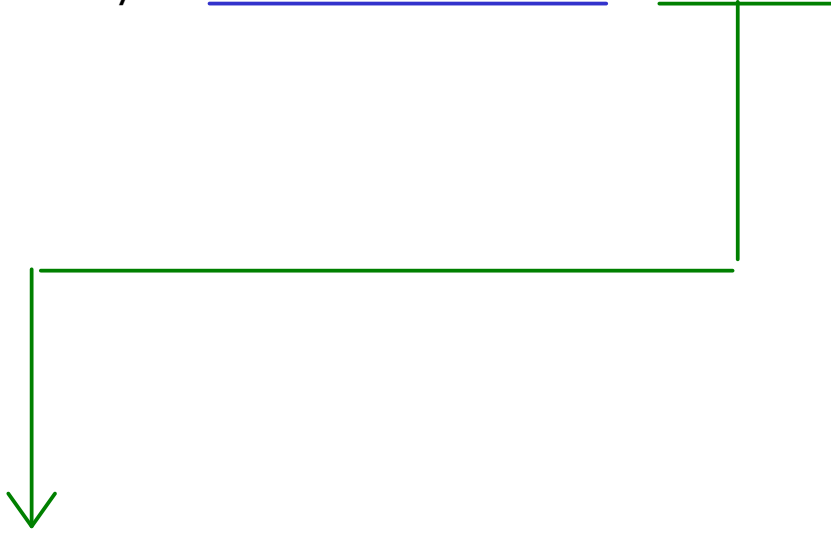


Some basic definitions:

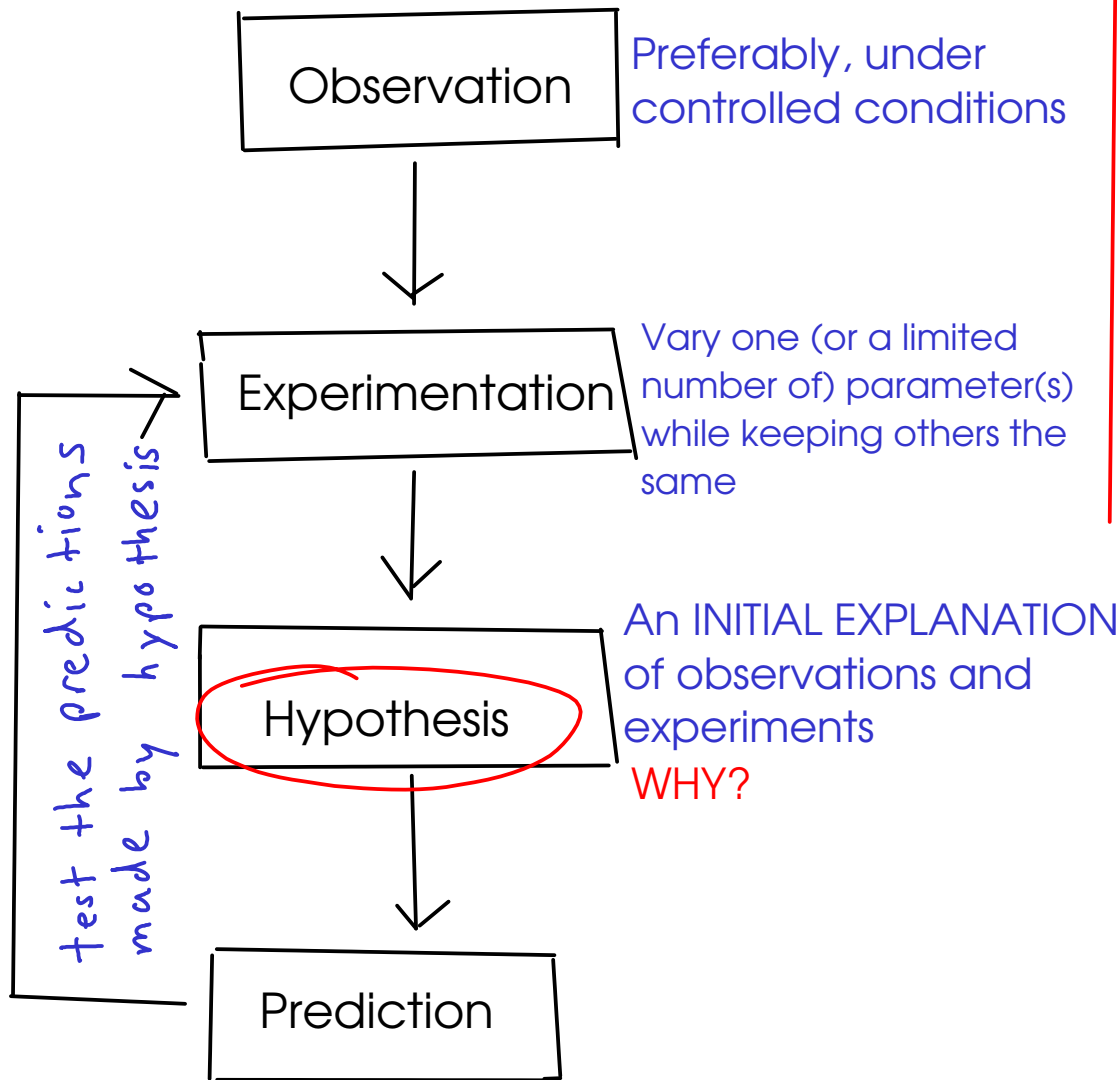
Chemistry: SYSTEMATIC STUDY OF MATTER AND THE CHANGES IT UNDERGOES



Matter: Anything that takes up space and can be perceived (or DETECTED)

... so what about SYSTEMATIC STUDY?

2 Systematic study? The scientific method



Scientific laws

- are SUMMARIES of observations, often in equation form

Scientific laws DO NOT EXPLAIN the observations they are describing. In other words, they tell WHAT, not WHY.

Scientific theories

- are EXPLANATIONS of observations that have been supported by many experiments

- similar to HYPOTHESES, but with a lot more supporting data

Explanations are called theories when there's enough data for most scientists to accept the explanation as valid.

You flip the light switch in your den, but nothing happens. What is wrong?

observation / experiment: Flip light switch. No light.

→ hypothesis: ~~Bulb is blown.~~ Circuit breaker tripped?

prediction: ~~If we change the bulb, the light switch will work again.~~
Reset the breaker - should fix the light.

experiment: ~~Change the bulb. Still have no light.~~
Reset breaker ... the light turns on!