

Homework (due Oct. 4)

- (1) Chemical reactions involve changes in which atoms (C, H, O) are bonded to which. Does photosynthesis include chemical reactions? How do you know?
- (2) Building large molecules (like glucose) out of smaller ones usually requires the input of energy. Is that true of photosynthesis? If so, where does the energy come from?
- (3) In the chemical equation for photosynthesis, how many C, H, and O atoms are on the left side of the arrow? How many of each are on the right side?

LO: Describe respiration.

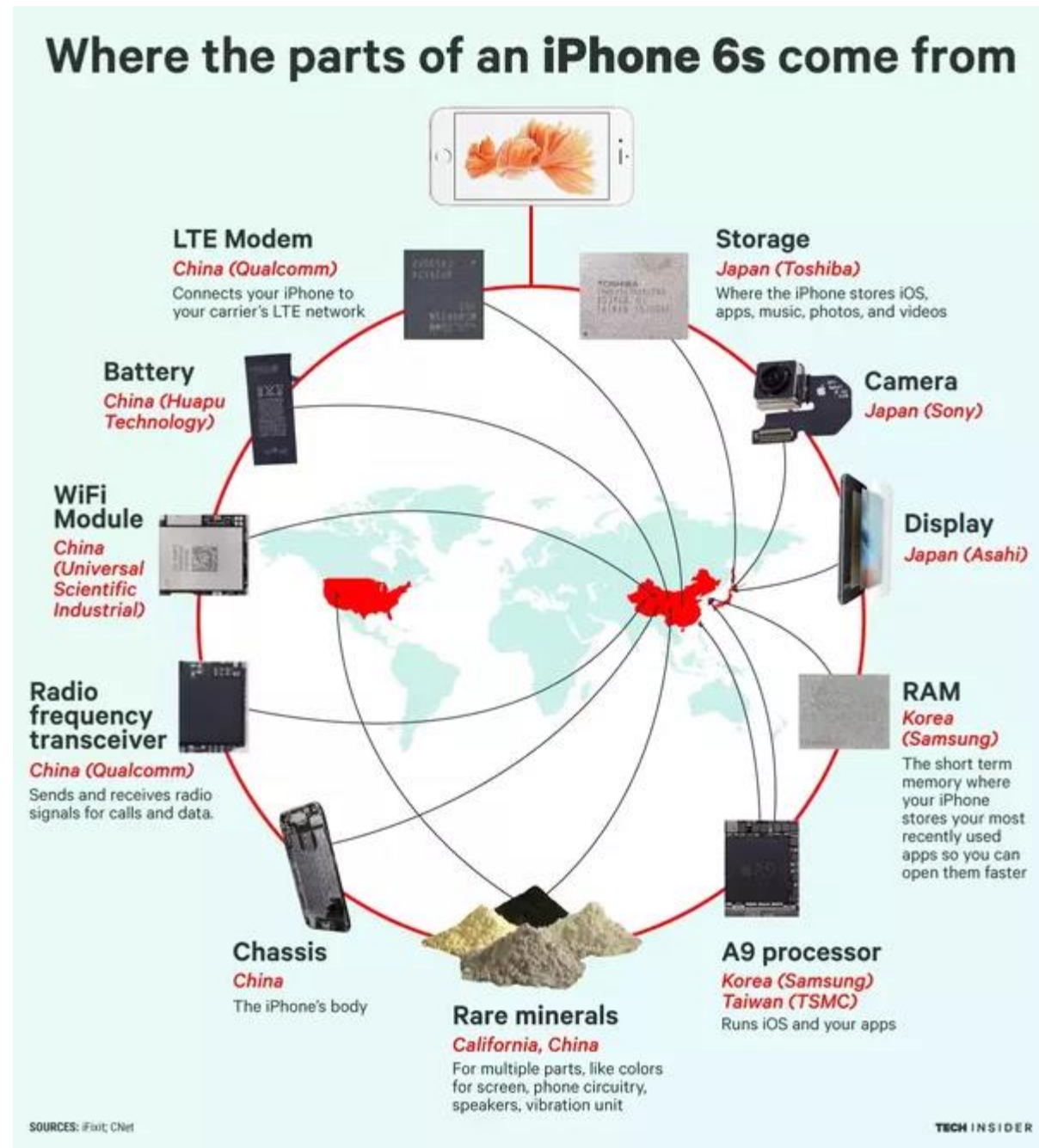
SLE: Meet NGSS.

