

Update Nov 2009

Comenius Multilateral School Partnership
Under the Lifelong Learning Programme
British Council

'Measuring the Earth Through European students' Research and collaboration' (METER)

KEHS has been successful in securing funding from the British Council for a partnership with five other European schools to perform physics / astronomical observations and historical research. Workshops/ conferences will take place at the partner schools attended by pupils and accompanying staff members.

Partner schools

- Lycee General et Technologique 'Charlie Chaplin' Lyon FRANCE
(11 to 18 state school 1700 pupils)
- Colegiul Technic 'Mihai Viteazul', Oradea ROMANIA
(14 to 18 technical college 2000 pupils)
- Open Schoolgemeenschap Bijlmer Amsterdam NETHERLANDS
(12 to 18 state school 1600 pupils)
- Lycee Francohellenique d Agia Paraskevi 'Eugene Delacroix' (Athens) GREECE
(state/ private school 1600 pupils)
- Scuola Secondaria di 1° grado (Scuola media) 'G.G. Belli' Roma ITALY
(11 to 14 state school 800 pupils)

Duration of Project

- Two Years (August 2009 to September 2011)

Objectives

- to promote European co-operation between pupils in the different schools, both in the scientific and humanities areas
- pupils at the participating schools undertake experimental work and historical research to enrich their knowledge of the role of measurements in learning about the Earth, Space and Time
- to develop linguistic and communication skills through a variety of means (website, video conferencing and workshops)

Pupils involved

A range of ages will be involved, e.g. younger pupils (11 to 14) will participate from the Rome school, whilst the Lyon school will provide older pupils (16 to 18). The schools from Amsterdam, Athens and Oradea have a full age range of pupils.

At KEHS a group of thirteen girls have started work on the project meeting in Lab 7 on Friday lunchtimes. Other girls may participate as the project continues.

Timetable of meetings

There would be an opportunity for around four or more girls (either the same girls or more likely different girls) from each partner school to attend each workshop/ conference. No costs are involved for the girls except for a small amount of pocket money.

Mar 17 – 19 2010 Workshop and conference in Rome (Italy) for pupils and teacher(s). Pupils will present their project results and visits sites of scientific interest.

May 4 –7 2010 Workshop and conference in Oradea (Romania) for pupils and teachers(s)

Oct/ Nov 2010 Workshop and conference in Lyon (France) for pupils and teachers(s)

Feb/ Mar 2011 Workshop and conference at KEHS (England) for pupils and teachers(s)

Apr/ May 2011 Workshop and conference in Rome (Italy) for pupils and teachers(s)

In addition to the above, there may be opportunities for whole class exchanges (although in this case girls will need to make a contribution to flight costs). In particular, the Rome school has indicated that they would like musical and linguistic links/ exchanges.

Activities carried out so far

Pupils at the different schools have performed the ‘Eratosthenes experiment’ (determination of Earth’s radius by shadow-length measurements and knowing the distance to the Earth’s equator or each other’s schools). Results have been exchanged between the different schools. A PowerPoint summarising the results can be found in the School network’s shared area (Pupils, Physics, Astronomy). A summary of this work can also be found on the Comenius notice board outside Lab 6 in the Physics corridor.

Activities underway

Girls are performing historical research on the Greenwich Meridian and producing a storybook that will contain the results of this research, but including creative writing, artwork, songs... Further experimental activities are also being carried out, including finding the distance to the Moon by simple measurements. Night sky observations are also planned soon with the intention of sharing our observations with the partner schools.

Activities planned for the project

Pupils at the different schools will perform measurements / observations and historical research in four areas or modules:

- Module 1 Measurement of the shape and dimensions of the Earth, investigating the meridians and Prime meridians (e.g. the Greenwich Meridian) and looking at different methods of measurement such as parallax and triangulation.

Some measurements will be made collaboratively by more than one school, e.g. some measurements will be made independently by the different schools, e.g. the determination of local co-ordinates – latitude and longitude and altitude - using ancient methods (shadow stick experiment, altitude of Polaris), but also by means of modern instruments such as the GPS.

Research will be undertaken on the development of our understanding of the shape and size of the Earth (beginning with the Greek philosophers some 2000 years ago) to the place of the Earth in the Universe (latest Hubble telescope observations of galaxies at the edge of the observable Universe).

A common focal point will be Meridians and the Prime Meridian. Each country of the partnership had long used its own prime meridian for land maps and coastal charts. These will be locally researched and the results will be exchanged between schools, hence adding value to the whole study.

- Module 2 Comparison of different measurement systems (ancient ones used in different countries such as the Imperial system and the modern Metric system) and measuring instruments through the ages.
- Module 3 Distances in the Universe. How to measure very small to very great distances.
- Module 4 Space and Time

Opportunities will exist for cross-curricular links to other curriculum areas, e.g. pupils will develop their linguistic and communication skills through reporting their findings on a dedicated website, email communications and in periodic workshops/conferences at the various participating schools. Although the main emphasis will be on astronomy and the physical aspects of measurements, contributions from other curriculum areas, both scientific and the humanities, will be encouraged and welcomed.

Funding

- 22 000 Euros (first instalment = 80% = 17 600 euros, final instalment = 4 400 euros once final report submitted). This covers the cost of a minimum of 24 mobilities. One trip abroad by one student or teacher is counted as one mobility. We need to ensure that at least 24 mobilities take place, otherwise the relevant proportion of the grant will need to be returned.
- the only evidence of expenditure required are original boarding passes or tickets and certificates of attendance from partner schools (i.e. proof of travel and stay abroad for each participant in transnational mobility)
- the grant may be used for any other project-related expenses (receipts not required by the British Council for these items). Notwithstanding this, we will of course ensure that all receipts are retained for internal auditing purposes.
- to satisfy the conditions of the grant, two reports need to be submitted (Progress report by 30/06/2010 and the final report by 30/09/2011)