

Biology-Chemistry-Elective

Basic information:

- **3 hours per week (8th grade, only Science Lab)**
- **2 hours per week (9th and 10th grade)**
- **choice in 9th and 10th possible**
- **no fixed curriculum (depends on the subject teacher)**
- **language depends on the subject teacher**

Biology-Chemistry-Elective normally in German

Science Lab normally in English

Biology-Chemistry-Elective

- further developing of already acquired skills in scientific methodology and lab reporting**
- demonstrate the complex relationship between Biology and Chemistry as subjects**
- learn how to form own scientific hypotheses, as well as the design of own experiments to demonstrate evidence or proof of validity**
- enable students to make an informed decision on whether or not Biology and Chemistry are subjects to consider for their future course selection**

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9th grade topics, e.g.:

Keep Smiling (Damit das Lachen nicht vergeht)

- *Dental structure*
- *Analyzing of toothpaste's effects (caries protection, bleaching work, cooling effect, etc.)*



Under your skin – Tattoos (Das geht unter die Haut)

- *Skin structure*
- *Microscopizing*
- *Flame/Colour testing*



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10th grade topics, e.g.:

CSI (Dem Täter auf der Spur)

- *Blood – the fluid organ*
- *Fingerprints; genetic fingerprints*
- *Microscopizing of fibers*



From the sheep to the sweater (Vom Schaf zum Pullover)

- *Microscopizing of hair and fibers*
- *Biological and chemical analyzing of animal and plant fiber (burn test, smell test, ...)*
- *Extraction of sheep's wool*
- *Comparison of cotton and sheep wool*



Nanotechnology and Bionics (Kleine Partikel ganz groß)

- *Lotus-effect*
- *Transferring biological structures to technical applications*



Science Lab Elective

Possible Contents

- Microscopes
- Diffusion & Osmosis
- Water Potential
- Photosynthesis
- Respiration
- Balancing of chemical equations
- Chromatography challenge
- Indicators

