

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Answer Key: Detective Kittens and the Case of the Logical Leap: 5th Grade Quiz

Students help solve a neighborhood mystery by separating evidence from guesses and spotting silly mistakes in cat-sized conversations.

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**1. If every cat in the neighborhood wears a bell, and Whiskers is a cat in the neighborhood, what must be true?**

**Answer:** B) Whiskers wears a bell.

This is deductive reasoning. If the big rule applies to everyone, it must apply to Whiskers specifically.

**2. True or False: If you see three students wearing red shirts today, you can be 100% certain that every student in the school is wearing a red shirt.**

**Answer:** B) False

Seeing a small pattern (a few students) doesn't guarantee the pattern is true for the whole group.

**3. Leo says, 'Either we play soccer or we sit inside and do nothing.' Since there are other choices like reading or tag, Leo is using a \_\_\_\_.**

**Answer:** B) False Dilemma

A false dilemma happens when someone acts like there are only two choices when many more actually exist.

**4. Maya tells her brother, 'You are too young to know which movie is good.' Which mistake is Maya making?**

**Answer:** A) She is attacking the person instead of his argument.

This is an 'ad hominem' error, where someone ignores the facts and just attacks the person they are talking to.

**5. True or False: To have a sound argument, your facts must be true AND your logic must make sense.**

**Answer:** A) True

Logic is like a sandwich; you need good 'bread' (the logic) and good 'filling' (the facts) for it to be perfect.

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**6. An argument is \_\_\_\_ if the conclusion MUST be true because the starting facts are true.**

**Answer:** C) Valid

In logic, 'valid' means the structure of the argument works perfectly to reach a conclusion.

**7. Sam says, 'I saw a squirrel eat a nut. Therefore, all squirrels only eat nuts.' What is wrong with Sam's reasoning?**

**Answer:** B) His conclusion is based on too little evidence.

One observation isn't enough to make a rule for every squirrel in the world.

**8. True or False: Reasoning is the process we use to draw conclusions from information we already have.**

**Answer:** A) True

Reasoning is the 'thinking' part that connects what we know to what we decide.

**9. If you say 'Since the playground was wet yesterday after it rained, it will probably be wet today if it rains,' you are using \_\_\_\_ reasoning.**

**Answer:** C) Analogical

Analogical reasoning is when we compare two similar situations to guess what will happen.

**10. Which of these is the best way to check if an argument is strong?**

**Answer:** C) Check if the facts support the conclusion.

Critical thinking means looking at the evidence (facts) to see if it really proves the point being made.