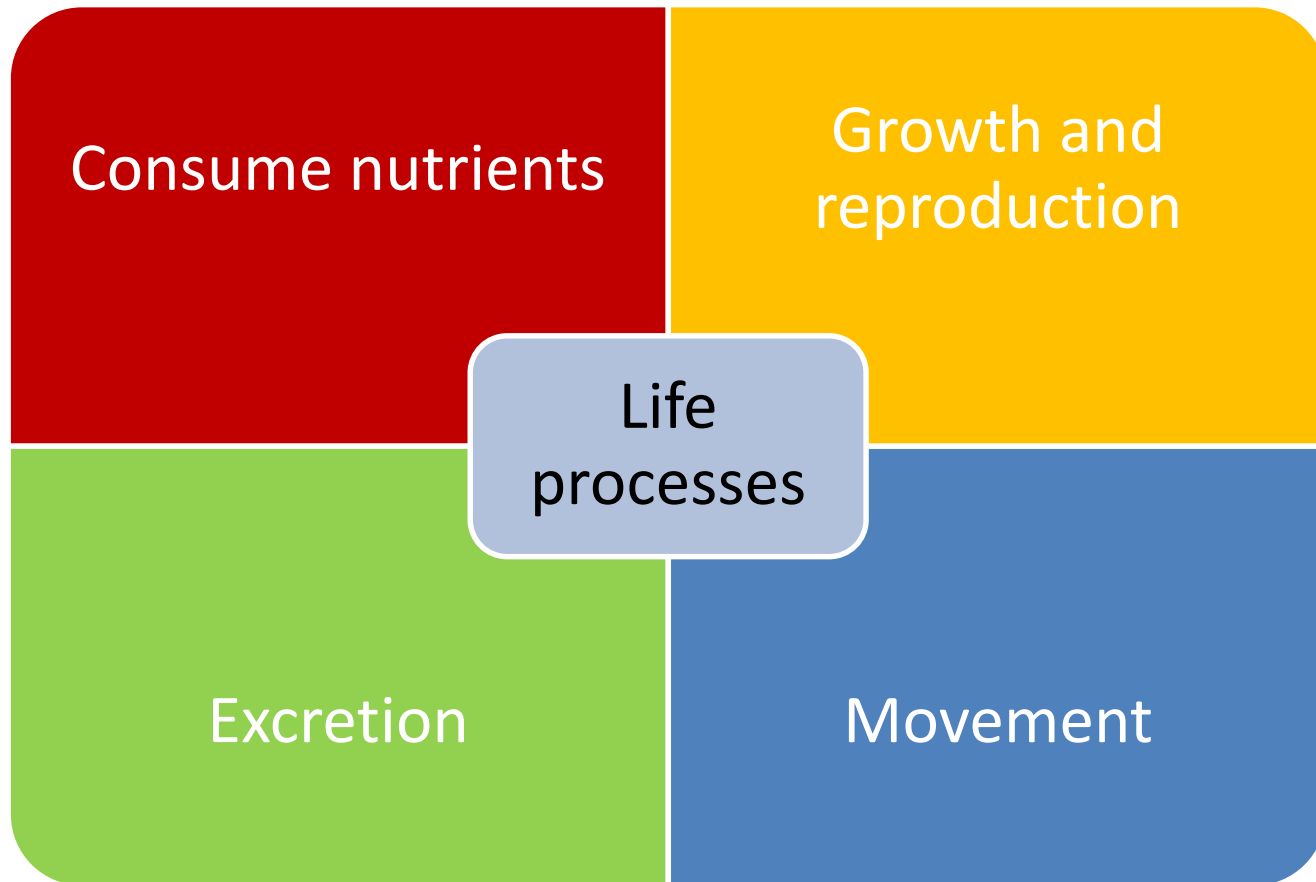


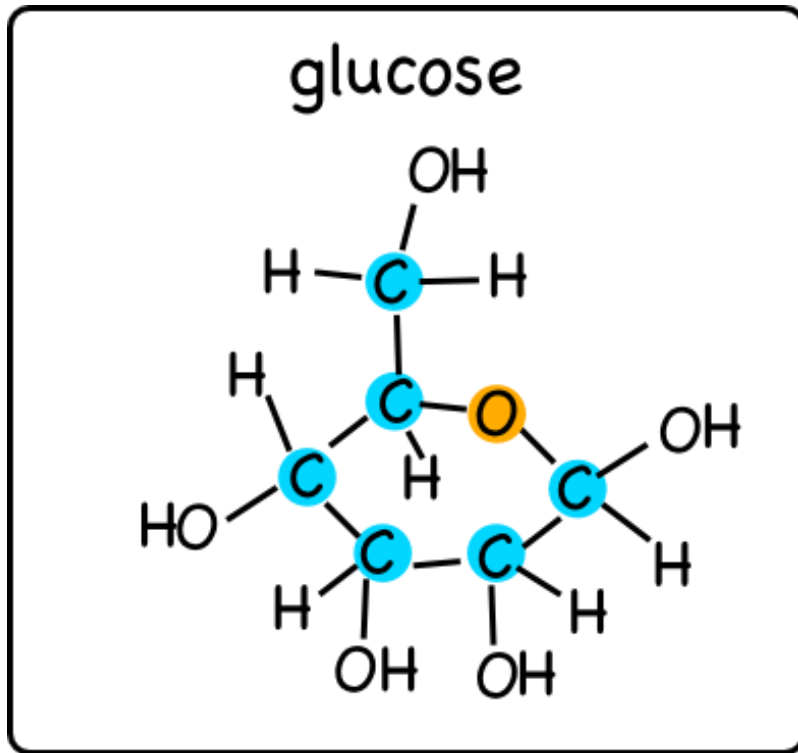
Life processes = activities that help us survive



What is Glucose?



