

Teaching-learning materials compiled by the PARSEL consortium
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Cooperating Institutions and Universities within the PARSEL-Project:



Science in a Class of Its Own: Renewable Energy Sources – “How Can Experts’ Reports Lead Astray?”

A Module for Science Instruction – especially Chemistry – for Grades 10 to 13



Abstract

In the PARSEL module “**Renewable energy sources – How can expert reports lead astray?**” the young students will deal intensively with the opinions, ideals and judgments of other people on the topic of renewable energy, namely bioenergy. With the help of detailed instructions, the students should be able to compare and evaluate two fuel types, for example biodiesel and diesel, in a systematic manner. By following the recommendations of this module, the students learn how experts come to their conclusions and to scientific reports. The students will also find out why different experts’ reports can come to different scientific results and why even experts’ reports can lead astray.

Subject: Science and/or Chemistry

Grade level: 10th to 13th grade

Curriculum content: Energy and chemical reactions (First Law of thermodynamics, analyzing the energy of chemical reactions; chemical equilibrium in nature and industry (especially ‘Le Chatelier’s principle’); economical and ecological effects of selected technological systems; the world of macromolecular properties; polysaccharides: building blocks, structure and properties; relevance of biopolymers

Kind of activity: Appropriate judgment, enquiring, explaining, laboratory work, field trip/excursion, role-play, group activities etc.

Anticipated time: 4 lessons of 45 minutes for the example – 40 lessons of 45 minutes in total

Overall objectives/competencies: Concept of energy, scientific inquiry, communication (role-play), appropriate judgment

Attached files		
1.	Student activities	Describes the scenario in more detail and the tasks the students should carry out
2.	Teaching guide	Suggests a teaching approach
3.	Assessment	Gives suggested formative assessment strategies