Model Consistency with Data

Today's Standard

HSS.IC.A2 - Decide if a specified model is consistent with results from a given data-generating process, e.g., using simulation. For example, a model says a spinning coin falls heads up with probability 0.5. Would a result of 5 tails in a row cause you to question the model?

Real-World Applications for this Standard

Analyzing sports statistics to determine if a player's performance aligns with expected outcomes.; Evaluating weather prediction models based on historical weather data.; Testing quality control processes in manufacturing to see if product defects are within acceptable limits.

Today I Learned

Today, we learned how to check if a model matches what actually happens. For example, if we think a coin will land on heads half the time, we can test this by flipping the coin many times.

Common Stumbling Blocks

Sometimes, kids think that if the results don't match the model exactly every time, the model is wrong. They might also think that the model should predict every single result, but that's not true. Models predict overall patterns, not every single event.

Quiz Me

- What does a model tell us?
- How can we test a model?
- What is probability?
- What should we do if a model doesn't predict every result?
- Why do we use models?

Help Me

We use models to understand what usually happens. For example, if we know it rains a lot in April, we can plan for rain. Even if it doesn't rain every day, the model helps us get ready.