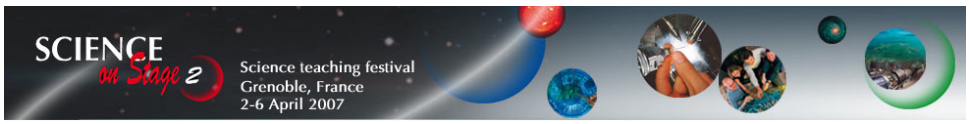


Education and Culture

Leonardo da Vinci

# Workshop

# SUPERCOMET 2:
# Superconductivity for secondary schools

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LdV pilot project no.: N/04/B/PP/165.008

Programme:

Introduction:

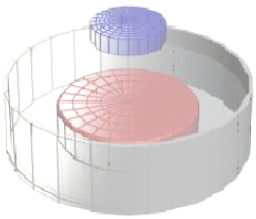
- Goals of the project
- Background of the SUPERCOMET 2 project

Workshop:

- Using PCs: independent learning tasks in groups on the basics of superconductivity (20')
- Experimental tasks (20')
- Demonstrations on superconductivity (20')

Conclusion:

- Presentations results/discussion/teaching methods.
- Overview of other topics of SUPERCOMET2: electric conduction, magnetism, history of superconductivity, applications
- Evaluation by participants



Laptop activity 1: Look at Module “Introduction to superconductivity”

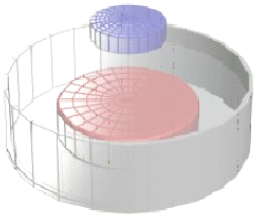
Two participants per laptop. Skip pages 35/58 to 58/58: they will be illustrated in the demonstration session.

1. What special properties do superconductors possess?

2. Make a personal “TOP 3” of most fascinating questions among the list on page 18/58.

3.What types of superconductors do you know? Try to understand pages 26/58 and 27/58.

4. Look also at the other modules.
Remarks:



Laptop activity 2: Look at Module “History of superconductivity”

Two participants per laptop.

1.Below you get 8 significant milestones in the history of superconductivity (sc).
2.Try first to order them chronologically from 1 to 8, each independently (own document).
3.The first you get for free: it all starts with K.Onnes in 1911.
4. Then discuss and try to compromise in a definitive chronology and add dates between brackets.
5. Then check with the CA what the correct order is.
6. You can find the good answers in the front of the class room.
7. How many good answers did you find?
... personally:……. … as a team:……..

| Ps A | Event | A+B | Correct | Ps B |
|---|---|---|---|---|
| | Discovery of two kinds of sc: type I and type II . | | 3(1957 - p9/67 | |
| | Lead is a sc | | 1(1913) | |
| | New world record Tk in Nb3Ge: 23 K | | 6(1973) | |
| | William Little predicts organic sc | | 5(1964) | |
| 0 | K. Onnes discovers sc | 0 | 0 (1911) | 0 |
| | New world record of Tk in ceramic sc: 138K. | | 7(1995) | |
| | The Meissner effect | | 2(1933) | |
| | Gravimeter based on sc in Science | | 8(2004) | |
| | BCS theory published | | 3(1957) | |