

INTRODUCTION

In cooperation with 18 partner institutions in the region we have been organizing laboratory sessions in the Szeged Regional Scientific Student Laboratory specially built for the University of Szeged since May 2013.

In addition to regular school projects, 6-18 year old students use the lab to participate in popular science and gifted education programmes. As a result of our efforts of learning materials development, the project leaders can choose from a wide range of topics. We supply all the equipment needed for the activities.

In the laboratory the students primarily carry out student experiments, but there are opportunities for demonstration sessions as well. At most 20 people may work simultaneously, usually in pairs, in each of the two rooms of the lab. The students work on a given problem independently and keep a record of their work.

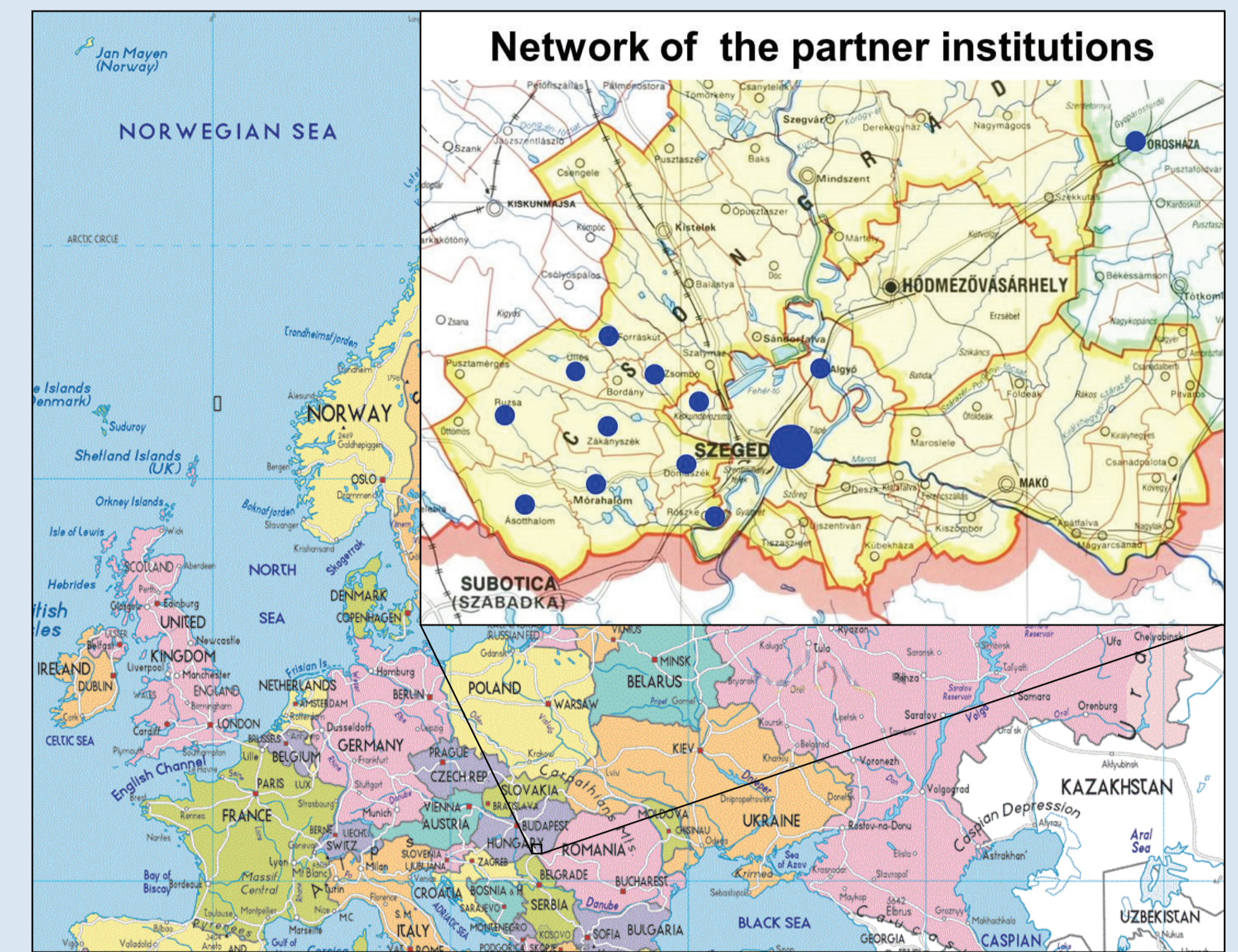
PURPOSES

- To harness children's natural interest in science and to foster talents.
- To help young people acknowledge their responsibility for their environment as soon as possible.
- To take an active part in propagating experimental evidence based science learning.
- To guard and transmit the professional treasures that science teachers have polished to perfection over their teaching careers.

