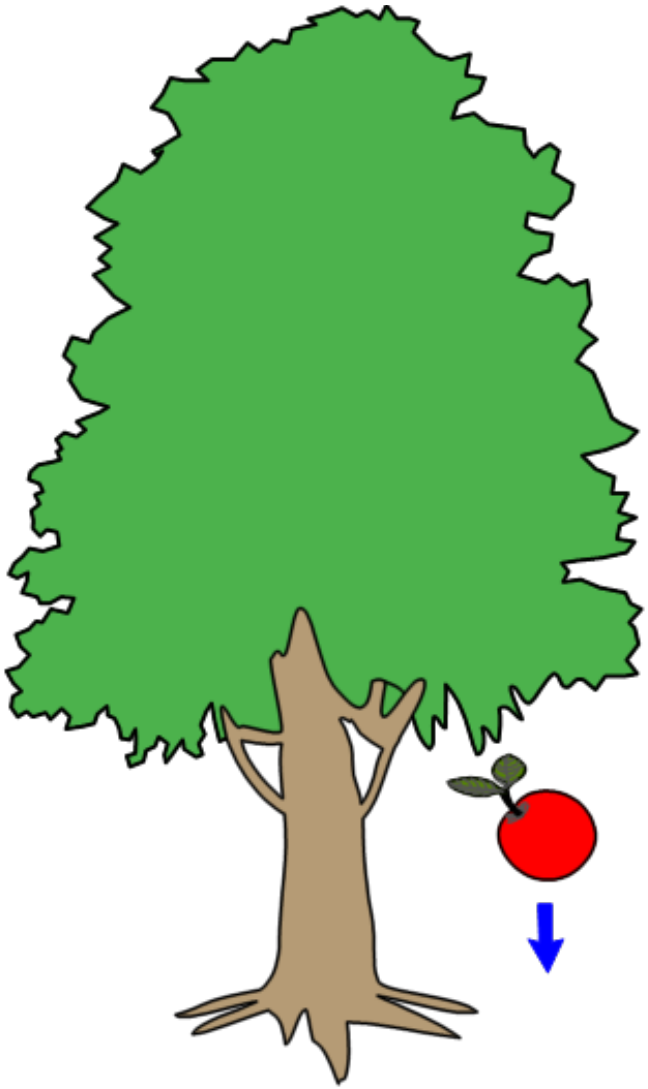
# Scientific Method

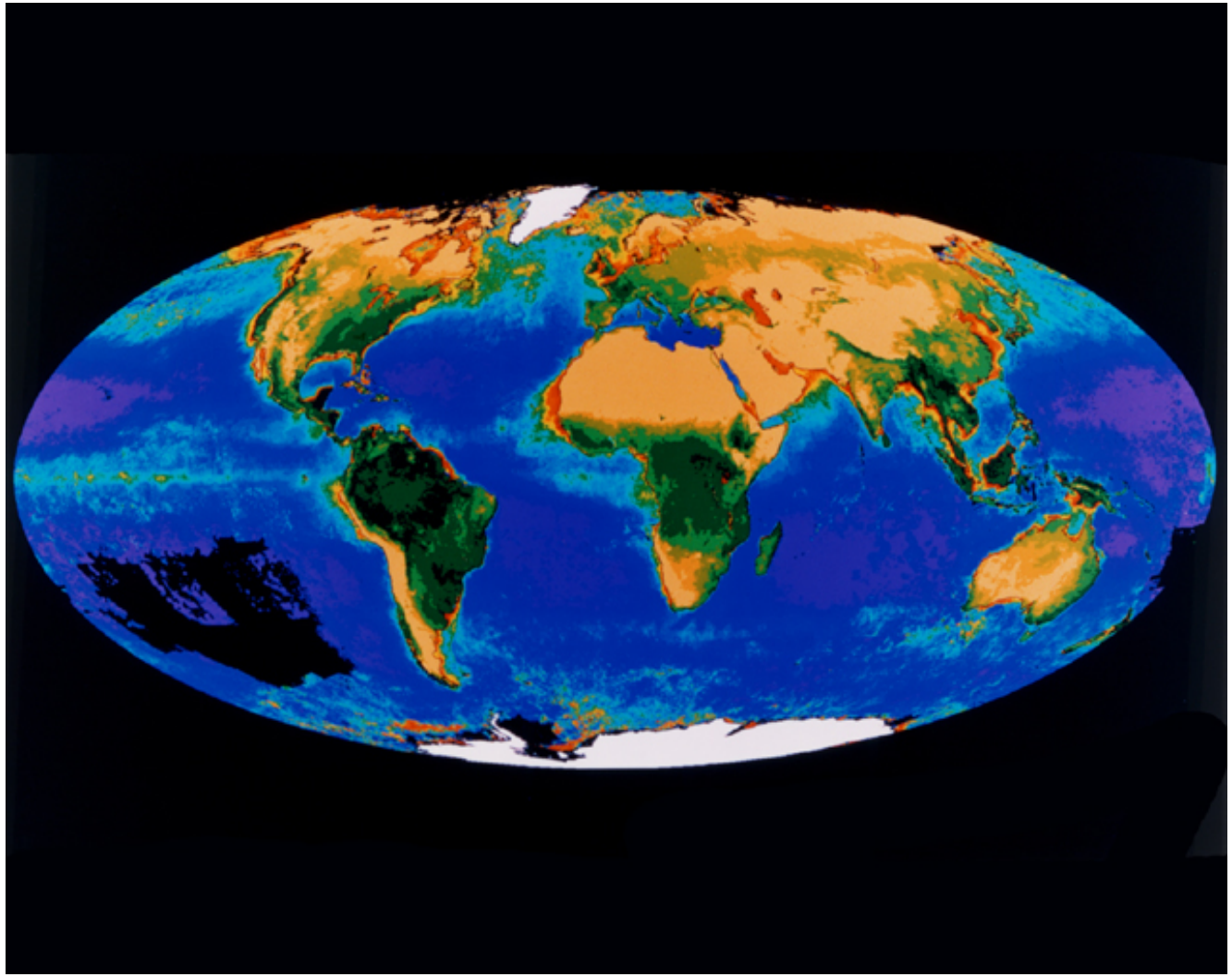
# Current biological problems or questions.