# What is glucose made of?



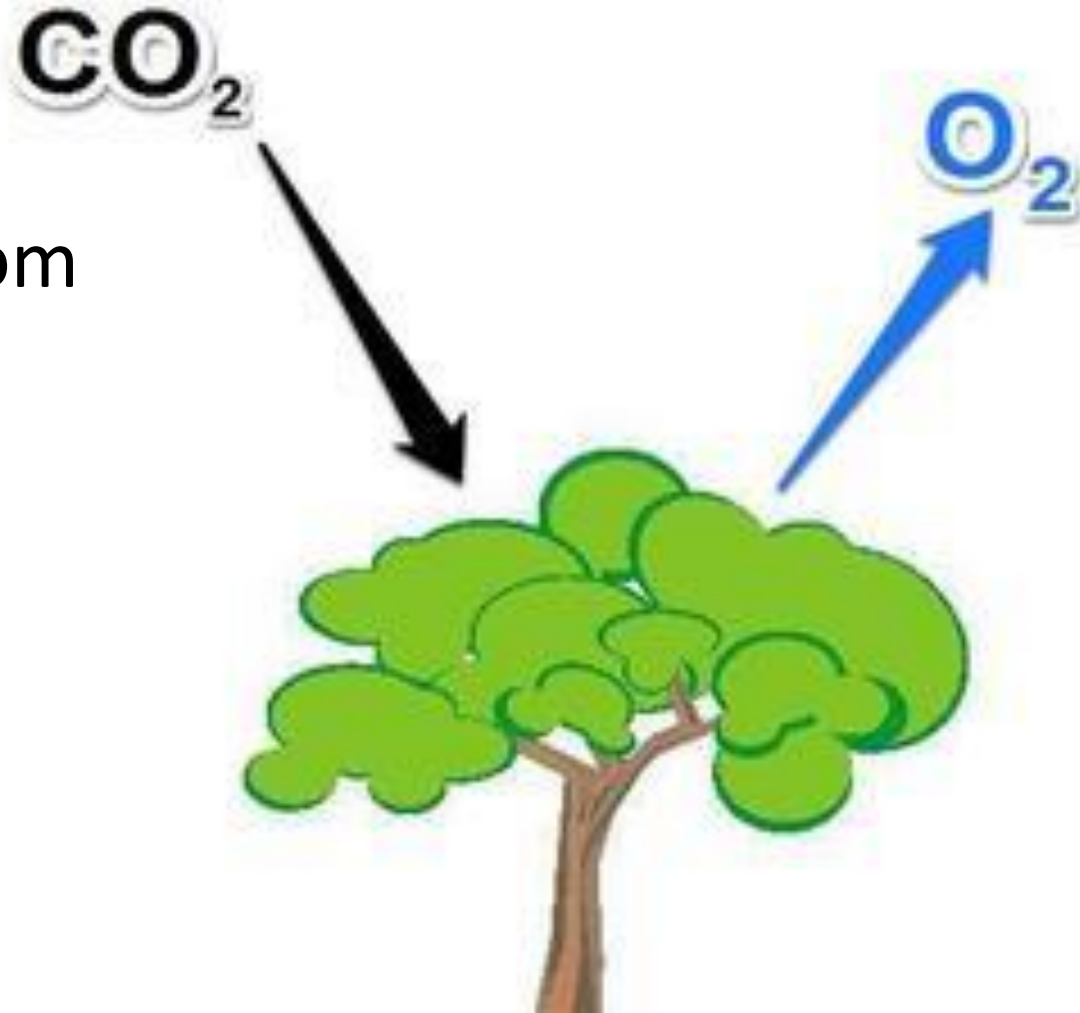
- 6 carbons
