

## Cues

- PSN
- green
- food web
- light
- chloroplasts
- $e^-$
- energy
- spectrum
- particle
- $e=hc/\lambda$
- absorption
- chlorophyll
- red & blue
- sugar &  $O_2$
- equation

## Questions

Why are plants green?

Where does plant mass come from?

What frequencies of light are best?

What is the equation of photosynthesis?

Where does photosynthesis occur?

## Notes

Photosynthesis (PSN) - plants capture & use light energy

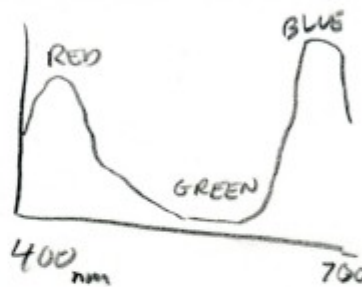
- Occurs in green things
  - algae
  - plants
- Foundation of food web
- Light ( $h\nu$ ) energy used to produce sugars
  - In chloroplasts
    - Organelles of PSN
    - Membranes
      - Grana - capture  $h\nu$
      - Contains electron ( $e^-$ ) transport chain



Light - Energy

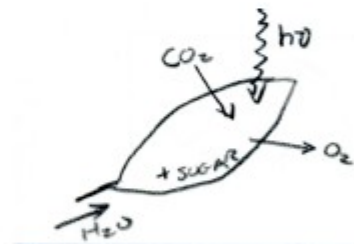
Light is a wave

- part of EM spectrum
- IR  $\leftarrow$  ROYGBIV  $\rightarrow$  UV
- $R=760\text{nm}$      $V=380\text{nm}$

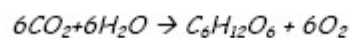


Light is a Particle

- Quanta - packets of energy
- $E=hc/\lambda$
- $E$ =energy;  $h$ =Planck's constant,  $c$ =speed of light,  $L$ =wavelength
- Violet more energetic
- Light must be absorbed to have bio effect
  
- Pigments absorb light
  - chlorophyll - green
  - carotenoids - orange
  
- absorption spectrum
  - plants use red & blue
  - reflect green! reason plants are green!



PSN produces sugars & oxygen



## Summary:

Photosynthesis occurs in chloroplasts within the cells of green plants. Energy is captured from light and used to make sugars from water and atmospheric water. Red and blue light are the more usable than green.

## Cornell Notes System

Cornell notes is one of the most popular and effective note-taking methods. This system was developed at Cornell University to help students learn more effectively from lectures and readings, and is now widely used in high schools as well. To begin, a student divides a piece of paper into three sections, the largest section is devoted to notes, a side column is reserved for cues, key words and concepts, and a bottom row is allocated for a summary.

Cornell notes follow these guidelines:

- **Notes:** Write your raw notes in the “notes” column using brief phrases, words and diagrams
- **Cues:** Shortly after class, write a list of key words and/or questions in the “cue” column
- **Review:** Use the cue words to trigger your memory, try to deliver the key points of the lecture to yourself
- **Summary:** Summarize the key point(s) in the summary section