http://biology.clc.uc.edu/courses/bio104/sci_meth.htm

# First step in the scientific method.

The apple fell on Newton's head.





Galileo knew that you could not fall off the earth.


Mediterranean Sea
Alexandria
Nile Delta
Lower Egypt
Giza
Cairo
Sinai
Bahriya Oasis
Red Sea
Farafra Oasis
Luxor
Dakhla Oasis
Kharga Oasis
Aswan
Upper Egypt
Nubia
Nile flood plain
River Nile

**Observation:** Every year in the spring, the Nile River flooded areas of Egypt along the river, leaving behind nutrient-rich mud that enabled the people to grow that year's crop of food. However, along with the muddy soil, large numbers of frogs appeared that weren't around in drier times.

**Observation:** In many parts of Europe, medieval farmers stored grain in barns with thatched roofs (like Shakespeare's house). As a roof aged, it was not uncommon for it to start leaking. This could lead to spoiled or moldy grain, and of course there were lots of mice around.

# Recipe for Bees:

Kill a young bull, and bury it in an upright position so that its horns protrude from the ground. After a month a swarm of bees will fly out of the corpse.

Jan Baptista van Helmont's recipe for mice:

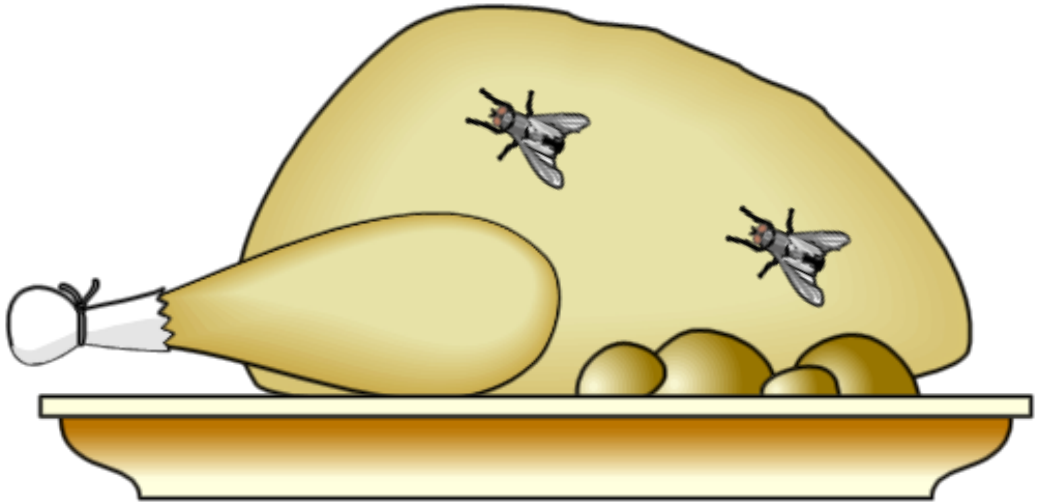
Place a dirty shirt of some rags in an open pot or barrel containing a few grains of wheat or some wheat bran, and in 21 days some mice will appear. There will be adult males and females present, and they will be capable of mating and reproducing mice.

