

Pre 4

Final Student Survey of Ability to Think Like a Scientist

A big goal of the physical science class you are taking is helping you to learn to think like a scientist. Thinking like a scientist uses skills such as analyzing, evaluating, and synthesizing scientific information. After learning about the Nature of Science, how has this hindered / helped you in these areas?

NOTE: Participation is voluntary, and you can choose to not answer any question that you do not want to answer, and you can stop at anytime. Participation in this research is voluntary and participation or non-participation will not affect a student's grades or class standing in any way

* Required

I feel confident and comfortable in my ability to analyze scientific information *

For example, analyzing scientific information includes being able to look at a chart, graph, or data table and understand what the information is telling you.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

I feel confident and comfortable in my ability to evaluate scientific information

For example, evaluating scientific information involves being able to look at a science fair project or study and judge whether the project was done properly, gained meaningful data, and whether the conclusion given is appropriate.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

I feel confident and comfortable in my ability to synthesize scientific thought *

For example, synthesizing scientific thought involves coming up with a hypothesis or a scientific study (science fair project) to answer a question.

- Strongly Disagree
- Disagree
- Agree
- Strongly Agree

When I analyze information, data (facts and figures), or ideas *

Note: Question created by Valencia Community College by the Learning Evidence Team in 2005.

- Generally, I can report what I have read or heard with only a few mistakes. For example, When there are reading comprehension questions, I usually get most of them right. For example, When a friend gives me directions to her house, I can find it without getting lost.
- I can figure out how to use data and ideas to solve problems or complete assignments that are similar to examples I have seen. For example, When I see the examples in the textbook, I understand how to do the homework. For example, After we studied the Renaissance in humanities, I could pick out a Renaissance painting.
- I often copy the work of others and still may make mistakes. For example, I like it when the teacher gives me a copy of the notes because mine don't make much sense. For example, I try to work problems the way they are done in the book, but sometimes I get the wrong answer.

- I can provide in-depth analysis of the data or ideas that I use to solve problems or complete assignments. For example, Once I determine how to solve a problem, I can help other students understand how to solve it.

When I try to come to a conclusion about something I am thinking... *

Note: Question created by Valencia Community College by the Learning Evidence Team in 2005

- I can create a conclusion that is logical and that reflects my ideas, too. For example, In one of my classes, I analyzed different theories about what stimulates innovation and developed my own theory of why innovation occurs. For example, After seeing the other team's presentation, I was able to add my thoughts to theirs to create a joint proposal we could all agree on.
- My conclusion matches the evidence that has been presented. For example, In the Laci Peterson investigation, I made my conclusion about Scott Peterson's guilt based on the evidence I saw and read about. For example, When I write papers in American government, I am careful that my conclusions are based on the information I included in my paper.
- I can comfortably restate what has been said. For example, When I give a speech on something like alcohol addiction, I can add a quick recap for my conclusion. For example, I am usually more comfortable saying what has been said than coming up with my own conclusions.
- I have trouble thinking of anything to say. For example, I have problems with conclusions, especially when writing papers. For example, I had trouble explaining to my group what I was going to say in my speech.

When I try to pull ideas together to get the big picture... †

Note: Question created by Valencia Community College by the Learning Evidence Team in 2005

- I can arrange the ideas into a pattern that includes clear relationships among ideas. For example, With my friends, I always I arrange the stuff we all want to do and then we do it. For example, I like to watch CSI, where I watch for the little clues that tell me who the murderer was.
- I can arrange most ideas into a pattern, if it's not too complicated. For example, I can pull together various ideas when trying to get the big picture. For example, I can learn a new dance routine if it doesn't have too many steps.
- I often see the pieces better than the big picture. For example, Sometimes it's easier and less complicated to go piece by piece. For example, I am a here-and-now thinker. I usually don't think about the big picture.
- I can link ideas together in complicated patterns and explain complex relationships. For example, Before the War in Iraq, I predicted what might happen if we invade a country that never attacked us. For example, I can explain the differences between breast and prostate cancer.

Learning about the Nature of Science helped me in my ability to analyze scientific information

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Learning about the Nature of Science helped me in my ability to evaluate scientific information †

- Strongly Disagree
- Disagree

- Neutral
- Agree
- Strongly Agree

Learning about the Nature of Science helped me in my ability to synthesize scientific thought*

- Strongly Disagree
- Disagree
- Neutral
- Agree
- Strongly Agree

Is there anything else you would like me to know about this topic?

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