1.3 Scientific Thinking and Processes

Guiding Question:
How do scientists answer questions?

Agenda

D Bell Work (p. 23)
TEDtalk – Battling Bad Science
NOTES (pg. 24)
.3 Notes
ACTIVITY (pg. 25)
ntroduction - Carrot Lab
HOMEWORK (pg. 26)
Outline 1.4 (26)
Due Next Class

1D - Bell Work (pg 23)

1. Describe the difference between a hypothesis and a theory.
2. Describe the difference between quantitative and qualitative data.

Don't forget to leave room for your summary at the bottom

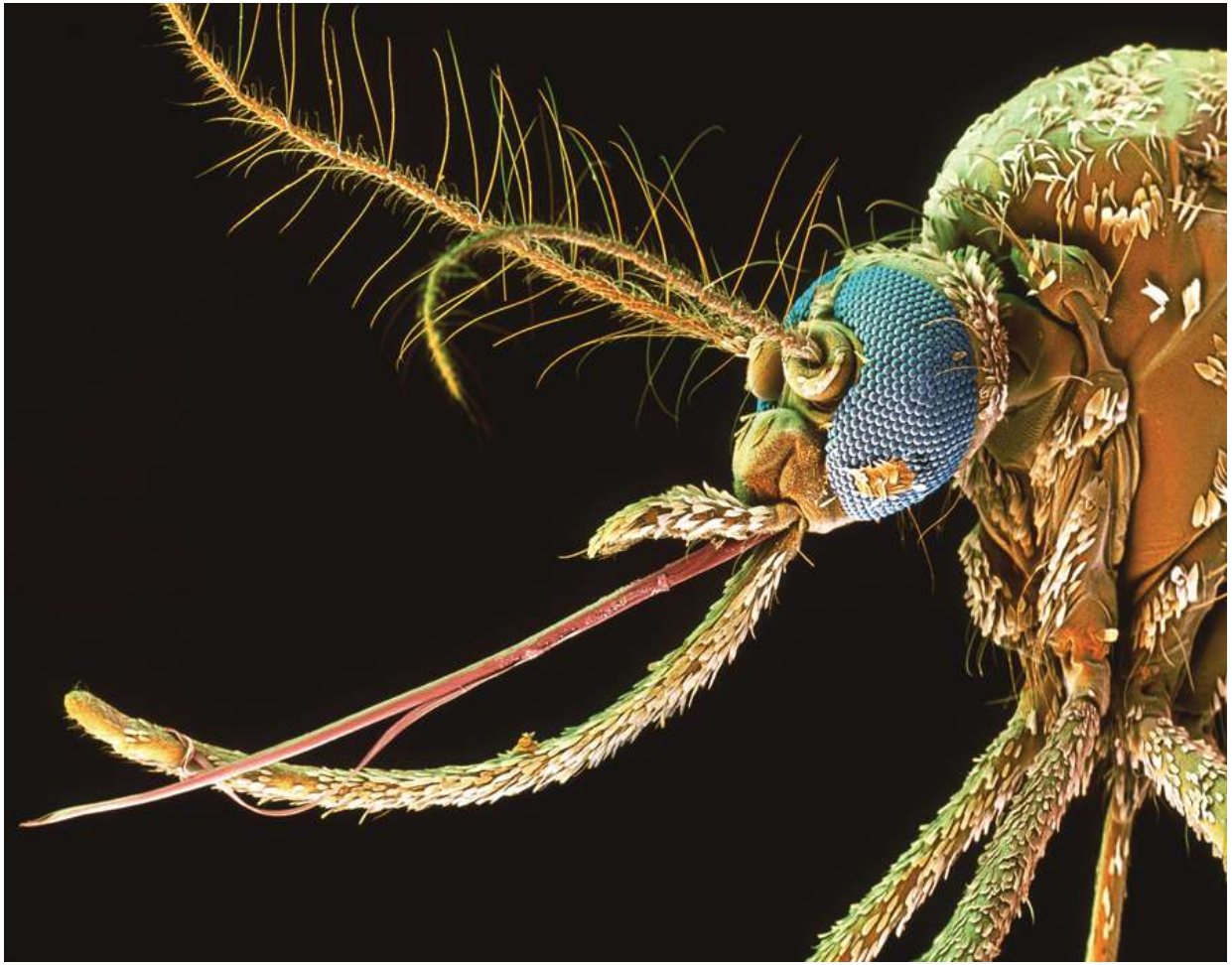
1.3 Scientific Thinking and Processes

TEDtalk

1.3 Scientific Thinking and Processes

KEY CONCEPT

Science is a way of thinking, questioning, and gathering evidence.