- 6 oxygens
- 12 hydrogens

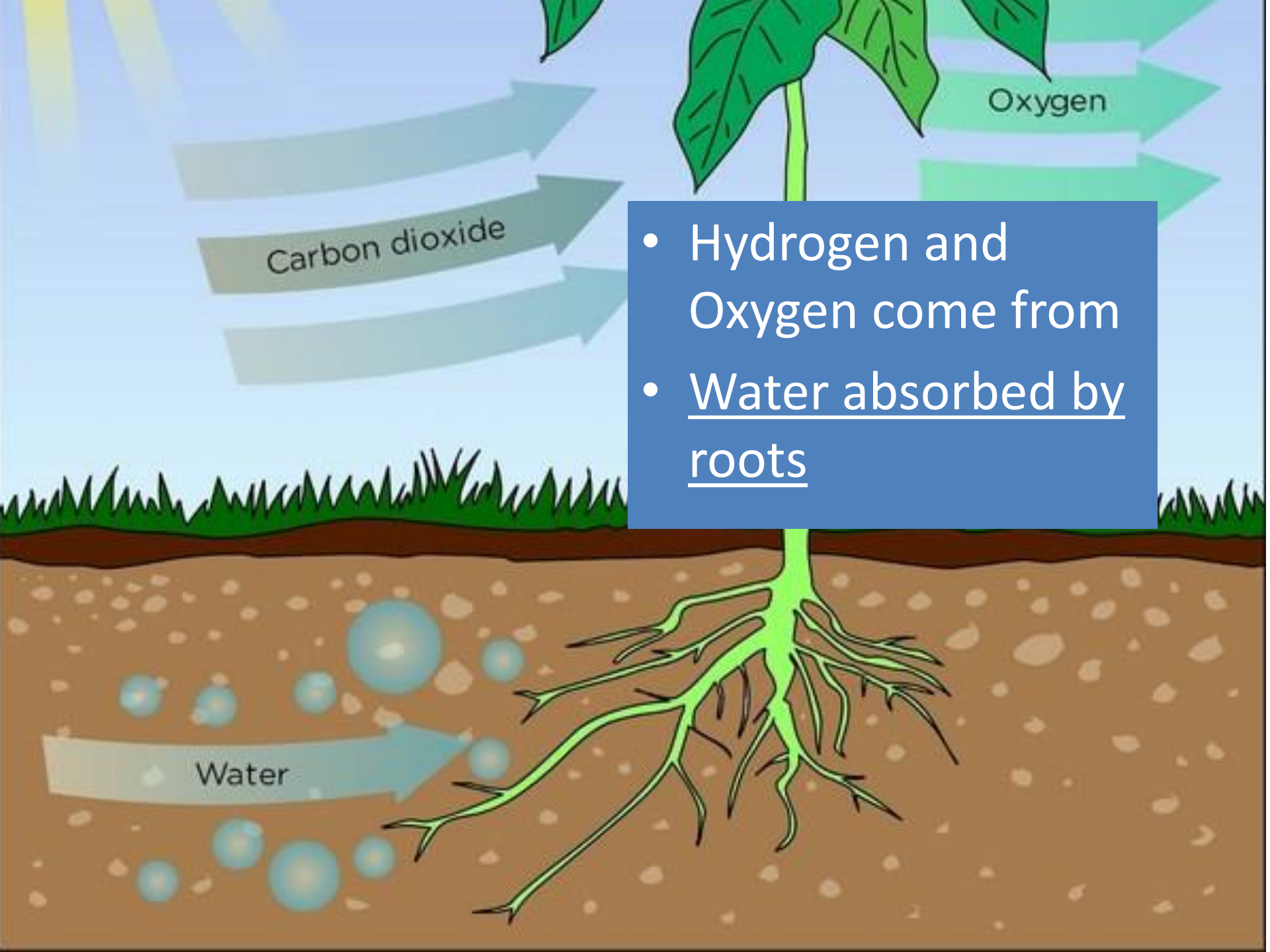
# Who Makes Glucose?



