

Welcome to Bio 11

Introduction

Introductions

Go over the syllabus

What topics will we cover

What is the grading scheme like

Miss classes and late work.

Learning objectives.

Laboratory safety

What all life has in common.

- Order
- Regulation
- Growth
- Response to the environment
- Reproduction
- evolution

Order



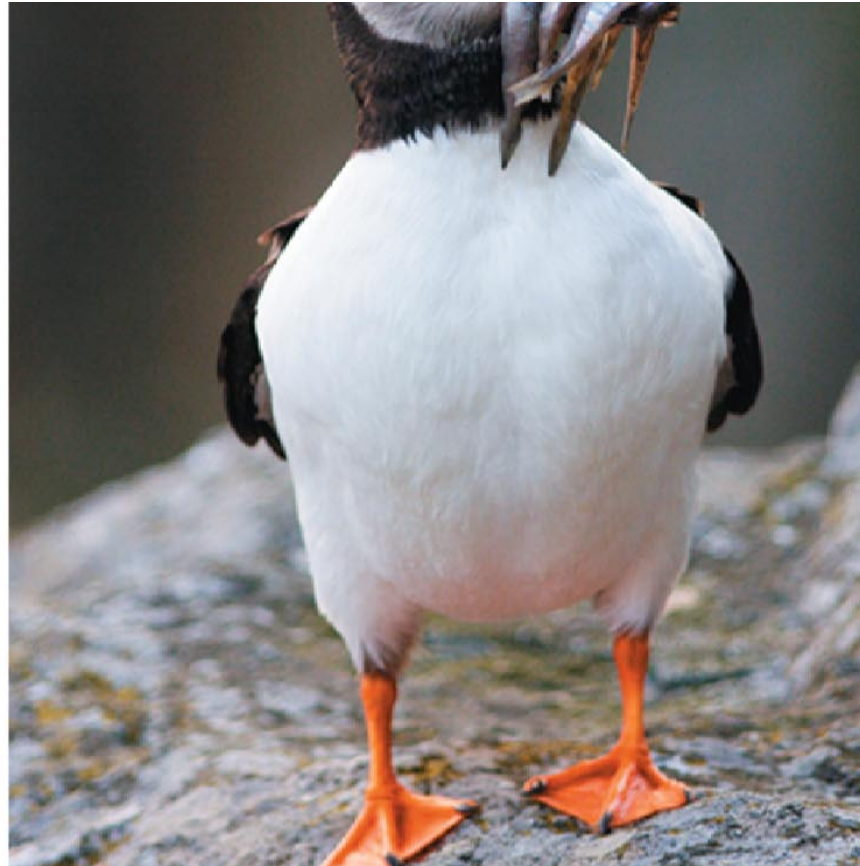
Regulation



