



# Wien project

## Teachers sheet



**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

Heat transfer: conduction, convection, radiation

Heat flux, thermal resistance

Thermal properties of materials

### Create and innovate

Scientific and technological culture, science-society relationship

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.