

Workshop – the Chemistry in and around us.

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In 1842 Robert Davies was preparing the first scientific lessons to be given in primary schools in England. He emphasized the importance of giving information explicitly concerning everyday life, and there is no question that students are always ready to accept scientific explanations for phenomena that are already familiar. In this workshop I will illustrate this by looking at two areas, the human body (and its workings) and the structure of our planet. Students know quite a lot about these two subjects, but are not used to identifying the chemical principles involved.

The human body, like any other living system, needs energy to survive. The source of this energy is our food, primarily carbohydrates. How much carbohydrate do we need to survive daily, how much oxygen does this need, and how is this arranged? Any chemical ingested by the body will interact with receptors, and the substrate-receptor interaction may be discussed in terms of the law of mass action. The metabolism of chemicals generally follows simple kinetic laws which may be used to predict the change in concentrations of drugs or other compounds.

Most students are familiar with satellite images of the earth but do not know how to explain the observed features. Why is the planet not a uniform sphere covered by water? Why are some parts of the continent green and others brown? What makes mountains high? We will look briefly at the chemical facts behind these observations.

My intention is not to replace the traditional study plans but to show how everyday life can offer many examples of the chemical principles we seek to transmit.



<http://www.anatomie-online.com/Seiten/anato002.html>



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