

Name: _____ Date: _____

Answer Key: Detective or Dreamer: 4th Grade Logic & Thinking Traps Quiz

Evidence-checking, pattern-spotting, and generalization-busting. Students synthesize complex scenarios to avoid common thinking pitfalls and strengthen reasoning skills.

1. Scenario: Maya notices that the last three library books she borrowed had blue covers and were about space. She concludes that every book with a blue cover must be about space. What is the flaw in her reasoning?

Answer: B) She made a 'Hasty Generalization' based on a small sample.

A hasty generalization occurs when someone reaches a broad conclusion based on only a few examples rather than looking at all the facts.

2. Is the following argument logically sound? 'Every citrus fruit contains Vitamin C. A lemon is a citrus fruit. Therefore, a lemon contains Vitamin C.'

Answer: A) True

This is a valid deductive argument. If the general rule is true and the specific case fits the rule, the conclusion must be true.

3. In a debate about school lunches, Sam says, 'If we let students choose their own snacks, they will never eat vegetables again and everyone will become sick!' This logical error is known as a _____ because it assumes one small step will lead to an extreme disaster.

Answer: B) Slippery Slope

A 'Slippery Slope' argument claims that a relatively small first step will inevitably lead to a chain of related (and usually negative) events.

4. Which of these questions is the best example of 'Critical Thinking' when reading a news article about a new toy?

Answer: C) Who wrote this article and what might they want me to believe?

Critical thinking involves questioning the source, the purpose, and the potential bias of information rather than just accepting facts.

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5. When someone claims that you must choose between only two options (like 'Either you love soccer or you hate sports'), even though there are many other choices, they are creating a _____.

Answer: B) False Dichotomy

A False Dichotomy (or False Dilemma) limits a complex situation to only two extreme sides, ignoring the 'middle ground' or other possibilities.

6. Leo is trying to solve a puzzle. He remembers that in three similar puzzles, the corner pieces always had a straight edge. He uses this pattern to start his new puzzle. What type of reasoning is Leo using?

Answer: C) Inductive Reasoning

Inductive reasoning involves looking for patterns or past movements to make a highly likely (but not 100% certain) prediction about a new situation.

7. True or False: If an argument's conclusion is true, the logic used to get there must always be valid.

Answer: B) False

You can reach a true conclusion using 'lucky' or broken logic (like guessing). Valid logic requires the steps themselves to be correct and connected.

8. Which of the following is an example of an 'Appeal to Authority' fallacy?

Answer: B) My favorite basketball player says this cereal is the healthiest, so it must be true.

Appeal to Authority happens when you believe someone's claim just because they are famous or powerful, even if they aren't an expert on that specific topic.

9. A _____ is a statement that is used as a starting point for an argument or a piece of evidence to support a conclusion.

Answer: B) Premise

In logic, a premise is a building block of an argument. If the premises are true and the logic is valid, the conclusion will be strong.

10. If you change the subject during a debate to talk about something unrelated because you are losing the argument, you are using a tactic called a 'Red Herring.'

Answer: A) True

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A Red Herring is a distraction intended to lead the conversation away from the relevant topic to something easier to argue about.