

Photo-Blue-Bottle (Sek. II/upper secondary level)

A model experiment for energy conversion and energy storage in a light-driven concentration cell

PBB – Tutorial analysis



T1 The German tutorial 'Photosynthese – ein Fall für Zwei: Teil 1' contains a comparison between the natural processes within the photosynthesis/cellular respiration-cycles, and PBB model experiment. First, identify the corresponding cycle parts and the corresponding substances in the two cycles. Then mark low-energy and high-energy substances (draft a legend!).

T2 Following the tutorial, create a labelled sketch of the experimental set-up for the photoelectrochemical concentration cell. Give the redox-reactions for the substrate.

T3 Describe the two processes of energy conversion and energy storage taking place in the PBB-experiment.

T4 Explain the correlation between photosynthesis and the galvanic cell in the tutorial.

Finished? An assignment for the quick ones:

T5 Point out the limits to the model experiment.