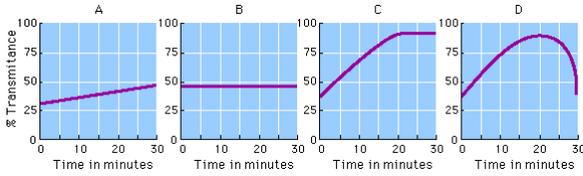
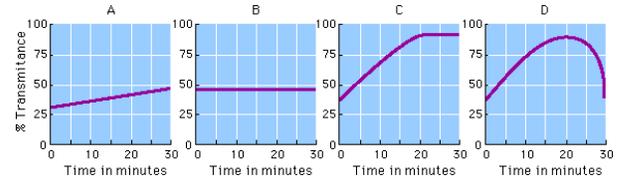


DPIP Lab Analysis Questions



Which graph would be the most likely result of performing the photosynthesis experiment with fresh chloroplasts placed in light and DPIP? Explain



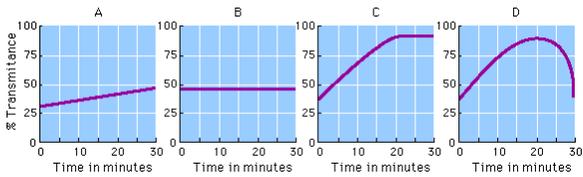
What effect would adding more DPIP to each experimental tube have on these results?

Each curve would be shifted downward but would keep the same general shape.

The curve in graph C would rise more steeply and level off sooner.

The curve in graph A would have the same general shape as the curve in graph C.

The chloroplasts would absorb more light energy, so there would be no change



- What is the best explanation for graph B?
- The DPIP was too pale at the beginning of the experiment
- The chloroplast solution was too concentrated.
- The experimenter used chloroplasts that were damaged and could not respond to light.
- The blank was not properly used to calibrate the spectrophotometer

What is the role of DPIP in this experiment?

- It mimics the action of chlorophyll by absorbing light energy.
- It serves as an electron donor and blocks the formation of NADPH.
- It is an electron acceptor and is reduced by electrons from chlorophyll.
- It is bleached in the presence of light, and can be used to measure light levels.

Some students were not able to get many data points in this experiment because the solution went from blue to colorless in only 5 minutes for the unboiled chloroplasts exposed to light. What modification to the experiment do you think would be most likely to provide better results?

- Increase the number of drops of chloroplasts used from 3 to 5.
- Double the volume of DPIP so that the solution has a lower initial transmittance.
- Modify the blank so that the initial transmittance is higher.
- Use fresher spinach and prepare the chloroplast solution during the laboratory procedure.
- Change the wavelength at which readings are taken.