

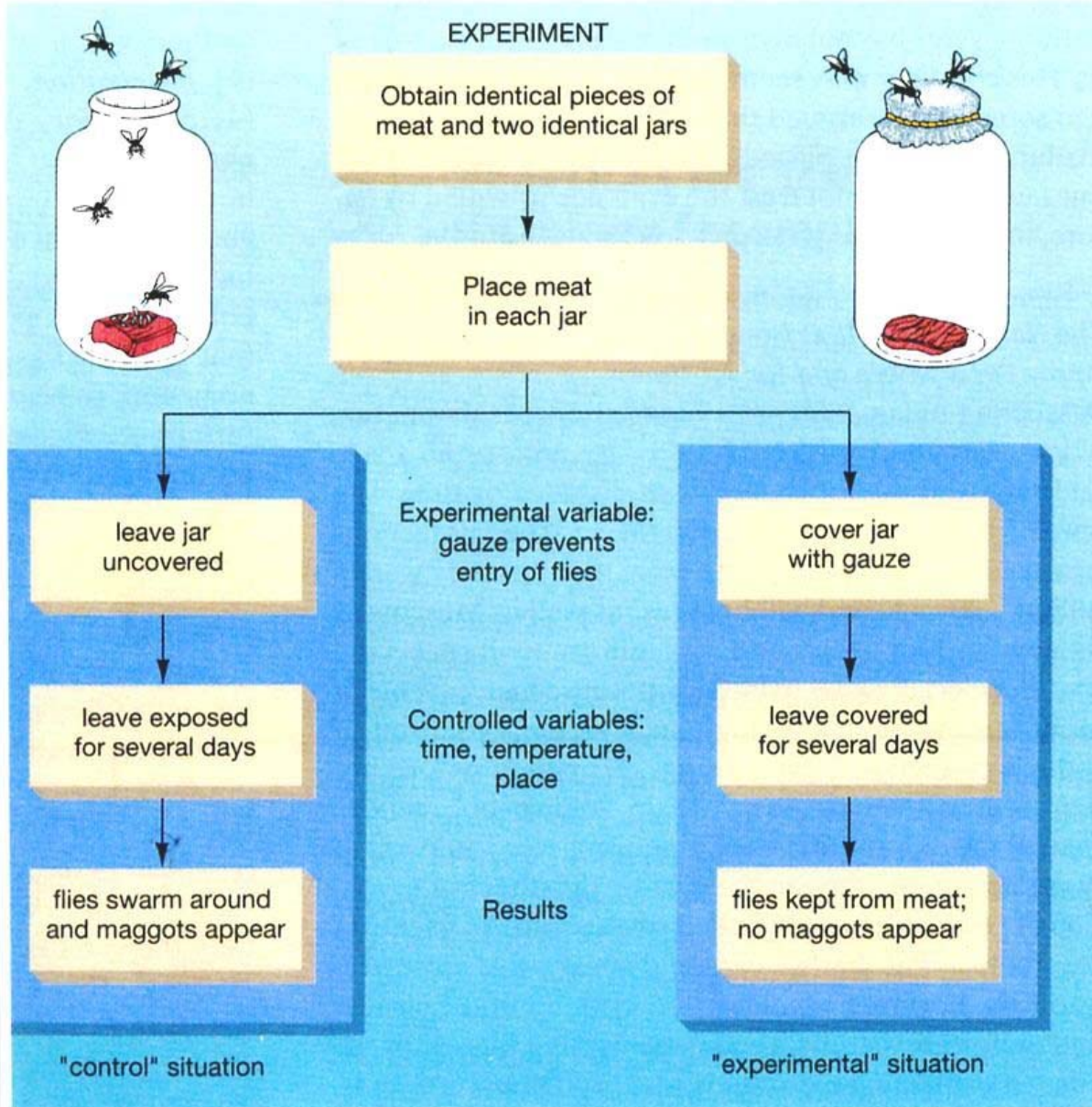
OBSERVATION

Flies swarm around meat left in the open;
maggots appear on meat.

HYPOTHESIS

Flies produce the maggots; keeping flies away
from meat will prevent the appearance of maggots.

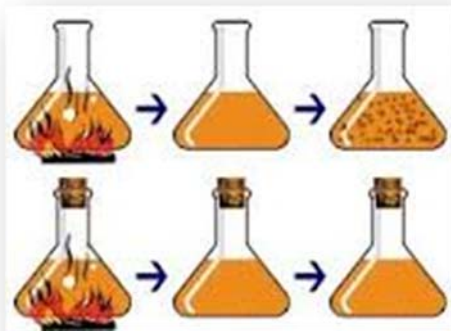
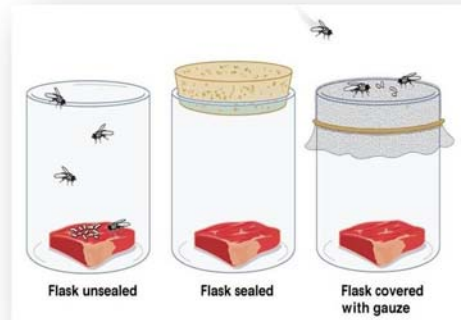
EXPERIMENT



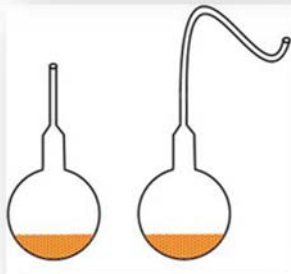
CONCLUSION

Spontaneous generation of maggots
from meat does not occur; flies are
probably the source of maggots.

