

Building curiosity:
Ways to Get
Introductory Biology
Students to ask
What if?, *How?*,
and *Why?*



<http://www.photos-public-domain.com/wp-content/uploads/2012/04/why-how-600x400.jpg>

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Video clip: <https://youtu.be/U1nOPBEGli8>

Curiosity interventions

Ask



Answer



Evaluate



BIO152H5F Fall
Introduction to Evolution & Ecology
Genetics
Lab 5: Evolutionary Medicine: Do Chemicals Affect the Growth of Microbes?
Part 1: Mastering the Techniques
Teaching Assistant:
Sarah
Biology

Curiosity interventions - first year

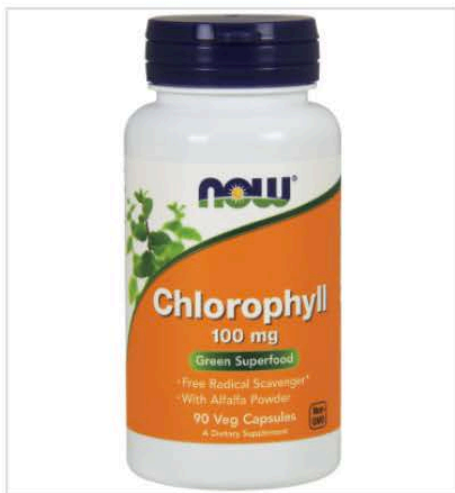
- Flawed scientific statements from popular products
- Ask questions about the science behind statements using scientific literature

Ask

Chlorophyll 100 mg Veg Capsules described as a great supplement to oxygenate your bowel

Green Superfood

SHARE THIS PRODUCT:



PRODUCT DESCRIPTION

- Free Radical Scavenger*
- With Alfalfa Powder

Chlorophyll is a green pigment naturally produced by plants and algae and gives them their characteristic green color. Chlorophyll is critical for photosynthesis, the process by which sunlight is converted into chemical energy. Chlorophyll can function as a free radical neutralizer, may help to support the body's detoxification processes and has been traditionally used as an internal deodorizer.* This water-soluble extract is in the form of sodium copper chlorophyllin.

Natural color variation may occur in this product.

AVAILABLE QUANTITIES

90 Veg Capsules

TAGS:

SOY FREE

NUT FREE

VEGAN/VEGETARIAN

NON-GMO

EGG FREE

DAIRY FREE

MADE W/O GLUTEN



(See expanded description of this chlorophyll example in Bad Science by Ben Goldacre)

www.nowfoods.com

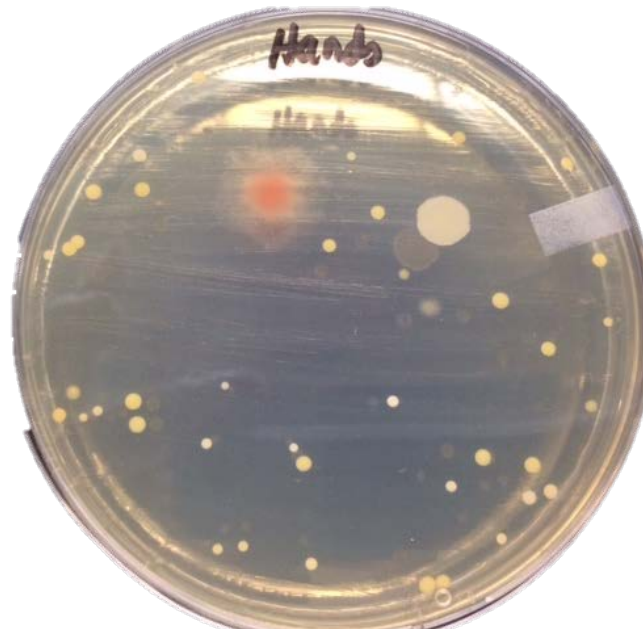
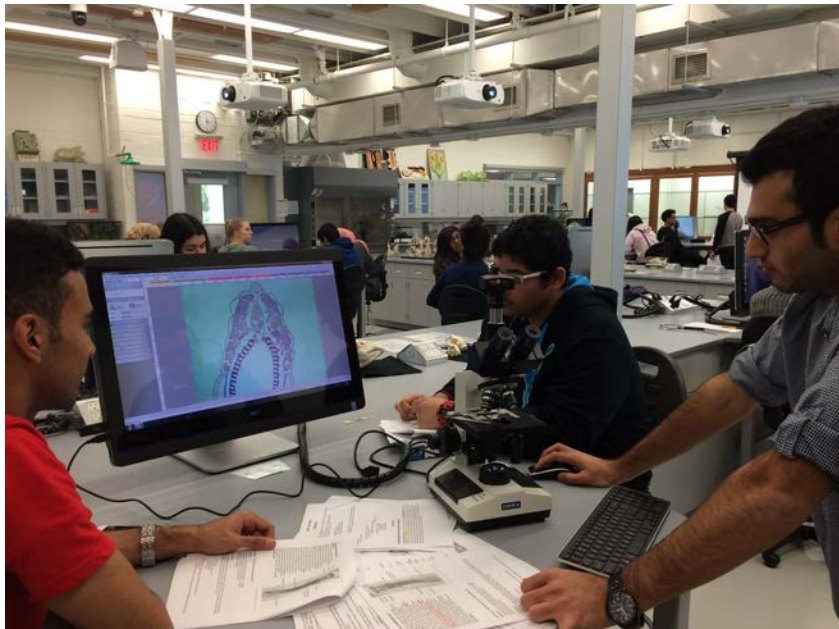
Curiosity interventions - first year

