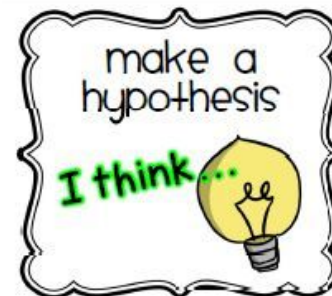


# REVIEW



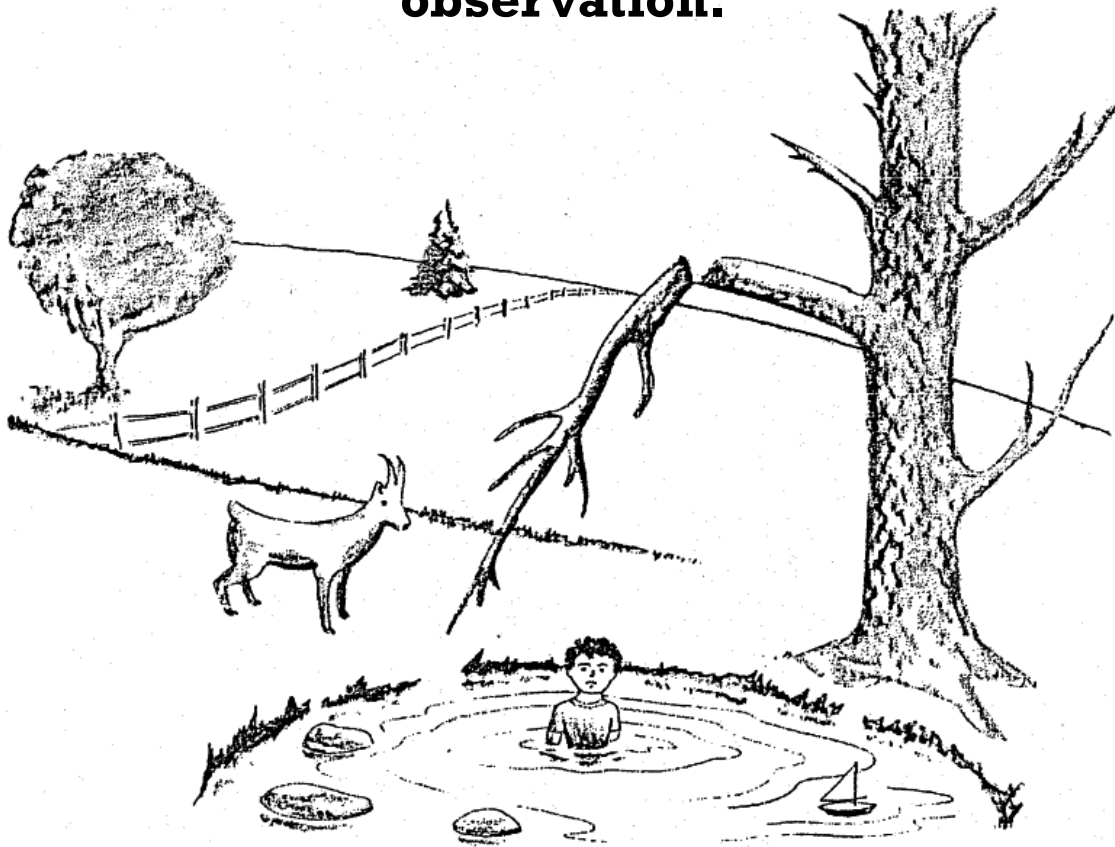
# SCIENCE → OBSERVATION VS. INFERENCE

1. **Observation**: It is mid-summer and I go away for a holiday for two weeks. Before I go, I water my vegetable garden one last time and notice that everything is green and healthy. When I get back from my holiday, I notice that all the vegetables have gone brown and are dead. Write an **Inference** for this observation.

2. **Observation**: I am in the lab timing how long it takes to boil 100 mL of water in a beaker over a Bunsen burner. I observe it takes 5:15 mins to boil the water. I want to get the most accurate answer possible so I repeat the test again making sure everything is the same. This time it takes 7:05 mins to boil the water. I think this is unusual so I repeat the experiment a third time and it takes 5:20 mins. What could we **infer** about the differences in the times observed?



**Use the picture of the boy in the water to determine if the following statements are observations or if the statements are inferences. Place an “I” in the blank for inference and an “O” in the blank for observation.**



3. The weather is cold
4. The tree branch is broken
5. If the boy crawled out of the water, the goat would push him
6. The boy fell off the branch
7. The goat is standing by the pond
8. There is a sailboat in the water
9. The tree by the pond has no leaves
10. The tree by the pond is dead





# SCIENTIFIC METHOD

Homer suddenly notices that the walls of his shower are covered in a strange green slime. His friend Barney tells him that coconut juice will get rid of the green slime. Homer decides to test this out by spraying half of the shower with coconut juice every day. He sprays the other half of the shower with water. After 3 days of "treatment" there is no change in the amount of green slime on either side of the shower.

11. Identify the Hypothesis.
12. Identify the Control Group.
13. Identify the Independent Variable
14. Identify the Dependent Variable.



# SCIENTIFIC METHOD

Bart believes that mice exposed to microwaves will become extra strong (maybe he's been reading too much Radioactive Man). He decides to perform an experiment by placing 10 mice in the microwave for 10 seconds. He then compared the performance of these 10 mice to another 10 mice that had not been exposed to the microwaves. His test consisted of a heavy block of wood that blocked the mouse from food. He found that 8 out of 10 of the microwaved mice were able to push the block away to get to the food. 7 out of 10 of the non-microwaved mice did the same.

Identify the:

15. Hypothesis

16. Control Group

17. Independent Variable


18. Dependent Variable

19. Constant(s)





**GRAPHING → A STUDY WAS CONDUCTED ON THE FEEDING PREFERENCES OF SLUGS. SPECIMENS WERE FED A VARIETY OF FOOD SOURCES AND DATA WERE COLLECTED ON NUMBER OF GRAMS OF EACH TYPE OF FOOD EATEN. CONSTRUCT THE APPROPRIATE TYPE OF GRAPH AND MAKE A CONCLUSION ON FOOD PREFERENCE.**



Food Source	Food Eaten (grams)
Lettuce	4.0
Mushrooms	8.2
Dog food	0
Spinach	6.5
Apple	5.4

20. What is the dependent variable?

21. Which axis (x or y) should you use for this dependent variable?



# DATA

There are 4 long jump athletes already on the Bikini Bottom Olympics team. Squidward wants to be the fifth. The only way he can do that is to have his jump fall in the range of the other 4 jumpers' scores.

Jumper	Distance in feet
Jumper 1	7.3
Jumper 2	7.0
Jumper 3	6.1
Jumper 4	6.2

22. Find the **average** the 4 jumpers' scores.

23. Find the **range** of the 4 jumpers' scores.

24. If this data were to be graphed, what **type of graph** would be best – line or bar?



25. Patrick wants to run the mile in the Bikini Bottom Olympics. He must have a best value (average) of 7.0 min to make the team. Patrick ran 3 different times with scores of 6.8 min., 7.6 min., & 7.5 min.

Does Patrick get to be on the team?