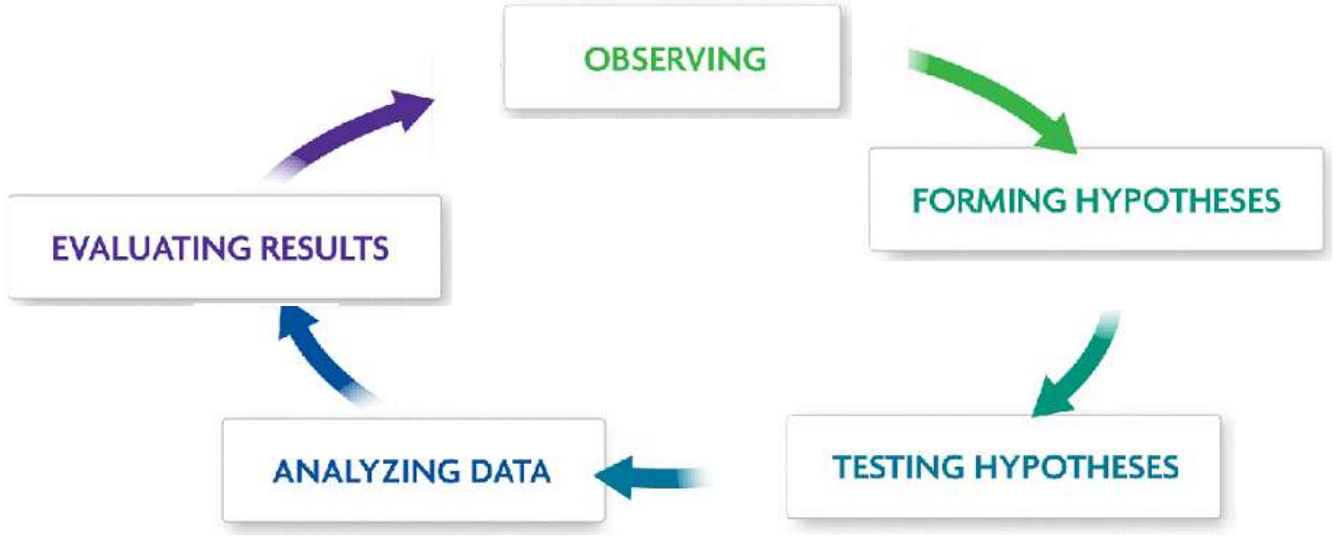
1.3 Scientific Thinking and Processes

Like all science, biology is a process of inquiry.

- Scientists make careful and systematic observations.
  Scientists record observations as data.

  Scientists form a hypothesis as a possible answer to a question.

Scientists test their hypotheses and analyze their data.



