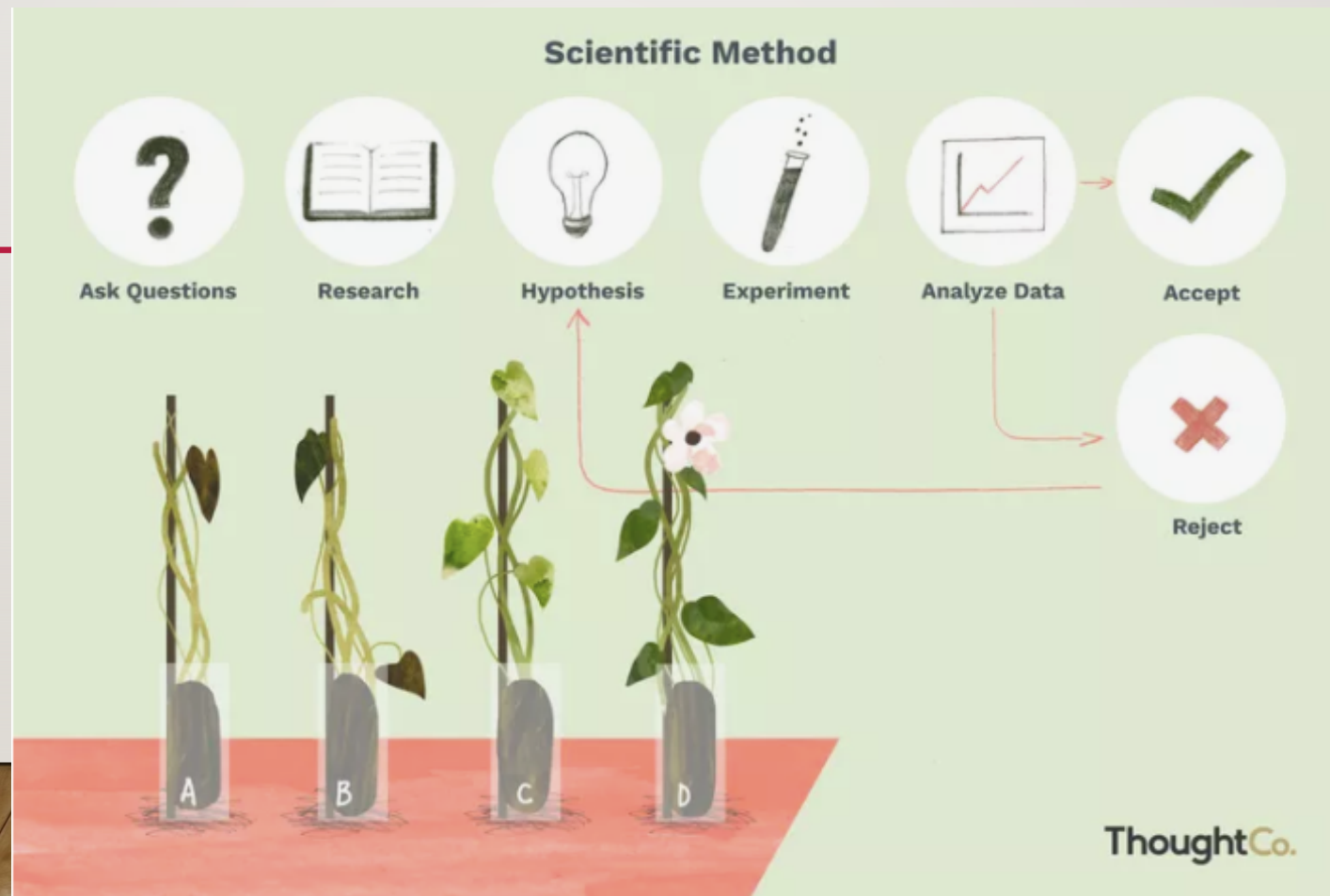


SCIENTIFIC METHOD



QUESTION OF THE DAY

- Which of the following investments would give you the greatest return over time?
 1. Mutual funds
 2. RRSPs & RESPs
 3. Scientific research
 4. Government bonds



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WHY WE SHOULD INVEST IN RAT MASSAGE

<https://www.youtube.com/watch?v=nDU3i2VWdTQ>

WHAT IS SCIENCE?

