

How to Write a Testable Question



What is a “Testable” vs. “Non-Testable” Question?

- A **Testable Question** can be answered by designing and conducting an experiment.

For example:

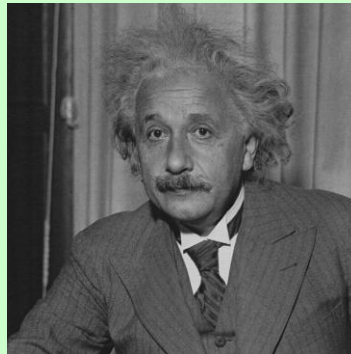
1. Does Pepsi have more carbonation than Coke?
2. What is the effect of cigarette smoke on lung cancer?



- A **Non-Testable Question** cannot be answered by conducting an experiment.

For example:

1. Why is **PINK** the best color in the world?
2. Albert Einstein was the best physicist in the world!



Creating Scientific Questions that are testable

There are guidelines for writing scientific questions.

1. A good scientific question is one that can have an answer and be tested.

For example: “Why is that a star?” is not as good as “What are stars made of?”

2. A good scientific question can be tested by some experiment or measurement that you can do.

For example: “Where does the Sun come from? is not as good as “How will human skin react to solar radiation where one participant is covered in SPF 30 sunscreen lotion and the other participant is not covered in sunscreen lotion.

3. A good scientific question builds on what you already know.

For example: “Will fertilizer make grass grow greener?” is not as good as “What types of fertilizer will make grass grow greener?”

4. A good scientific question, when answered, leads to other good questions.

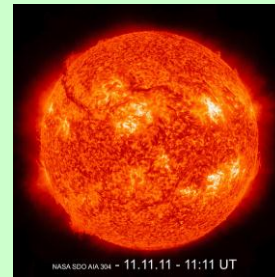
For example: “What is the flu” does not lead to as many questions as “How does the flu attack the human immune system?”

The above questions ask “What and How” in a way that focuses in on the specific problem to be studied. The questions should be framed in a way that it can be tested.

Using the guidelines for writing Testable Scientific Questions, work with your partner to determine which question in each pair of questions below is the better testable, scientific question and then clearly explain why you both think so. Write this in your INB page .

1. a. What are the different things that make up air?
b. What is air?

2. a. Why is the Sun out today?
b. What atomic elements make up stars?



3. a. What is the reason that collies have bad hip sockets?
b. What causes grass to turn brown during the summer?

4. a. How does the space shuttle keep from burning up?
b. Why is the International Space Station in orbit?

5. Try to create your own testable, scientific question.

