



Science Fair

Experiment Requirements

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Overview

- Your project starts with a testable question
- Turn your question into a statement to form a hypothesis
- Gather the materials and write up the procedure (steps) needed to test your hypothesis
- Conduct your tests and record the results
- Organize and interpret your results
- Write a conclusion that tells whether you have proven or disproven your hypothesis
- Communicate your results to the public so that any person who is interested could conduct the same experiment

What is a Testable Question?

- Most any question that can be turned into a statement and proven to be true or false is a testable question.

Precautions

- Questions that start with “How” or “Why” are *not* testable questions
- Be sure you have the ability and/or equipment to test your question
- Make your question specific

Examples - Testable Questions

● Testable

- Does grass grow taller with 6 hours of light or 12 hours of light?
- Does students free throw percentage improve after one week of practice for an hour each day?
- Does a catapult with a 20 foot arm fling garbage farther than a catapult with a 5 foot arm?

● Not Testable

- Why does the sky look blue?
This question cannot be proven or disproven; only investigated
- How can an eagle fly?
Same reason as above
- Can a missiles strapped to a car make it go faster?
The equipment is not available to the general public to test this question.

Your Turn - Testable Question or not a testable question

- A. Will a plant grow taller under a red light or a white light?
- B. Does water move faster through sand or clay?
- C. Does student accuracy on multiplication facts improve after one week of 20 min a day with flash cards?
- D. What do animals dream about?
- E. Are boys or girls better at identifying soda brands when blindfolded?
- G. Why does heating water cause it to boil?

Check your Answers

- A. Testable question
- B. Testable question
- C. Testable question
- D. Not a testable question
- E. Testable question – but you could make it better by being more specific, i. e. stating the brands of soda
- G. Not a testable question

Experiment

Your job is to write up a testable question.

Make sure to write up a question that

- ◆ Is a topic you are interested in
- ◆ Is specific
- ◆ you can easily test