- Science is a way of studying the natural world through a structure of questioning and experimenting. It is not static, meaning that as new facts and studies arise, our understanding of the world begins to change

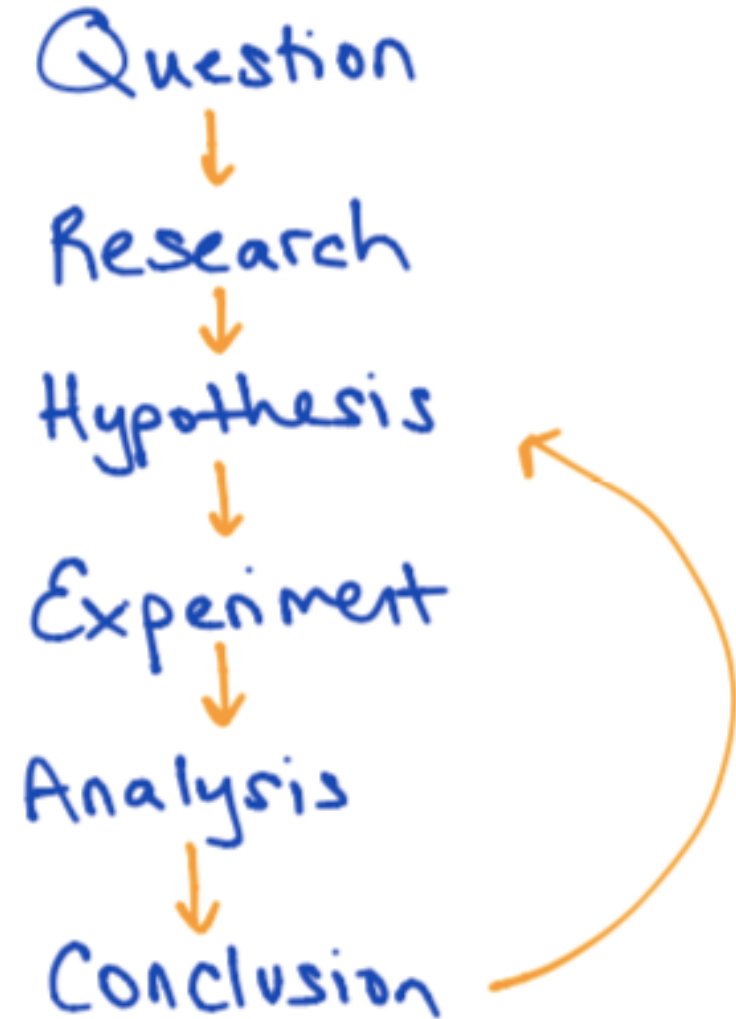


THE SCIENTIFIC METHOD

[HTTPS://WWW.YOUTUBE.COM/WATCH?V=ZDVOZ8GBF-
C&AB_CHANNEL=SARAHSTEPHENS](https://www.youtube.com/watch?v=ZDVOZ8GBF-C&ab_channel=SARAHSTEPHENS)

THE SCIENTIFIC METHOD

- The steps to the scientific method are as follows:



