

ELEMENTS OF SCIENTIFIC INQUIRY



INVESTIGATING OUR WORLD WITH A DETAILED PLAN THAT OTHERS CAN REPLICATE.

TESTABLE QUESTION


IS THE QUESTION SOMETHING THAT SCIENCE CAN ANSWER?

YOU MUST REPEAT YOUR PROCEDURES OVER AND OVER TO BE SURE THE RESULTS ARE VALID.
OTHER SCIENTISTS MUST ALSO BE ABLE TO REPLICATE (COPY) YOUR PROCEDURES TO GET YOUR SAME RESULTS

INDEPENDENT VARIABLE

 What I CHANGE 

DEPENDENT VARIABLE

What I OBSERVE 

CONTROLLED VARIABLE

What I KEEP THE SAME

EXPERIMENT

TESTS WITH MEASURABLE RESULTS THAT PROVE OR DISPROVE A HYPOTHESIS.



INVESTIGATION

DETAILED OBSERVATIONS ABOUT THE NATURAL WORLD WITHOUT INFLUENCE FROM THE SCIENTIST



EXAMPLE

Testing plant growth in different types of soil



Strongly agree
Agree
Disagree
Strongly disagree

SURVEYS

STUDIES



VARIABLES

AN EXPERIMENT IS USED TO FIND A CAUSE EFFECT CONNECTION BETWEEN TWO CHANGES THAT HAPPEN.

CONSTANTS OR CONTROLLED VARIABLES

STEPS OR MATERIALS THAT DO NOT CHANGE IN AN EXPERIMENT SO THAT YOU ARE TESTING ONLY ONE VARIABLE OR CAUSE.

CONTROL GROUP

SAMPLE LEFT UNTOUCHED TO USE FOR COMPARISON TO SEE IF THE EFFECT WOULD HAPPEN WITHOUT THE VARIABLE