# Where do they get the ingredients to make glucose

- Carbon comes from
- CO<sub>2</sub> in the air



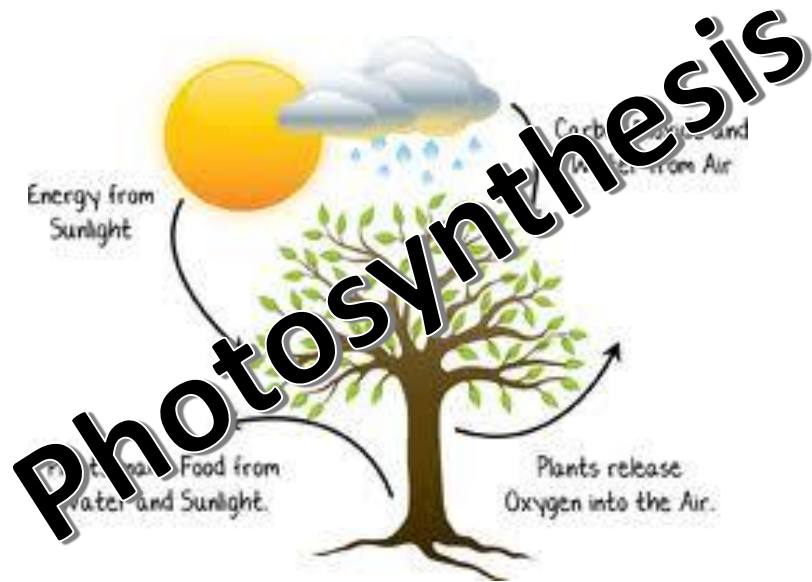


- Hydrogen and Oxygen come from
- Water absorbed by roots

What is a waste product of photosynthesis?

