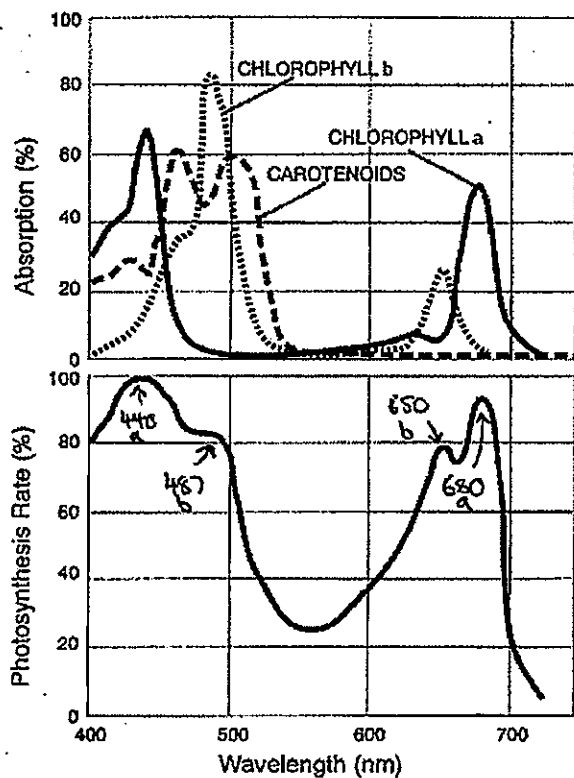


Working out a homebrew PAR (Photosynthetically Active Radiation) sensor for field deployment.



Context: PAR is "the spectral range of solar radiation from 400-700 nm that photosynthetic organisms are able to use in the process of photosynthesis." [Wikipedia]

The graphs at left show light absorption and photosynthetic rate within this spectral range. [Wikipedia Commons.] The table below shows light colors beginning at each nm wavelength.

Aim: Use easily-sourced materials to build an Arduino-based PAR sensor.

380 nm	Violet
450	Blue
495	Green
570	Yellow
590	Orange
620	Red

Problem 1: Inexpensive photocells are sensitive in the wrong part of the spectrum (see below).

Option 1a: Buy a PAR sensor (\$200+).

Option 1b: Put photographer's flash color gel in front of photocell to exclude all but the desired wavelengths. Could use multiple photocells, one for each colour.