Photosynthesis vs. Respiration

- Chemical equation for photosynthesis:
- Chemical equation for respiration:

Controlling the rates of photosynthesis & respiration

Analogy:
making iPhones



- “Chemical reaction” for “Phone-o-synthesis”
- What causes the “reaction” rate to go \uparrow or \downarrow ?

Supply and demand in photosynthesis/respiration

- Breathing rate before and after exercise
- Spinach leaf photosynthesis

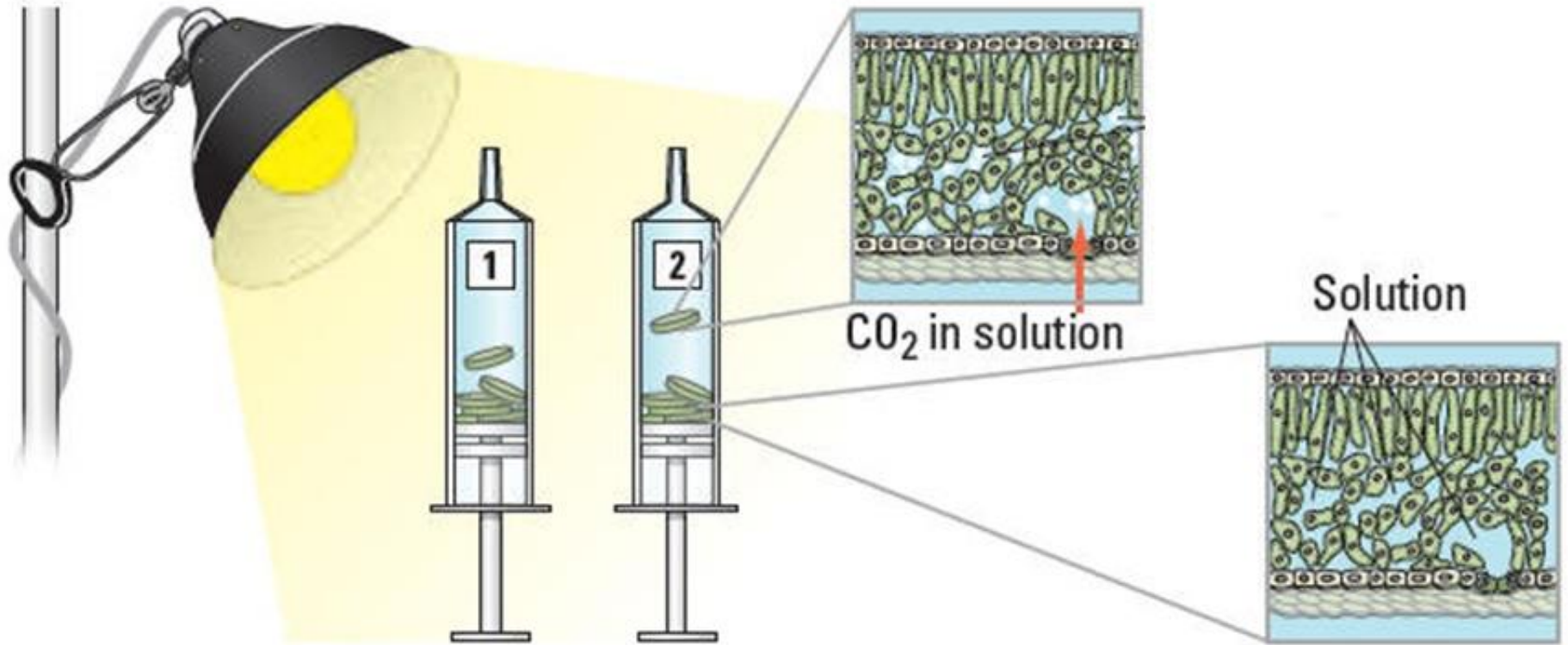
Breathing (respiration) rate before and after exercise

Procedure:

1. Count breaths for 30 seconds.
2. Do jumping jacks for 30 seconds.
3. Stop; count breaths for seconds.

Analysis: WHY did breathing rate change?

Tomorrow's lab: spinach leaf photosynthesis



Homework (due Oct. 5)

- (1) Briefly list 5 ways in which photosynthesis and respiration can be considered OPPOSITES.
- (2) Explain 2 ways in which photosynthesis and respiration are NOT exact opposites.
- (3) Why does your breathing rate change during and after exercise like jumping jacks? Your answer should refer to the chemical equation for respiration.