

## Scientific Research

*Someone, sometime, somewhere, may succeed in completing these unfinished mysteries, or even rewrite the chapters entirely. The book is by no means finished. (<http://public.web.cern.ch> accessed in 2012)*

### I. Discuss in pairs:

1. What is the purpose of carrying out scientific research?
2. Have you ever been involved in any?
3. Are you thinking of pursuing a career of a scientist?
4. Which institution would you like to be employed by and why?
5. What do you think about internationally recognized prizes given for scientific research?

### II. Try to answer the questions:

1. What does CERN stand for? What does it deal with?
2. Where is it located?
3. When was it set up?
4. How many member states does it have today?
5. How many employees does it have?
6. Does it cooperate with any people/institutions?
7. What do LHC, LEP and SPS stand for? Describe them briefly.

### III. Read the first 3 paragraphs of the text and complete it with the missing articles.

### IV. Read the last 3 paragraphs of the article and complete it with the missing prepositions.

The European Organization for Nuclear Research is \_\_\_\_ international organization whose purpose is to operate \_\_\_\_ world's largest particle physics laboratory, in \_\_\_\_ northwest suburbs of Geneva, on the Franco-Swiss border. The term CERN is also used to refer to \_\_\_\_ laboratory, which employs just under 2,400 full-time employees, 1500 part-time employees, and hosts some 10,000 visiting scientists and engineers, representing 608 universities and research facilities and 113 nationalities.

CERN's main function is to provide \_\_\_\_ particle accelerators and other infrastructure needed for high-energy physics research. Numerous experiments have been constructed at CERN by international collaborations to make use of them. It is also \_\_\_\_ birthplace of the world wide web. The main site at Meyrin also has \_\_\_\_ large computer centre containing very powerful data-processing facilities primarily for experimental data analysis, and, because of \_\_\_\_ need to make them available to researchers elsewhere, has historically been \_\_\_\_ major wide area networking hub.

CERN was ratified on 29 September 1954 by 12 countries in the Western Europe. The acronym originally stood for *Conseil Européen la Recherche Nuclaire* in French (European Council for Nuclear Research), which was \_\_\_\_ provisional council for setting up the laboratory. \_\_\_\_ acronym was retained for \_\_\_\_ new laboratory after \_\_\_\_ provisional council was dissolved, even though \_\_\_\_ name changed

to the current *Organisation Européenne...* (European Organization for Nuclear Research). Today \_\_\_\_ organization has 20 European member states. \_\_\_\_ Czech Republic became \_\_\_\_ CERN member in July 1993.

The instruments used \_\_\_\_ CERN are particle accelerators and detectors. Accelerators boost beams of particles \_\_\_\_ high energies before they are made to collide \_\_\_\_ each other or \_\_\_\_ stationary targets. Detectors observe and record the results of these collisions. CERN operates a network of six accelerators and a decelerator.

Most of the activities at CERN are currently directed \_\_\_\_ operating the new Large Hadron Collider, and the experiments for it. The LHC represents a large-scale, worldwide scientific cooperation project. The LHC tunnel is located 100 metres underground, \_\_\_\_ the region between the Geneva International Airport and the nearby Jura mountains. It uses the 27 km circumference circular tunnel previously occupied by Large Electron-Positron Collider, which was closed \_\_\_\_ in November 2000. CERN's existing Proton-Synchrotron/Super Proton-Synchrotron accelerator complexes will be used to pre-accelerate protons which will then be injected \_\_\_\_ the LHC.

CERN has established a reputation at the forefront of the research, proven \_\_\_\_ its experiments, past and present. The laboratory is a vibrant meeting place \_\_\_\_ discussion and debate; around half of the world's particle physicists come here for their research. This is reflected \_\_\_\_ the experiments, which are usually run by international collaborations, bringing together teams of scientists from different institutes \_\_\_\_ a common goal.

<http://public.web.cern.ch> accessed in 2012

- v. **Match the types of research methods with their descriptions and limitations** (sources: McCarthy, M. and F. O'Dell; 2008 *Academic Vocabulary in Use*; CUP)