



Wien project

Teacher sheets



Location: ESRF

Duration: 1 ½ hours

Level: Last two years of secondary school, with a specialization in science.

Groups: 3 groups of 4 students

Scientific supervisors: 2

Content

This project is focused on the use of knowledge and skills acquired on heat transfer. The aim of the project is to make the students use a scientific approach, based on their skills and knowledge, in order to solve with a scientific issue. Students are given a document to assist them. Scientific experiments are necessary. In the end they are supposed to reach a conclusion.

In the curriculum

Observe

Electromagnetic waves

Thermal radiation. Wien's law.

Particles detectors

Understand

Temperature variation and physical transformation of a system due to heat transfer
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Heat transfer: conduction, convection, radiation
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Heat flux, thermal resistance

Thermal properties of materials

Create and innovate

Scientific and technological culture, science-society relationship
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Scientific occupations

Transversal skills

Searching, extracting and organizing important information found in a document, a situation or an experiment.

Taking initiative, using critical thinking.

Thinking about a new situation in accordance with one's acquired knowledge.

Teamwork.