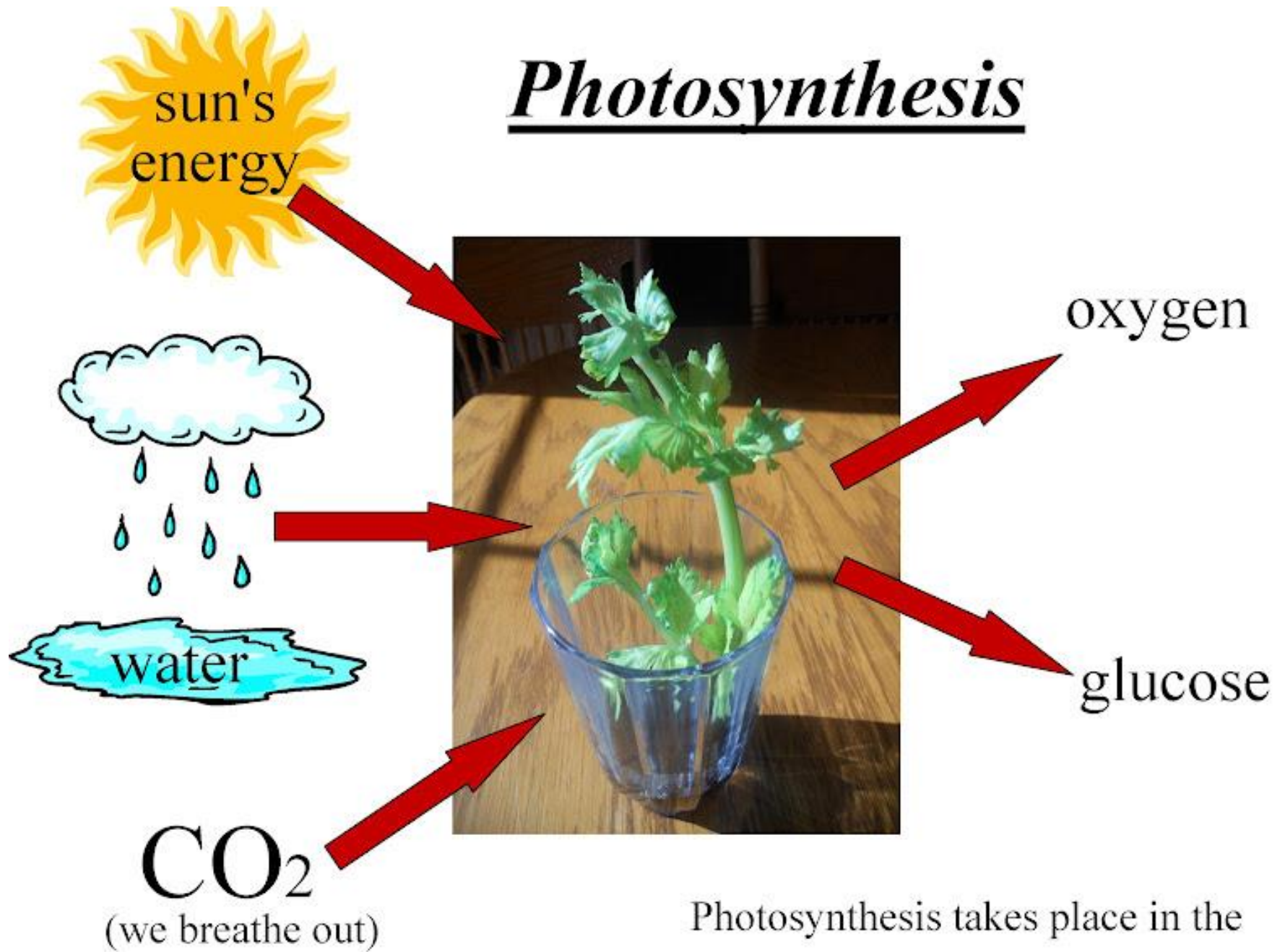


# 2 Energy Processes





# Photosynthesis



Photosynthesis takes place in the chloroplasts in the leaf.



**Photosynthesis stores energy**

Why do we call respiration an energy  
process

# Respiration Releases Energy



ATP = Energy for you and me



# Energy Processes

Name of process	Photosynthesis	Respiration
Energy conversion	Light → glucose	Glucose → ATP
Things needed	CO <sub>2</sub> + H <sub>2</sub> O + light	Glucose + O <sub>2</sub>
Things produced	Glucose + O <sub>2</sub>	CO <sub>2</sub> + H <sub>2</sub> O + ATP

