

Name: _____ Date: _____

Think and Link: The 5th Grade Logic Lab Riddles

Can you spot the flaw in a faulty argument? Use high-level synthesis to build sound conclusions and evaluate complex reasoning chains.

1. The local library observes that every 'Mystery' book they buy gets borrowed within one week. They conclude that if they buy the new 'Mystery' book coming out next month, it will also be borrowed in a week. What type of reasoning is being used?

- A. Deductive reasoning
- B. Ad Hominem fallacy
- C. Inductive reasoning
- D. Slippery Slope

2. Scenario: If a plant is a Venus Flytrap, then it eats insects. This plant is a Venus Flytrap. Conclusion: Therefore, this plant eats insects. Which logical principle does this follow?

- A. Modus Tollens
- B. Modus Ponens
- C. Circular Reasoning
- D. Hasty Generalization

3. A student says, 'We should start a school garden.' Another student replies, 'Oh, so you want us to spend all our recess time doing manual labor and never play again?' This logical fallacy is known as a ____ argument.

- A. Red Herring
- B. False Dilemma
- C. Straw Man
- D. Bandwagon

4. The argument 'All mammals have fur; a dolphin is a mammal; therefore, a dolphin has fur' is logically valid, even if the premise 'All mammals have fur' is factually incorrect.

- A. True
- B. False

5. Leo says: 'Every time I wear my lucky red socks, my soccer team wins. Therefore, my socks cause us to win.' What logic error is Leo making?

- A. Mistaking correlation for causation
- B. Using valid Modus Tollens
- C. The Slippery Slope fallacy
- D. Deductive certainty

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6. Either the school cafeteria is serving pizza today, or they are serving tacos. They are NOT serving pizza. Therefore, they are serving tacos. This is an example of a ____.

- A. Analogical argument
- B. Disjunctive Syllogism
- C. Inductive leap
- D. Circular logic

7. Which of these represents a 'Sound' argument?

- A. An argument that is valid and has true premises.
- B. An argument that is invalid but has a true conclusion.
- C. An argument based on personal feelings.
- D. An argument that uses a straw man to win.

8. Inductive reasoning provides 100% certainty in its conclusions.

- A. True
- B. False

9. Consider this: 'If it is a holiday, the post office is closed. The post office is NOT closed.' What is the logical conclusion using Modus Tollens?

- A. It is a holiday.
- B. It is not a holiday.
- C. The mail will be late.
- D. It might be a holiday.

10. Analyze this statement: 'The new coding club will be successful because my brother, who is really good at video games, says it's a great idea.' Why is this argument weak?

- A. It uses Modus Ponens incorrectly.
- B. It relies on an Appeal to Unqualified Authority.
- C. It is a Disjunctive Syllogism.
- D. It is a valid deductive proof.