Does it Hold Water?

Summary
Investigate logical fallacies to see the flaws in arguments and learn to read between the lines and discern obscure and misleading statements from the truth.

Workplace Readiness Skills
       Primary: Information Literacy
       Secondary: Critical Thinking and Problem Solving
       Secondary: Reading and Writing
       Secondary: Integrity

Workplace Readiness Definition: Information Literacy
- defining *information literacy*
- locating and evaluating credible and relevant sources of information
- using information effectively to accomplish work-related tasks.

Vocabulary

- Critical Thinking
- Inductive Reasoning
- Deductive Reasoning
- Cause-Effect
- Analysis
- Credible/non-credible

- Trustworthy
- Logic
- Logical fallacy
- Process
- Propaganda
- Infer vs. Imply

- Aristotle, Plato, Socrates
- Systems thinking
- Argument
- Rhetorical

Context Questions
- How can information literacy set you apart from your peers or coworkers?
- How can you demonstrate your ability with information literacy skills in a job interview?
- How does information literacy and critical thinking interrelate? How do they differ?
- How is good citizenship tied in with being a critical thinker?
- How have you used information literacy skills in the past?
- What are some common ways that information literacy skills are used in the workplace?
- What news and information sources do you trust? What makes them trustworthy?
- What is the difference between news shows and hard news?
- Why is it important to be able to discern fact from opinion?
- Why is it important to determine a credible from a non-credible source?
- What are the characteristics of a credible/non-credible source?
- What is a primary, secondary, and tertiary source?
- What is a website domain, and what can it tell you about a site's potential credibility?

Objective: To teach you how to determine whether media messages are factual and provable or whether those messages are misleading or somehow flawed. Note: While not all flawed-logic messages

are necessarily malicious, it is important to be on your guard when you hear or read them. Someone is trying to convince of something that may not be true or provable or simply based on personal belief.

Guidelines
1. Examine the examples of logical fallacies from a PDF you can download from yourlogicalfallacyis.com.
2. Concentrate on just a few examples.
3. Match scenario-based arguments with the logical fallacy they represent.
4. Advertisements typically use logical fallacies to sell you things you may not need. See if you can write your own example for one of the following logical fallacies.

Exercise
Here are the logical fallacies we will be focusing on (taken from Your Logical Fallacy Is):
1. **Straw Man:** Misrepresenting someone's argument to make it easier to attack.
2. **Slippery Slope:** Asserting that if we allow A to happen, then Z will consequently happen too, therefore A should not happen.
3. **Black-or-White:** Where two alternative states are presented as the only possibilities, when in fact more possibilities exist.
4. **False Cause:** Presuming that a real or perceived relationship between things means that one is the cause of the other.
5. **Anecdotal:** Using personal experience or an isolated example instead of a valid argument, especially to dismiss statistics.
6. **The Texas Sharpshooter:** Cherry-picking (i.e., custom selecting) data clusters to suit an argument, or finding a pattern to fit a presumption.
7. **Ambiguity:** Using double meanings or ambiguities of language to mislead or misrepresent the truth.

Match the logical fallacies (above) with these examples:

A. Example: My flight was delayed, therefore, the airline I flew is poorly managed.
B. Example: 9 out of 10 dentists would recommend this toothpaste.
C. Example: Beth had a heart attack at the early age of 45. As a child, she had chicken pox. Therefore, people who had chicken pox will also have heart attacks at an early age.
D. Example: If you aren't for me, you are against me.
E. Example: Because John loved to play video games, he began skipping class, therefore video games need to be banned.
F. Example: Laura said that funding for the arts should be increased, therefore, she believes that small business loans are wasteful. This argument assumes that Laura cannot support both.
G. Example: Last winter we received more snow than usual. This disproves global warming.

Reflection after Completion (may be a questionnaire or included as part of the proposal)
- What is the problem with supporting your ideas in the workplace with only personal belief?
- How can you use critical thinking skills to find the flaws in other people's ideas or arguments?
- Why is it important to identify a specific process for solving problems? What influences your selection of process?

- What have you learned about logic and problem solving from this exercise?
- How can reading, education, and research help you support your arguments?
- Have you ever lost an argument? Why? Explain.

Evaluation

See rubric

Notes:

Use the resources to get a better idea of why being able to identify logical fallacies is important.

Example:

Use the exercise examples (above) to create your own example of a logical fallacy or find an actual example of a logical fallacy on the web. Think of this as essentially false advertising, saying things that the author cannot prove or in which the argument itself is flawed.

Differentiation:

1. Technology use—use word graphic design software to create your examples as images.
2. Multisensory options—watch the videos for this activity.
3. Community connections—identify examples of critical thinking used in the workplace.
4. Small-group learning—complete the exercises with your peers.
5. Vocabulary strategies—word wall and matching, match words or phrases under each term in the skill area, "problem solving" and "critical thinking."
6. Student organization of content—final product should include all completed exercise, your own example of a logical fallacy, and answers to all reflection questions.

Matching Exercise Answer Key:

1. F
2. E
3. D
4. C
5. A
6. G
7. B

Resources:

- Your Logical Fallacy Is, https://yourlogicalfallacyis.com/
- Five Fallacies, Idea Channel, PBS Digital Studios, PBS Idea Channel
  https://www.youtube.com/watch?v=8qb-h0sXkH4
- Even More Fallacies, Idea Channel, PBS Digital Studios, PBS Idea Channel
  https://www.youtube.com/watch?v=ybOvddwpJAg
- The Critical Thinking Community, http://www.criticalthinking.org/pages/professional-and-personal-development/800
- The Critical Thinking Community, http://www.criticalthinking.org/pages/valuable-intellectual-traits/528
- The Annenberg Classroom, Resources for Excellent Civics Education,
  http://www.annenbergclassroom.org/page/monty-python-and-the-quest-for-the-perfect-fallacy

- The Annenberg Classroom, Resources for Excellent Civics Education, http://www.annenbergclassroom.org/Files/Documents/LessonPlans/Fallacies/student.handout.common.fallacies%282%29.pdf (handout)