# Photosynthesis and respiration

- <http://ed.ted.com/lessons/the-simple-but-fascinating-story-of-photosynthesis-and-food-amanda-ooten>
- <http://ed.ted.com/lessons/why-is-bread-fluffy-vinegar-sour-and-swiss-cheese-holey-erez-garty>
- Where do each of these processes happen

# Practice questions



Decomposers recycle nutrients  
(matter) but ENERGY IS ALWAYS  
LOST

# What does this mean to us

- Stable ecosystems have a continual input of energy
- And more producers than consumers
- It takes less energy to produce plants than it does animals
- Eating diet containing a lot of meat uses more energy and more land space to produce

**What do the  
next 3  
organisms have  
in common?**





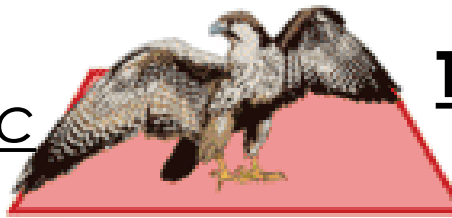
# TOP PREDATORS



**WHAT MAKES SOMETHING**  
**A TOP PREDATOR?**

No natural enemies

5th trophic level



Top predator

Quaternary consumers

Carnivore or Omnivore

4th trophic level



Tertiary consumers

Carnivore or Omnivore