- Explore a topic
- Explain a topic
- Expand connections beyond individual observations with peers

Ask



Answer



Curiosity interventions - second year

- Watch a showcase video that presents a problem
- Explain a topic connected to the problem
- Use the explanations to find potential solutions
- Discuss validity of the solutions



Video clip: Collapsed lung case excerpt
from *Untold Stories of the ER* (Discovery)

Curiosity interventions - second year

"Can we watch the whole video? Or are we only being left at the cliff?"	10:35
"How do we answer this?"	10:50
"Does he have sickle cell anemia?"	11:02
"What is the function of the intrapleural cavity?"	11:07
"If I'm not mistaken, the air was trapped in the intrapleural space. How does the air then travel up into the neck?"	11:29
"Can we finish the video? I want to see why the guy's neck hurts."	11:43
"When the video said "pops the lung", what exactly is popped? Is it the alveolus?"	11:49

Ask

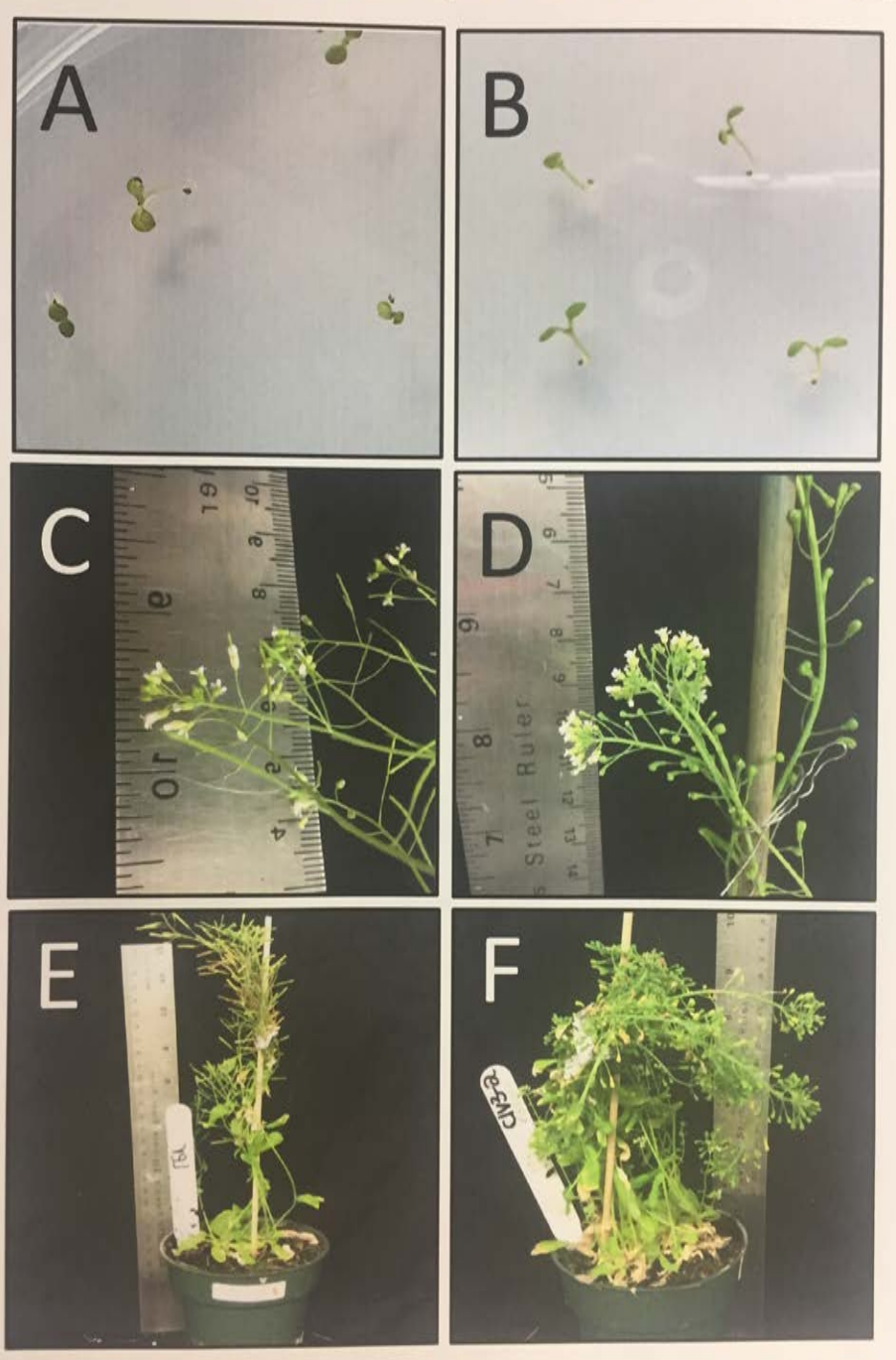


Answer



Evaluate

Curiosity interventions - third year



Ask



Answer



Evaluate

Curiosity building framework

- Flawed science
 - Recognize, use and find scientific literature
- Labs and videos
 - Interpret data
- Inquiry-based learning
 - Write about science and design experiments



Questions?



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Question 1: Think of a class you are currently teaching. Can you apply this approach to your teaching? How?

Question 2: What challenges do you anticipate in trying to apply this approach?

Question 3: How do we assess curiosity across disciplines?



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