Describe Francisco Redi's experiment.
What was his conclusion?



Needham still believed in spontaneous generation. He hypothesized that if boiled broth was put in a flask and then covered and sealed, then it **WOULD** grow organisms. It did! What did he conclude about spontaneous generation? What was the flaw in his experimental design that was corrected by Spallanzani?



Describe Pasteur's experimental design.
Which flask is the control?
What is the experimental variable?
What was Pasteur's conclusion?

List the steps of the scientific method.

When designing an experiment it is useful to have a control. What is the purpose of the control?

What is the difference between a hypothesis and a theory?

What is peer review and why is it important?

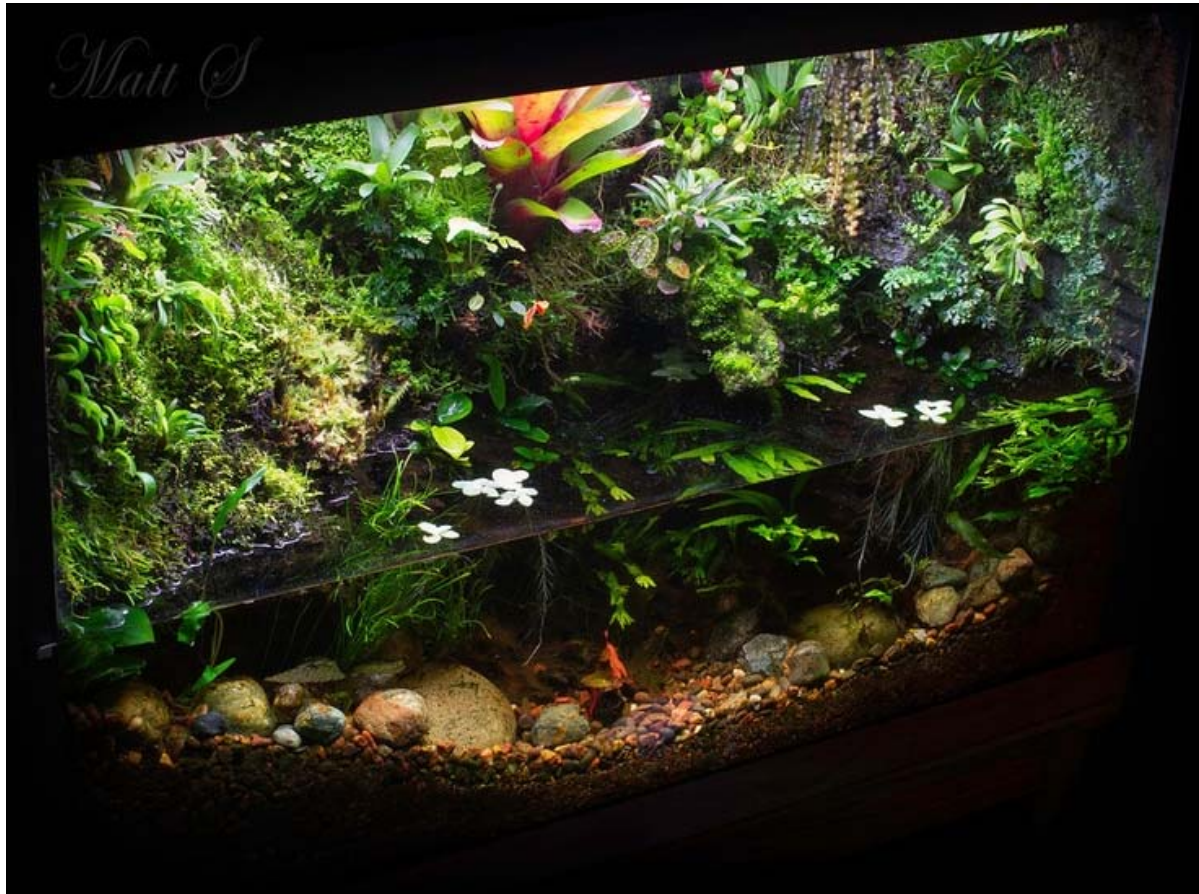
The remote control for your T.V. is not working. Through careful observation, you form a hypothesis for why it is not working and you want to develop an experiment to test this hypothesis. Explain. What if your hypothesis is not supported? What do you do next?



State the hypothesis for this experiment using “if” and “then”.

What if you perform this experiment and it does *not* support your hypothesis? What next?

What does it mean to have a *falsifiable* hypothesis? Why is this important?



What items are in this vivarium? Some you can see, some you may not.

- Which are actively alive?
- Which are alive, but dormant?
- Which are dead?
- Which are non-living?



List three characteristics that the flame is MISSING that are characteristics of living things.

Name the organizational hierarchy from smallest to largest, starting with the atom. Hint: there are 14 total.

Name the level of hierarchy for these things:

Water, stomach, deer, Armstrong Woods, desert, carbohydrate, a gaggle of geese, hydrogen, muscle, nucleus.