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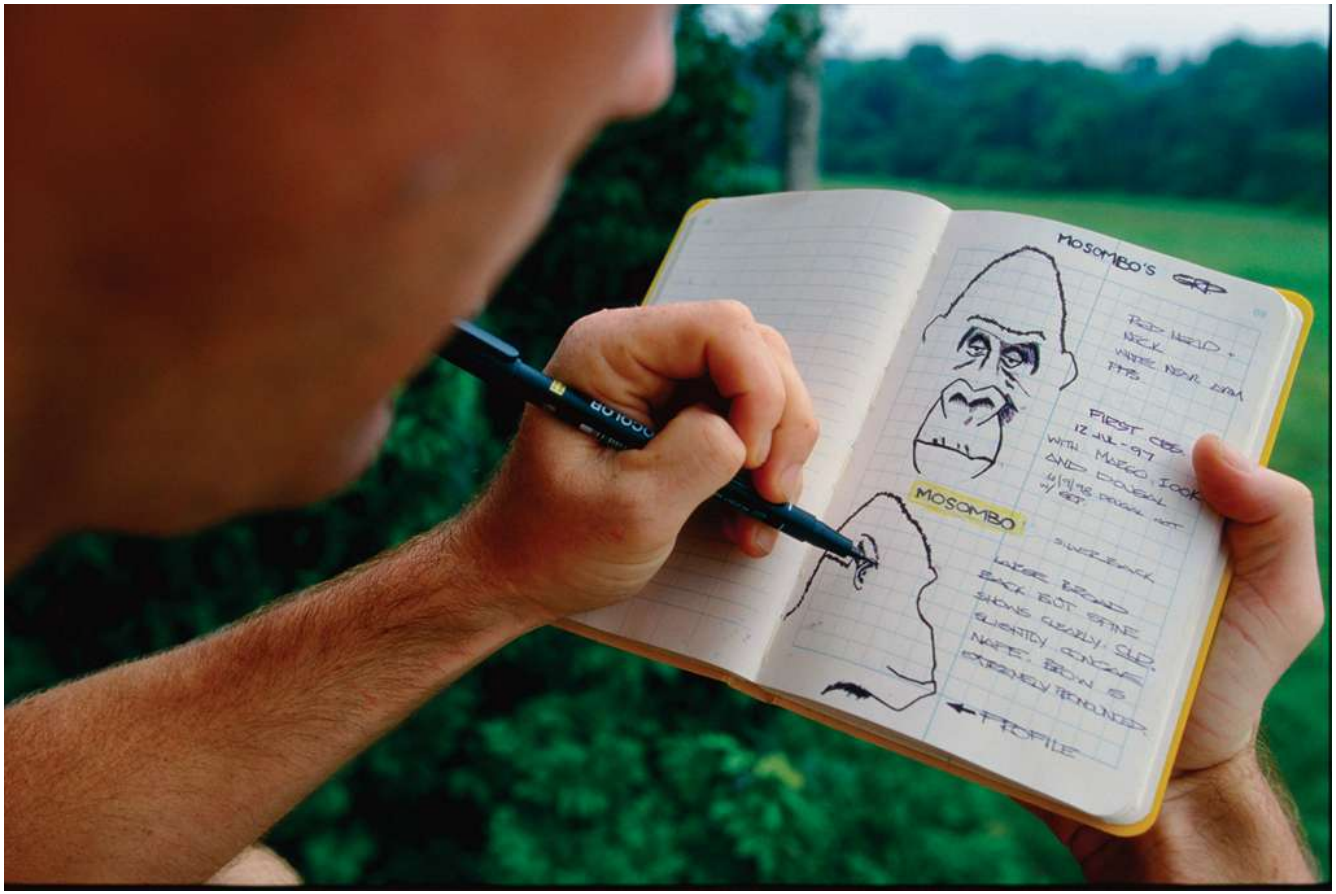
Biologists use experiments to test hypotheses.

- Observational studies allow scientists to describe a phenomenon.



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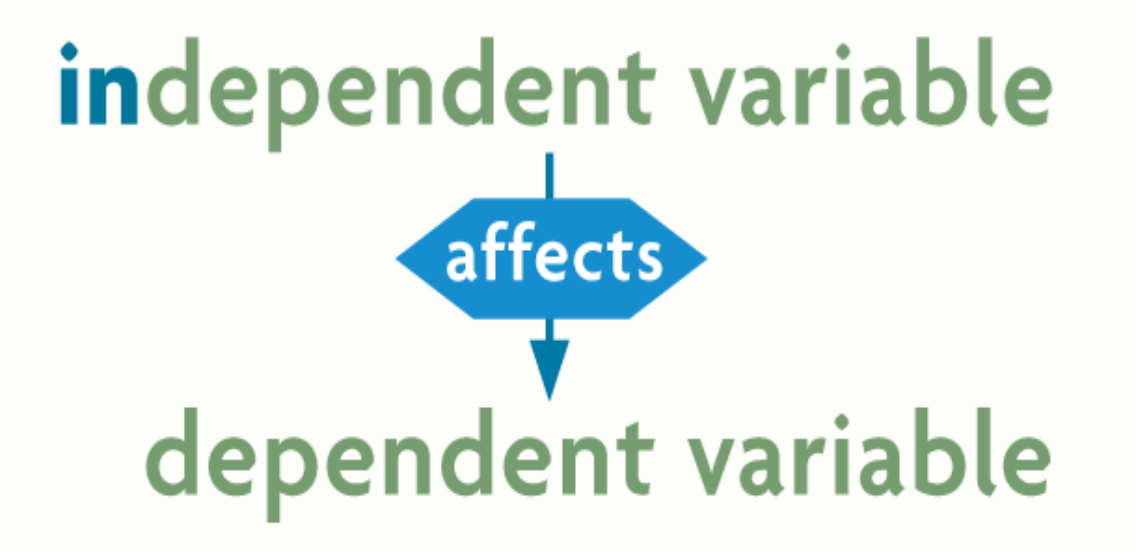
- Experimentals allow scientists to determine what causes a phenomenon.

