

CHECKING TO SEE IF A QUESTION IS TESTABLE

Scientists ask questions all the time, but some are better for investigation than others. When you come up with a question for an investigation, think about two things.



1 **FIRST: Is the question testable?**

In science, some questions are testable while others are too general to be tested. Scientists are often interested in general questions, but they learn about these by studying testable questions. A testable question is one where you ask whether changing one thing will have an effect on another. A testable question must be *specific* and be about variables that are *measurable*.

Look at the two examples below. These are examples of testable vs. untestable questions. Look closely at the differences between the two.

Untestable question	Testable question	Why is the question testable?
How do plants grow?	Will adding fertilizer make plants grow taller?	<i>What you change: add fertilizer</i> <i>What could happen: the plant might grow taller</i>
What prevents ice from melting?	What is the best insulator to keep ice from melting?	<i>What you change: the insulator materials</i> <i>What could happen: the ice might melt slower</i>

ACTIVITY: Look at the questions in the chart below. The first two questions are done for you. Fill in the chart for the remaining two questions.

	Why is the question not testable?	Can you make a testable question about this same subject?
→ Does a fish get angry if you take away its food?	This is not testable because we have no way to measure fish anger.	Do fish lay fewer eggs when they have less food?
→ Will dogs be affected by the weather?	This is not testable because it is not specific enough.	Do dogs shed more hair when the weather is warmer?
→ Do plants like water?		
→ Will sleep affect a student?		

Hint: The question is better because you can measure how much food the fish eats and how many eggs it lays.

Hint: This question is better because it asks specifically about what happens in warm weather.