**Experimental Procedure for the Production of Ethanol**

**Materials:** Erlenmeyer beaker, fermentation tube, stillhead, 2 stands, 2 round bottom flasks, heating mantle, thermometer, clamps

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| **Chemicals:** | Baker’s yeast, glucose, water, calcium hydroxide, yeast/glucose mixture (1 week old) | Reizend.pngÄtzend.png |

**Procedure: Group 1 (2 people):**

1. Add 20 g of glucose and 200 ml of water to a 250 mL Erlenmeyer flask and stir well.
2. Add one *cube of yeast* in small parts and stir well.
3. Immediately put a fermentation tube on the mouth of the Erlenmeyer flask and fill it with a clear *solution* of calcium hydroxide. Write down your *observations* and share them with your group.
4. Let the Erlenmeyer flask stand for one day.   
   \* Join Group 2 to help with the distillation.

**Group 2 (2 people):**

1. *Construct* the distillation apparatus as shown in the diagram.   
   (CAREFUL! All *connection points* have to be secured with clamps!).
2. Get an Erlenmeyer flask with a one week old mixture of yeast and sugar from the teacher. Add the mixture to the round bottom flask 1.
3. Turn on the heating mantle and bring the mixture to a *boil.* *Monitor* (1 Person) the temperature of the *steam* with a thermometer. (\*All other group members can use this time to write their *lab report*).
4. Once the temperature of the steam has reached 90°C, the distillation can be stopped.
5. Write down the *properties* as well as *the smell* of the *liquid (distillate*) in the round bottom flask 2.
6. Give the product to the teacher.

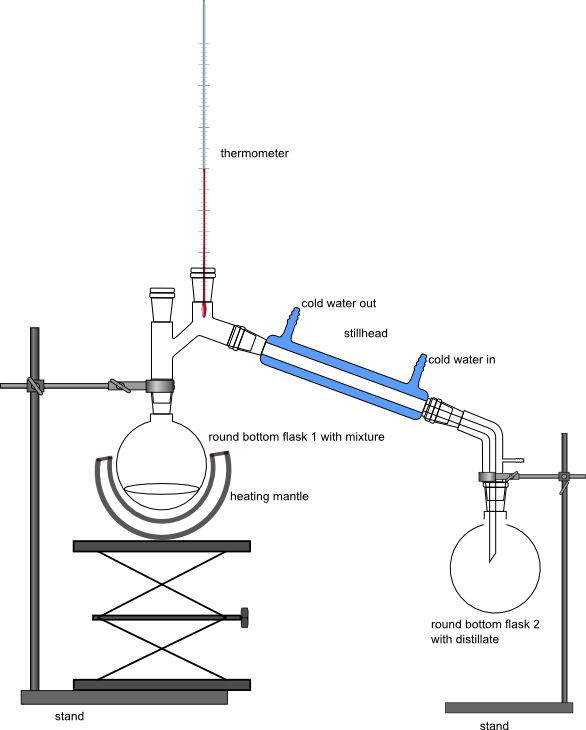


Diagramm 3: Experimental set-up for the distillation of ethanol