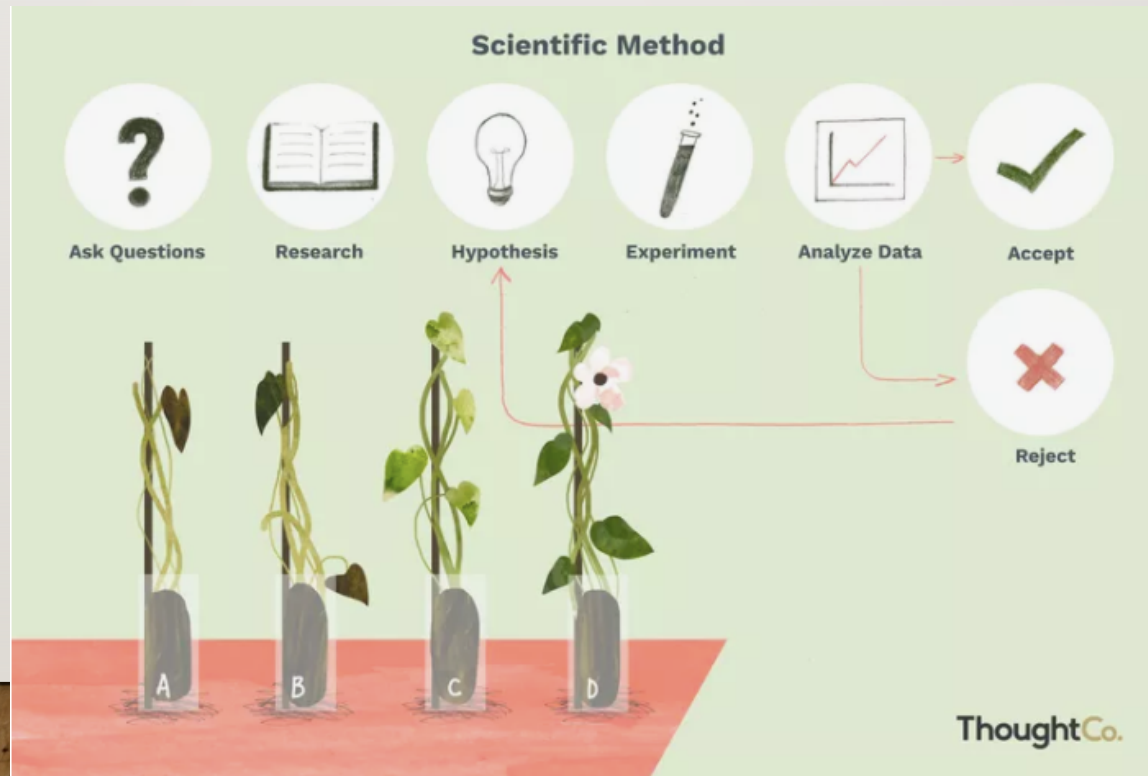
HYPOTHESIS

- A hypothesis is an educated guess about how things work
- It makes a prediction about an outcome and attempts to answer a question

- Ex: **IF** the witch weighs as much as a duck, **THEN** she will float

CONCLUSION

- A conclusion is a summary of the results. It will either support or contradict the hypothesis





QUANTITY



QUALITY

TYPES OF DATA

- Qualitative
 - Qualitative data is used to describe quality
 - Ex: texture, colour, smell, etc (5 senses)
- Quantitative:
 - Quantitative data is used to describe the quantity (the amount) of something
 - Ex: weight, mass, age (a number)



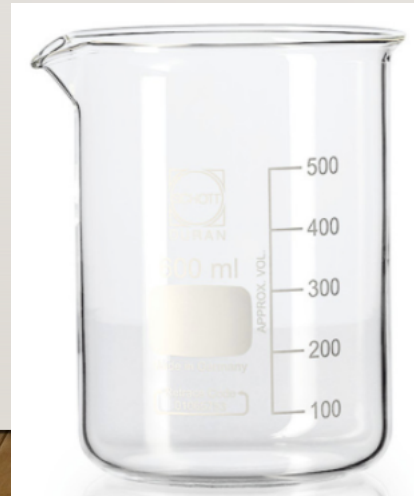
TYPES OF VARIABLES

Two brands of paper towels are compared to see which one holds the most liquid. 50 mL of water is placed into two beakers. One paper towel from the brand, Cleans-a-Lot, is placed into Beaker 1 while one paper towel from another brand, Good-at-Cleaning, is placed into Beaker 2. When the paper towels are removed from the two beakers, it was discovered that Beaker 1 contained 15 mL of water while Baker 2 contained 5 mL of water

Beaker 1: Cleans-a-Lot

50 mL \rightarrow 15 mL water left

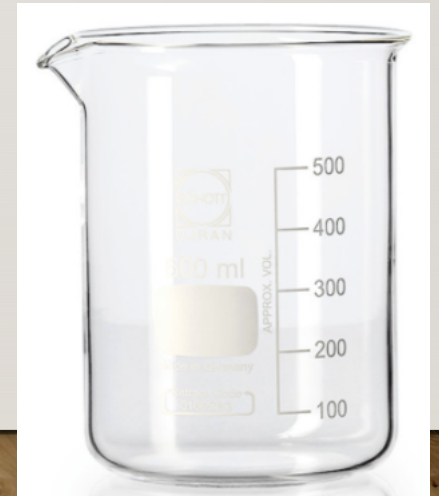
How much water was absorbed? **35 mL**



Beaker 2: Good-at-Cleaning

50 mL \rightarrow 5 mL water left

How much water was absorbed? **45 mL**



TYPES OF VARIABLES

- Independent
 - An independent variable is purposefully changed by the experimenter
 - Ex: brand of paper towel
- Dependent:
 - A dependent variable changes with response to the independent variable
 - Ex: amount of water absorbed
- Controlled:
 - A controlled variable does not change within the experiment. These variables are quantities that the experimenter wants to remain constant
 - Ex: amount of water to start; type of liquid

TO DO NOW

- Complete the practice
- Announcements:
 - Next TWO classes are lab days! (Tues Feb 8 & Wed Feb 9)
 - In THREE classes (Thursday, Feb 10) there will be a QUIZ on Safety, WHMIS, Scientific Method, and Lab Equipment



KAHOOT: SCIENTIFIC METHOD

[HTTPS://PLAY.KAHOOT.IT/V2/LOBBY?QUIZID=831DE573-990F-42EA-9F85-
1E503EBA9FC4](https://play.kahoot.it/v2/lobby?quizid=831de573-990f-42ea-9f85-1e503eba9fc4)