in development of communication	Learner provided broad guidelines to use/sharpen communication	Learner given steps and procedures for communication

Myths about inquiry

- Inquiry-based instruction is the application of the scientific method.
- Inquiry-based instruction required that students generate and pursue their own questions.
- Inquiry-based instruction can take place without attention to science concepts.
- All science should be taught through inquiry-based instruction.
- Inquiry-based instruction can be easily implemented through the use of hands-on activities and educational kits.
- Student interest generated by hands-on activities ensures that inquiry teaching and learning are occurring.
- Inquiry-based instruction is too difficult to implement in the classroom.

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