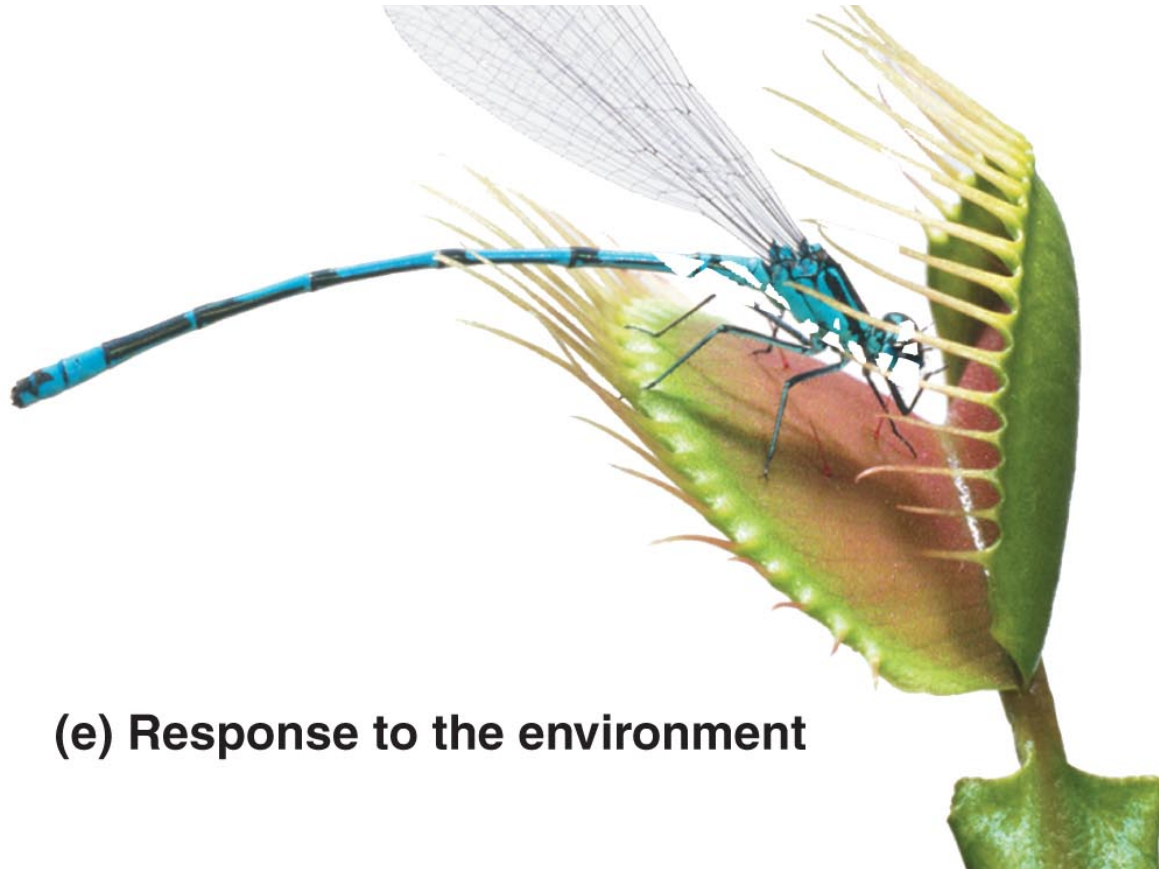
Growth



Energy Utilization



Response to the environment



(e) Response to the environment

Reproduction



Evolution



How we study life: Introduction to the scientific method

- What is the scientific method?



Observation:
My flashlight
doesn't work.



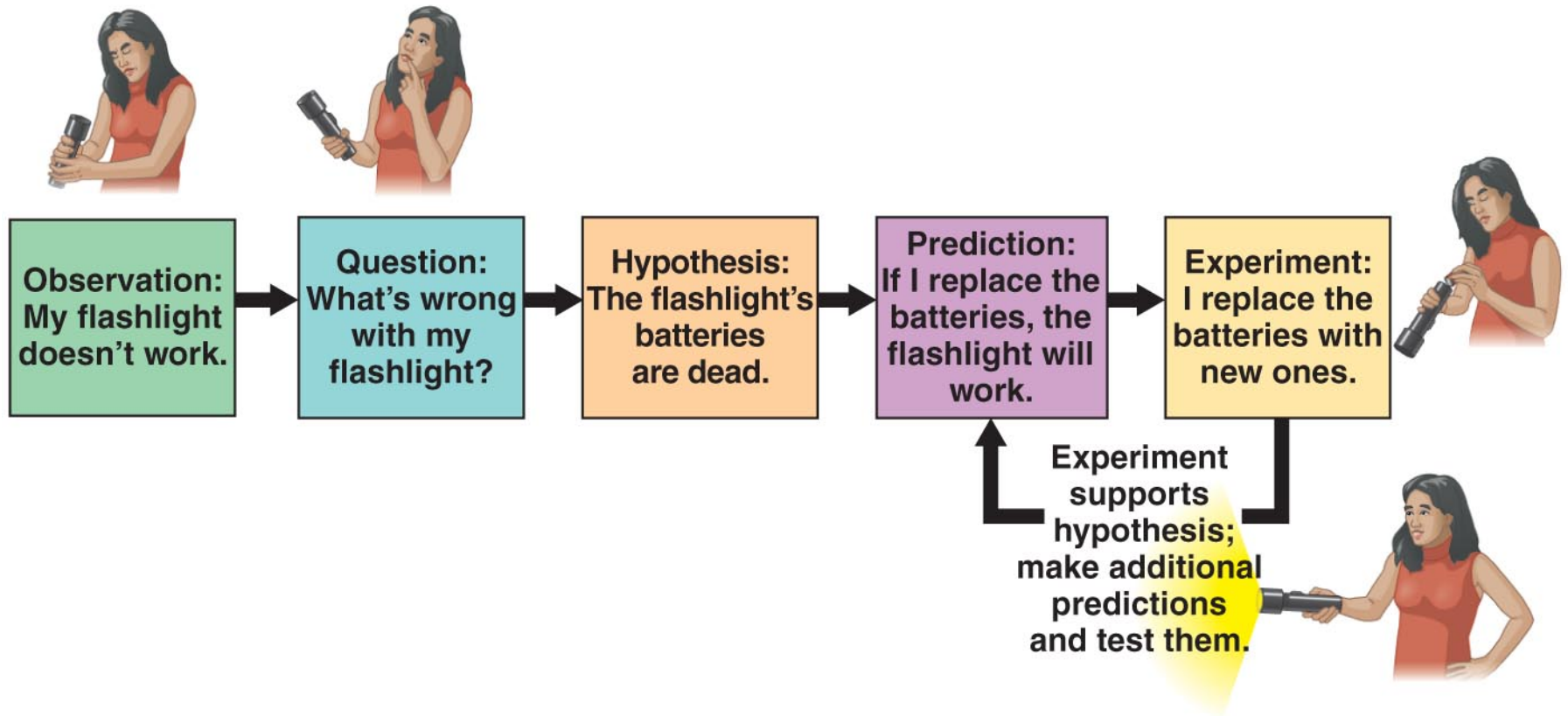
Question:
What's wrong
with my
flashlight?