Types of occupations

- Laboratory work as school lessons
- Classes for talented children
- Events for popularization of sciences

PARTNERS

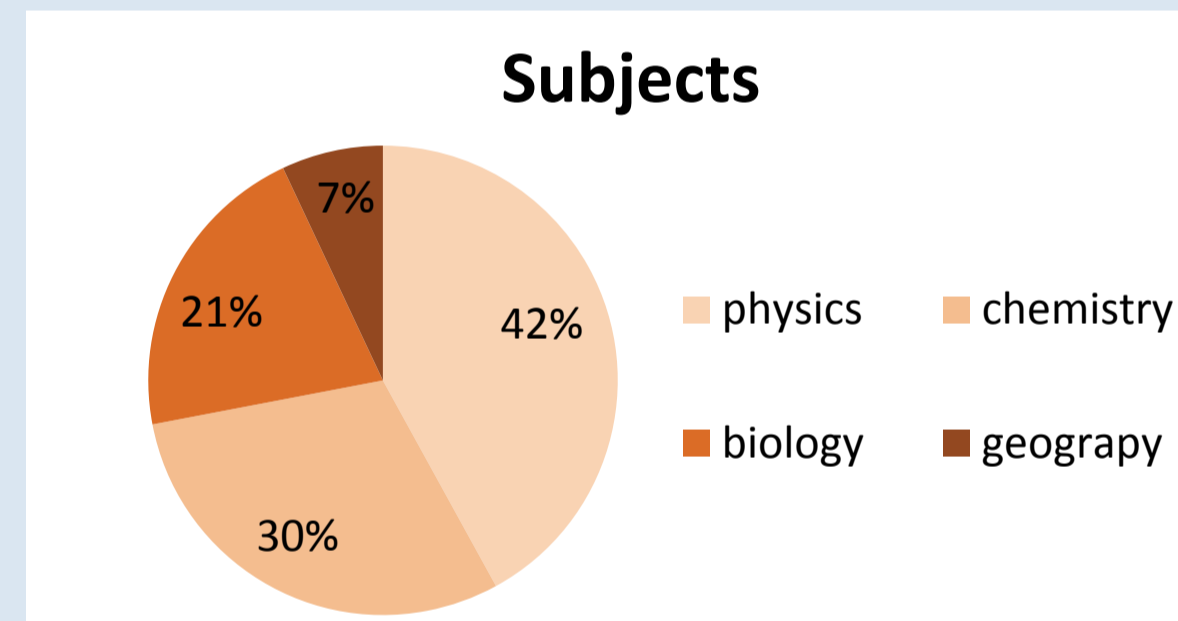


SESSIONS

During the sessions four science subjects appear both in a disciplinary form and in the form of complex exercises. The practical exercise sessions involve working on a given topic from the point of view of different school subjects (e.g. water, air, radiation, life).

In our experience, lab sessions are most likely to be about various topics related to physics or chemistry.

Partner institutions can download the session materials from the website of the laboratory (following registration).



LOFT OF SECRETS - SCIENCE FOR KIDS

Young children tend to show great curiosity for science. We approach children by letting them play. We invite them to do experiments that only need simple equipment (that are available in most homes) but are very interesting nevertheless. We hope that experiencing the joy of discovery will awaken deep feelings already at this tender age and the significance of never ending curiosity will become an ingrained part of their personality.

- Topic ideas:**
- The world of colors
 - The world of sounds
 - Let's make musical instruments
 - Experiments with candles
 - The secret of swimming
 - The power of rising air
 - The secrets of secret codes
 - The curiousness of the surface of water
 - The battle of pressure and speed



IBL AS AN OPPORTUNITY

There are more opportunities for the application of inquiry-based learning in gifted education sessions. On our first attempt, we set out on this path transforming 8th graders' physics study circles. We developed IBL task sheets for the topic of electric circuits, which we then tried out in spring 2014.

Syllabus for 8th graders' physics study circle:

- Getting to know elements of electric circuits
- Basic connections of electric circuits
- Special consumers connectors
- Getting to know measurement tools
- Getting to know sources of current
- Compound consumer connectors
- Studying variable resistance
- Voltage proportions in the electric circuit
- Electric black boxes
- Studying electromagnetism
- Studying the working of the relay
- Building complex electrical networks

The experiences of the first semester indicate that for small groups of talented children, this method was a very effective teaching aid. The students arrived at the labs with great enthusiasm week after week and greatly enjoyed the activities.

LOVE YOUR ENVIRONMENT

Activities for talented students between the ages of 11-13. This is not a school subject related project; instead, the students examine phenomena in their complexity, based on experiments.

- Topics:**
- Vital water
 - Let's pour clean water into the glass.
 - Chemistry in the kitchen
 - The physics of musical instruments
 - Acids and bases in nature
 - Volcanoes
 - The kingdom of fire
 - Custard, oil, honey - who is the fastest?
 - I'm going to be an astronaut.



OUTDOOR SCIENCE

As we would like to show that science is part of our everyday life, we also organize programmes outside the laboratory. During a science adventure tour, the students complete scientific tasks at stations set up at different points of the city.

- The tasks at each station:**
- Soil temperature
 - Animals
 - Acid rain
 - Water rocket
 - Plant recognition
 - Measuring the height of a bridge
 - Water level and temperature
 - Detection of potato starch
 - Physiological investigations
 - Measuring speed
 - Electromagnetism
 - Recognition of protein
 - Looking for plants
 - Detection of vitamin C



For further information please visit: www.szereted.hu

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