

Exploring Leadership

PROBLEM SOLVING: LOGICAL REASONING

Logical Reasoning is not just for math teachers and detectives! When we make unsubstantiated claims or “jump to conclusions,” we are not likely to solve the problem. However, when we are able to explain the logic behind our conclusions it is more likely that we will and that others will appreciate and agree with our solution. Our educated guesses may not always be completely correct, but they are certainly more convincing than a random shot in the dark.

CONVERSATION STARTERS:

- Display an enlarged picture that accompanies the story.
- Ask: What do you think is the logical explanation for what happened here?

Logical Reasoning means making an educated guess, and the important word there is educated! When you use Logical Reasoning, you base your conclusion on careful observation and consideration of the rules and patterns you already understand.

EXPLORATION ACTIVITY:

Try out the role of a detective trying to solve a mystery, and the solution you present is your educated guess. You may not always be right, but the more educated your guess is, the more likely it is that the jury will believe you! Are you ready to try and solve a mystery?

- Divide participants into groups of 3-4. Separate them so they can't hear each others' discussions.
- Handout copies of the “Slip or Trip?” mystery (included in appendix).

FACILITATOR TIPS:

- The item clasped in Arthur's hand on the handout is a drinking glass. (You can tell them if they ask.)
- Resist the urge to give a “correct” answer. Let them convince you with their logical reasoning. That's the important part.

KEY OBJECTIVES:

- Practice observation and careful reading/listening.
- Use Logical Reasoning to develop a solution to a mystery.
- Explain the logic of the solution they have developed.

WHAT YOU'LL NEED:

- Copies of “Slip or Trip” Mystery
- Projector to display enlarged color photo



REFLECTION QUESTIONS:

Ask the below open ended questions to your group to engage in a discussion about what happened during the activity.

- What clues did you notice in the story? The picture? What did you wonder?
- What did you already know that helped you come to a solution?
- How did your group decide on a solution?

APPLICATION DISCUSSION:

- Do you consider yourself a “logical” person in daily life? Why or why not?
- Relate an experience when Logical Reasoning helped you (or someone else) solve a problem.
- What are the advantages to solving problems logically instead of emotionally?



CONCLUSION:

Logical Reasoning is not only a good way to solve a problem, but also a good way to persuade people that you have solved it correctly. Sound logic is difficult to argue with and it is a valuable skill to practice! Although maybe Queenie wouldn't think so!

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REFERENCES

- https://en.wikipedia.org/wiki/Logical_reasoning#
- <https://examples.yourdictionary.com/examples-of-inductive-reasoning.html>
- http://msjyates.weebly.com/uploads/8/7/2/7/87279318/crime_scene_investigation__finding_the_proof.pdf



APPENDIX:

Slip or Trip?

At 5'6" and 110 pounds, Queenie Volupides was a sight to behold. When she tore out of the house after a tiff with her husband, Arthur, she went to the country club where there was a party going on. She left the club shortly before 1:00 A.M. and invited a few friends to follow her home and have one more drink. They arrived at the house about ten minutes after Queenie, who met them at the door and said, "Something terrible happened! Arthur slipped and fell on the stairs. He was coming down for another drink – he still had the glass in his hand – and I think he's dead. What shall I do?" The police concluded that Arthur died from head trauma, but they need your help figuring out what happened.

Can we believe what Queenie says? Is what you see in the picture consistent with her story? Use Logical Reasoning to make your case.



(Materials adapted from: Treat, Lawrence. Crime and Puzzlement 2. Boston: David R. Godine, Publisher, 1982.)

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REFERENCES

- https://en.wikipedia.org/wiki/Logical_reasoning#
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- http://msjyates.weebly.com/uploads/8/7/2/7/87279318/crime_scene_investigation__finding_the_proof.pdf