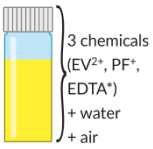
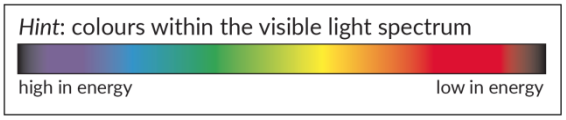
Name: _____ Date: _____

***Photo-Blue-Bottle (Sek. II/upper secondary level biology and chemistry)***
**A model experiment for the carbon cycle in animate nature**

## The Photo-Blue-Bottle-Experiment

**B1 Experiment:** Using the provided material (hot plate, torch with different light colours, UV torch), explore how to drive a chemical reaction in the vial. This becomes evident when a blue substance generated in the reaction becomes visible within the yellow solution. Jot down your findings in the chart below.




| energy form | colour/temperature | observation |
|---|---|---|
| | | |
| | | |
| | | |
| | | |
| | | |
| | | |

**E2 Is the statement true or false?**
Test your decision either by conducting or by suggesting an appropriate experiment.

- In order to take place, the reaction YELLOW → BLUE requires energy supply.
- The reaction YELLOW → BLUE does not work with any given light from the visible spectrum.
- The reaction BLUE → YELLOW only requires kinetic energy.
- The reaction cycle YELLOW → BLUE → YELLOW runs only two times.
- The reaction BLUE → YELLOW requires oxygen.
- The PBB-reaction cycles correspond to the natural reaction cycles of photosynthesis and cellular respiration.
- The reaction YELLOW → BLUE only takes place if the temperature is above 5°C