1. **Before starting a reaction – Antestat (= oral examination)**
   After students assembled their glassware for the planned reaction an assistant has to check 1) the **buildup apparatus**, 2) the **lab journal**, 3) the **knowledge** of the student and that 4) the **LabCard®** is correctly filled out.

   Special attention has to be paid for the following points:

   1) **Apparatus**
      - Is the apparatus safe to use (Cables away from sources of heat, water hose securely fixed, etc.)

   2) **Lab journal**
      - Correct reaction scheme
      - Correct calculated amount of chemicals to be used
      - Safety related data of chemicals and processes (e.g. vacuum)
      - H and P sentences in **tabular** form.

   3) **Knowledge**
      *Oral examination on planned reaction* touching themes like mechanisms, procedures, work up and safety, including safe garbage disposal.

   4) **LabCard®**
      - All relevant data filled in (Reaction scheme, lab no., date and name, etc.)

**Further procedure**

If the reaction apparatus is correctly and safely assembled and all required data are found in the lab journal and the student knows details and risks of the reaction, **the assistant signs the lab journal** and the LabCard® **adding date and time**. The LabCard® goes in the paper-holder fixed atop each lab place in the fume cabinets. It stays till the end of the reaction. The student is permitted to start the reaction.

If there are doubts on the students’ knowledge, the safety of the apparatus or errors in the lab journal, **the assistant notes this in the lab journal with his signature and time**.

After correction by the student **a second assessment** is done. If this still is not satisfying the students is sent home for the remaining day (This has to be noted in the lab journal as well!)

**General remarks**

Start of reactions is only permitted before 17:00 (Main lab L6) and earlier than 16:30 (Night lab L5).

2. **After completion of the reaction – hand in of compounds, lab journal and protocol**

   Compounds and protocols are handed in **together to the personal assistant only!** The signed LabCard® is part of the protocol. Compounds are only accepted if the LabCard®/lab journals show:

   - Signed Antestat
   - Lab journal according to "Rules for a lab journals" (see below 3. How To)

   *If the Antestat is missing or the lab journal does not comply with below rules* the compound and protocol are confiscated and the preparation has to be repeated.

   If the compound does not comply with the requirements of the lab course (m.p., b.p., refractive index incorrect, biphasic, turbid, etc.) protocol and preparation are rejected until compound is of satisfying purity.

   If the Antestat is correct and the lab journal was written in accord to the requirements the handed in protocol and compound is acknowledged on the “Laufzettel” with signature & date (left column). After final approval of protocol and compound purity a second signature is placed on the “Laufzettel” (right column). Preparation is passed.

3. **Rules for lab journals – How To**

   The lab journal is a multipage, hard bound booklet (e.g. *exercise book*) with numbered pages. Reserve one double-page per experiment. Use permanent ink, no pencil! And **note down all your own observations**. Do NOT copy procedures.

   Outline as follows:

   - Title, date, used literature
   - Reaction scheme with calculated molecular weights of all involved compounds
   - Table with molar equivalents, and used amounts

   Next:

   - Your own observations, deviations from literature, encountered problems, etc.

   And finally:

   - Calculated yield, analytical data in comparison to literature data
   - Discussion

   **Your lab journal is written during the experiment** or immediately after and serves as the source of exact data for writing the protocol! Errors in writing or calculating are just crossed out in a way that they are still readable, no eraser, correction tape, etc. An example is to be found on the home page of the course.