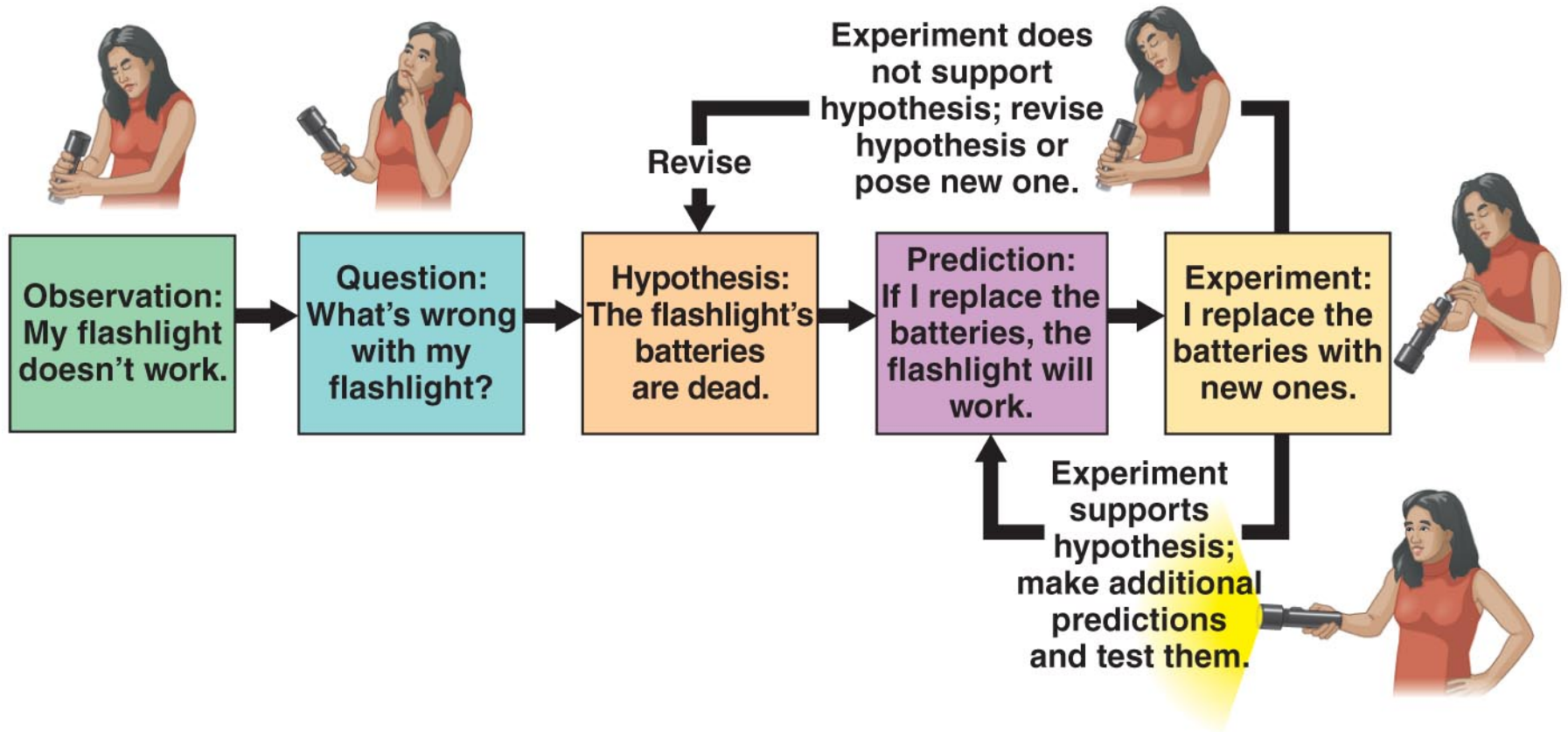


Hypothesis:
The flashlight's
batteries
are dead.



Prediction:
If I replace the
batteries, the
flashlight will
work.



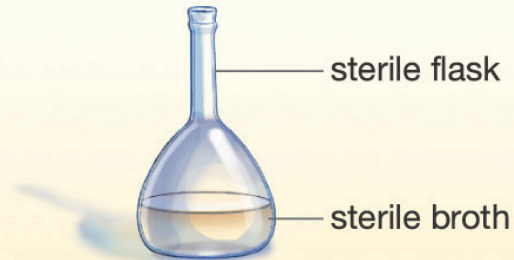


How we study life: Introduction to the scientific method

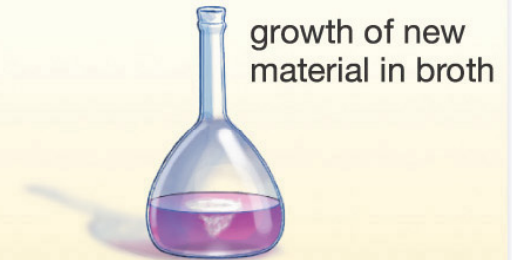
- What is the scientific method?
- Why should you care?
- Who was Pasteur?

Scientific method at work: Pasteur tests "spontaneous generation"

Observation:



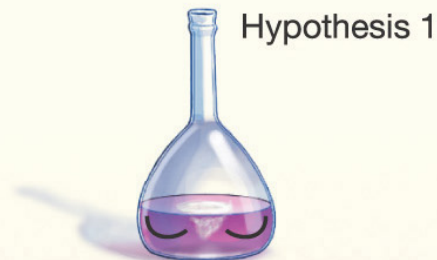
When you start with a sterile flask of sterile meat broth. . .



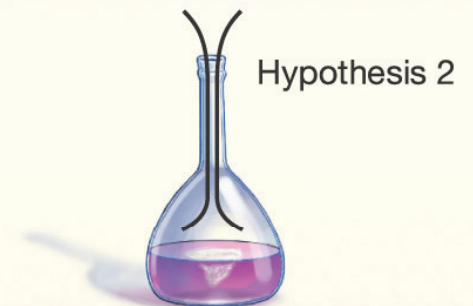
. . . a growth of new living material generally appears in the broth.

Question: What is the source of the living material?

Hypothesis:

