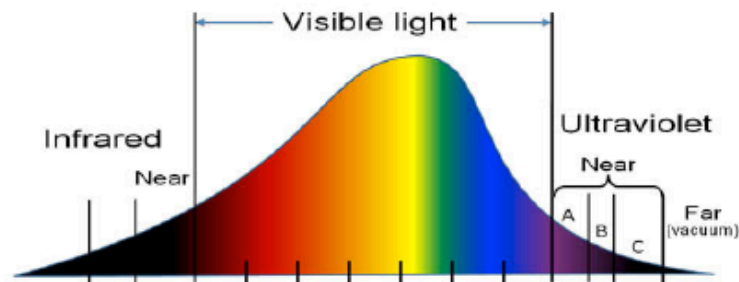


Cannizaro Science Quiz

Most of us know that the leaves of plants and trees are green because they contain a pigment called Chlorophyll which absorbs energy from sunlight, water from the earth and carbon dioxide from the air to produce oxygen and the carbohydrates that plants need to for growth.

We see leaves as green because Chlorophyll does not absorb green light – it reflects it.

This diagram plots the energy in sunlight against colour. It shows that the energy from sunlight is highest in the yellow/green part of the spectrum.



Here are some questions:

1. If yellow/green is where the maximum energy is, why haven't plants evolved to absorb green light rather than reflect it?
2. What colours do plants absorb?
3. The best colour for absorbing heat is black because it reflects nothing and absorbs all the colours. Why aren't leaves black?



Compiled by The Womble

Answers:

1. Because early on in the life of our planet a different method of photosynthesis evolved. This method, which is now extinct, did absorb green light. The ancestors of today's plants evolved in the shade of the earlier species and therefore had to make do with what was left of the sunlight that filtered through to them. This was the red and blue parts of the spectrum.
2. Green plants absorb sunlight in the blue and red parts of the spectrum. If they absorbed the green sunlight, we wouldn't see them as green.
3. A black leaf would get too hot