

False Assumption Activity

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Washington

(Taken from the Evolution and Nature of Science Institute)

This is a great activity to use at the beginning of the year to help students learn about the nature of science. It can also be used at various times throughout the year to reinforce the nature of science. It specifically helps them gather data, develop hypotheses, and become aware of the effects of making false assumptions. It is also a very fun activity that helps kids develop a positive attitude toward science.

A scenario is presented via overhead or LCD projector and then students are asked to answer the question at the end of the scenario. They must gather more data by asking the teacher yes or no questions. As the students gather data they also develop hypotheses to answer the question. Eventually someone figures out the answer and asks a question that spurs many others to get the answer also. Occasionally someone knows the answer at the beginning of the scenario, so I ask the students to keep the answer to themselves for awhile until others have a chance to try to figure it out. After we have done a few we discuss the importance of being aware of the assumptions that we make, since they can determine the direction we take in gathering data and developing hypotheses about nature.

SCENARIO #1: It is a hot August afternoon. The location is the living room in an old Victorian mansion. The 7 foot window is open and the curtains are blowing in the breeze generated by the thunderstorm that just passed through the area. On the floor are the bodies of Bill and Mary. They are surrounded by puddles of water and broken glass. Please close your eyes and picture the scene in your head. Neither Bill nor Mary has clothing on. How did they die?

Answer: Bill and Mary are fish. They died when the wind from the thunderstorm blew their fish bowl over and they were out of water for too long.

SCENARIO #2: A man is walking down the street, sees a bar and enters. He asks the bartender for a glass of water. The bartender pulls out a gun and points it at him. The man says thank you and leaves the bar. What happened?

Answer: The man had the hiccups and asked for water to get rid of them, but when the man pulled the gun it scared him and got rid of the hiccups also.

SCENARIO #3: There is a cabin on the side of a mountain. Three people are inside; they are dead. How did they die?

Answer: The three people are in an airplane cabin that crashed into the side of the mountain. They died in the crash.

SCENARIO #4: A man leaves home and makes three left turns. He returns home again. On the way he passed two men with masks. Who are the two men?

Answer: The umpire and the catcher. The man is running around the bases in a baseball game.