

CERN – S’Cool LAB

Online science shows

Learn physics in a fun way, with our interactive online science shows. Your students can participate both from the classroom and from home!



Two shows are currently available, *It's Just a Phase!* and *Superconductors take off!*

It's Just a Phase!

Have you ever dreamed of becoming a wizard or a witch, but your parents kept saying: "It's just a phase"? What happens if we combine magic and the phases of matter? Pour in a lot of fun and some liquid nitrogen, mix it well and you get... science! During this online and interactive science show, you will be guided by our CERN tutors through super-cool experiments and might even learn how to build your own particle detector at home.

About: Phases of matter and phase transitions

Duration: 60 min

Recommended for ages 12 - 16 (Middle school classes)

Minimum and maximum number of participants: 25 – 80

Superconductors take off!

During this online science show on superconductors, you will learn about the fantastic phenomenon of superconductivity, the Meissner effect, and zero resistance. But above all, we will do astonishing experiments and make unbelievable observations. Learn more about superconductors and why they are indispensable for operating the world's largest particle accelerator, the Large Hadron Collider (LHC) at CERN.

About: Introduction to superconductivity, zero resistance, Meissner effect, flux pinning, and applications of superconductors

Duration: 60 min

Recommended for ages 14 - 18 (High school classes, prior knowledge of phase transitions and the basics of electromagnetism is recommended)

Minimum and maximum number of participants: 15 – 80

Supplemental information

This online activity, offered by us free of charge, is suitable for classroom teaching as well as home schooling. All needed for participation is a computer/tablet with speakers and internet browser (+projector if in classroom).

Available languages: English, French, German, Finnish

Booking:

Appointments are made directly with the S'Cool LAB team via email exchange (school.lab@cern.ch).

Since every show involves a given amount of work for us, we have set limits for the number of participants.

Depending on the number of participants from your school, we may also offer other schools to participate on the same date.

Format: [Zoom](#) videoconferencing platform – format webinar (microphones and cameras of all attendees are off)

Equipment needed: To participate in this activity, classes must have the following equipment available: **computer** / tablet connected to the Internet, **speakers** for sound, **web browser** and **projector**. The same equipment is required for students participating from home, except the projector.

Interactivity: Takes place via the chat and the poll function of Zoom. We kindly ask all attendees to keep their microphones muted and cameras off during the show. We encourage the students to ask question in the chat throughout the show.