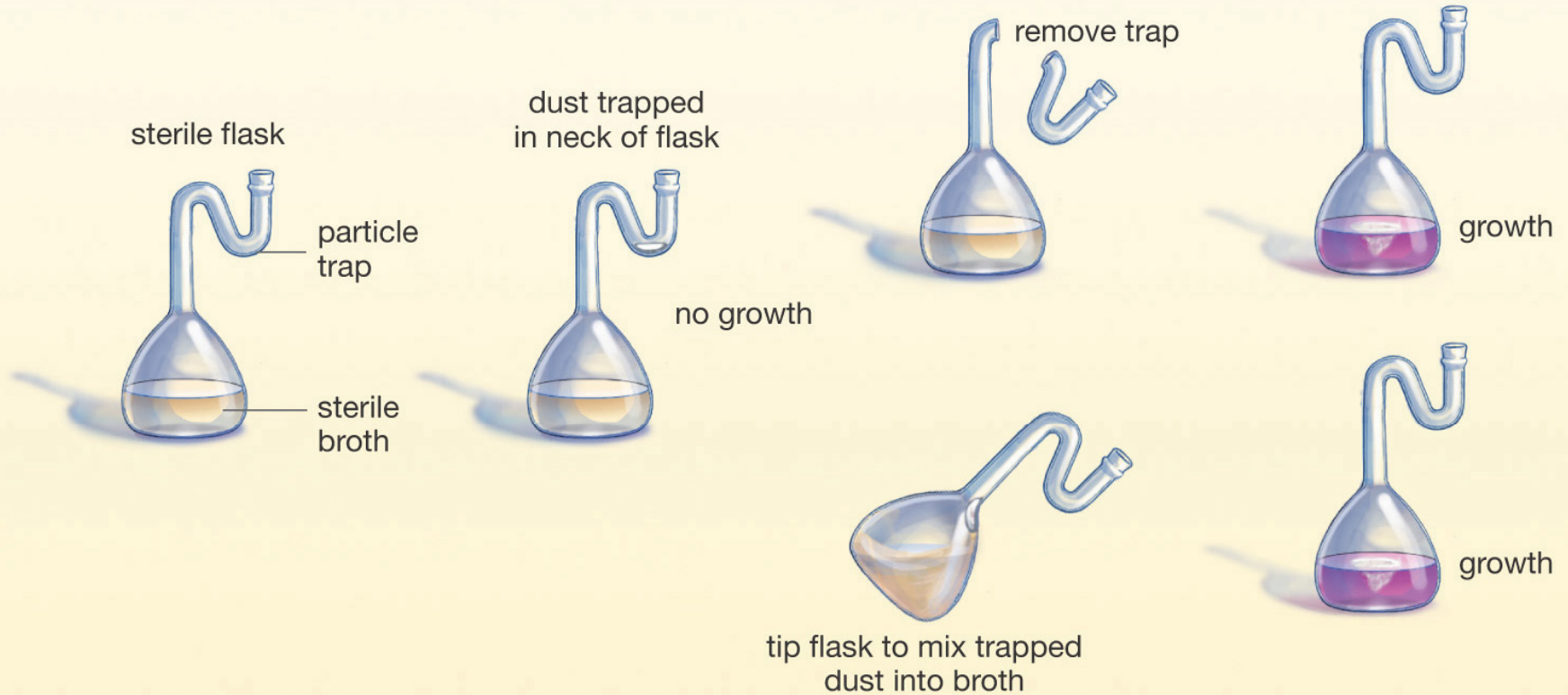


The living material is derived from nonliving material "spontaneous generation".



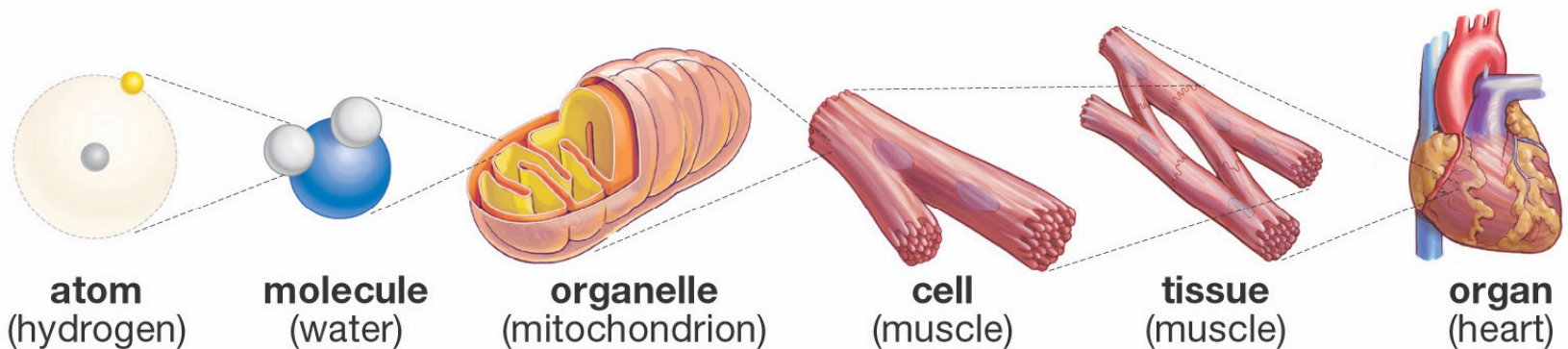
The living material is derived from living material outside of the flask.

Pasteur's experiments:



Conclusion: No growth appears in the broth unless dust is admitted from outside.
Reject "spontaneous generation" hypothesis.

How we will approach the study of biology?



Copyright © 2005 Pearson Prentice Hall, Inc.