# Second step in the scientific method.

“How many students came to school today?”

“Why did you come to school today?”

**Question:** Where do the flies at the butcher shop really come from? Does rotting meat turn into or produce the flies?



# Third step in the scientific method.

Hypothesis

"an

educated

guess!"

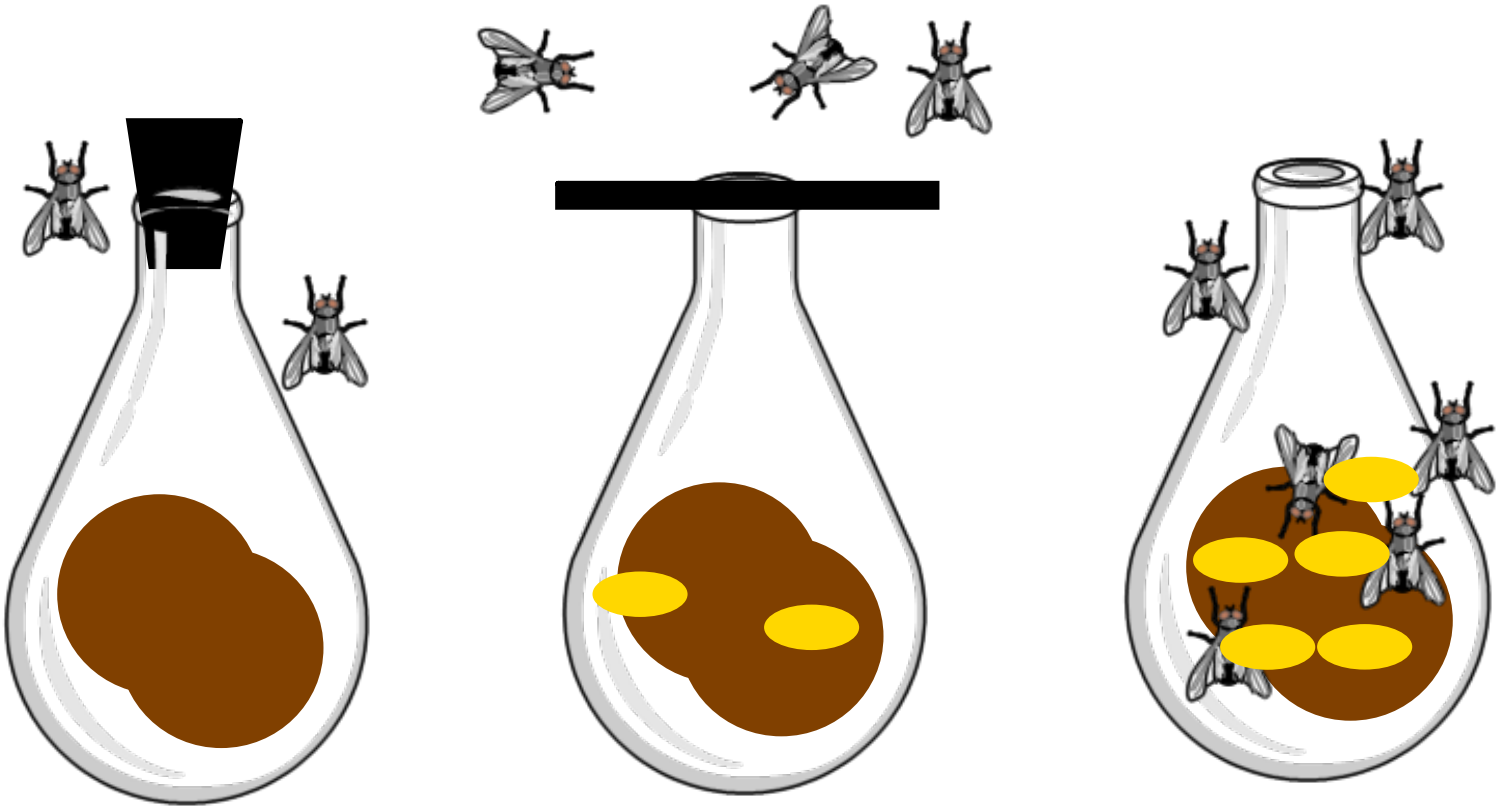
- **Hypothesis:** Rotten meat does not turn into flies. Only flies can make more flies.

# Fourth step in the scientific method.

Prediction

- **Prediction:** If meat cannot turn into flies, rotting meat in a sealed (fly-proof) container should not produce flies or maggots.

# Fifth step in the scientific method.



# Sixth step in the scientific method.

Conclusion

# Seventh step in the scientific method.