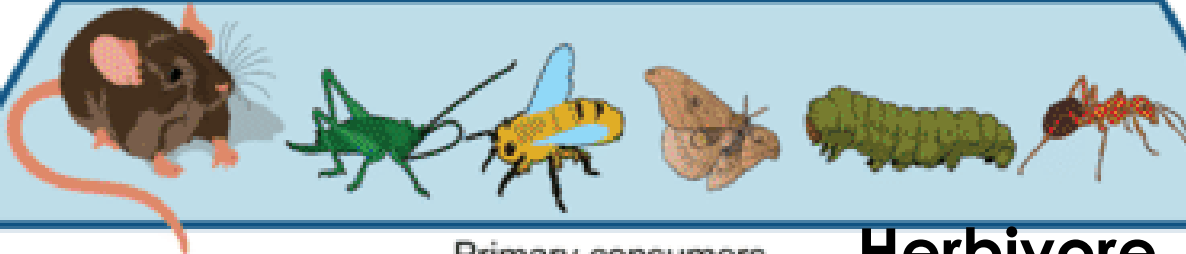
3<sup>rd</sup> trophic level



Secondary consumers

Carnivore or Omnivore

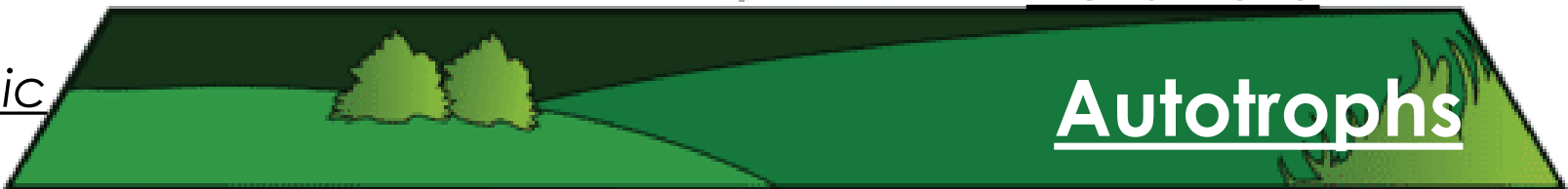
2<sup>nd</sup> trophic level



Primary consumers

Herbivore

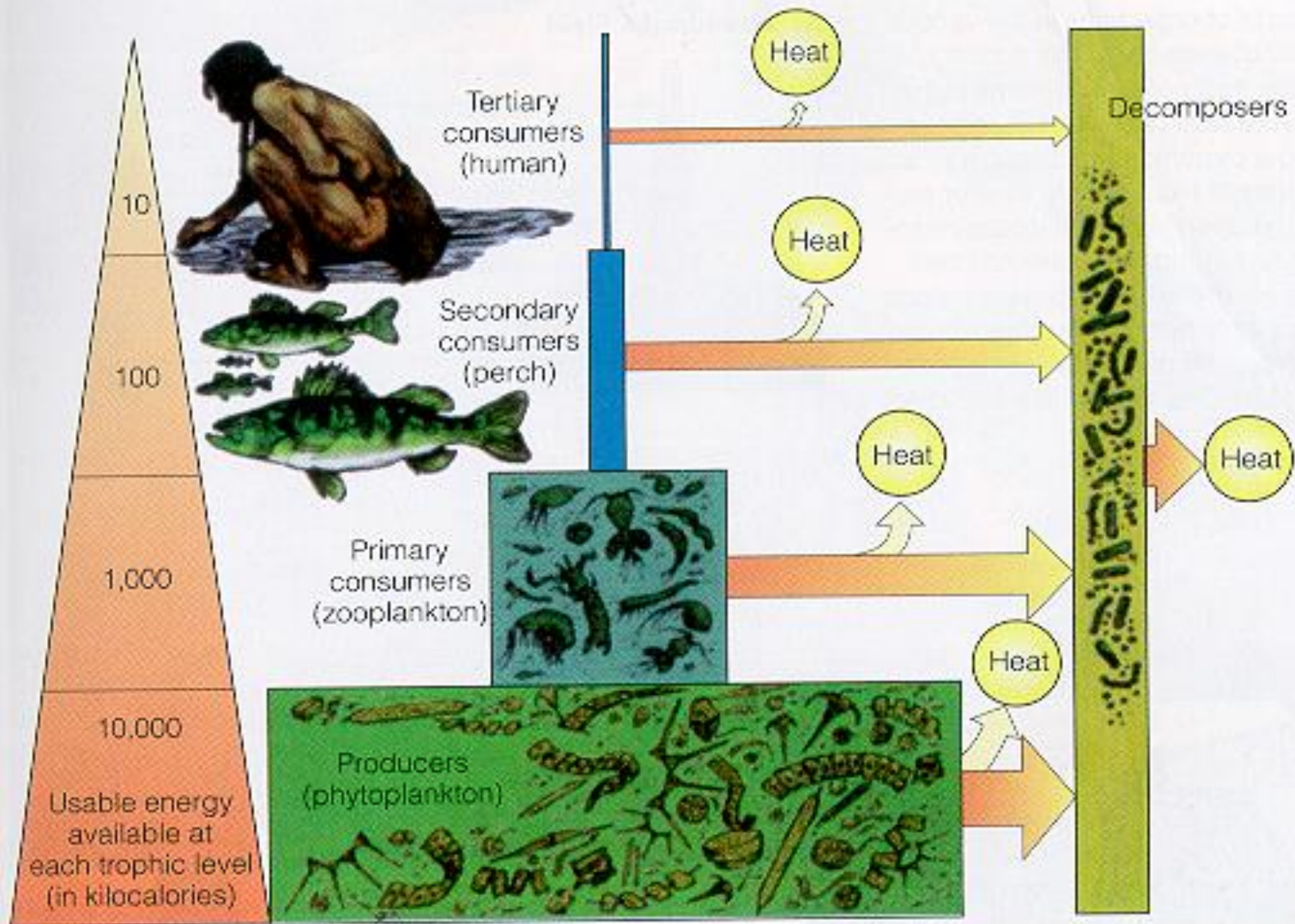
1<sup>st</sup> trophic level



Producers

Autotrophs





Energy is lost as you go  
up the food chain



A photograph of a forest floor covered in brown pine needles. In the foreground, a large mushroom with a red cap and white spots is growing. Another similar mushroom is visible in the background. A semi-transparent white box is overlaid on the image, containing text.

Decomposers recycle nutrients but  
ENERGY IS ALWAYS LOST



Stable ecosystems have a  
continual input of energy



Stable ecosystems have more producers than consumers

It takes less energy to produce plants than it does animals

WHY?

Diets containing a lot of meat  
use more  
energy and more land space to  
produce