1.3 Scientific Thinking and Processes

Experimental studies allow scientists to determine what causes a phenomenon.

- Independent variables are manipulated.

Dependent variables are observed and measured.

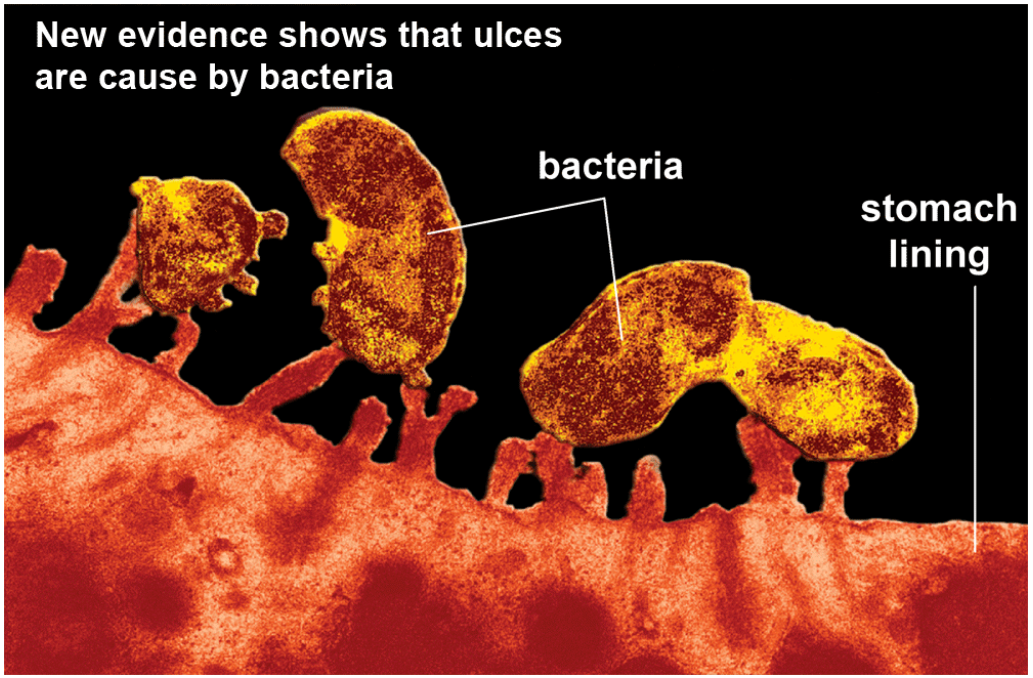


Constants are conditions that are kept the same.

1.3 Scientific Thinking and Processes

A theory explains a wide range of observations.

- Theories explain a wide range of observations and experimental results.
- A theory is supported by a wide range of scientific evidence.
- Theories can change based on new evidence.



1.3 Scientific Thinking and Processes

Glossary Words

Write the word and the definition in Ch. 1 Glossary (Pg. 10)

9. Hypothesis
10. Experiment
11. Independent Variable
12. Dependent Variable
13. Theory

1.3 Scientific Thinking and Processes

ACTIVITY – Pg. 25

Myth Busters

Identify the following parts of their experiments

Hypothesis

Materials

Procedure

Data/Results

Conclusion

1.3 Scientific Thinking and Processes

Answer your G.Q.

How do scientists answer questions?
(3-4) Sentences

1.3 Scientific Thinking and Processes

Carrot Lab

1.3 Scientific Thinking and Processes

Homework

Outline 1.4 (
Outline 1.5 (