

## TITLE

Students creating their own science museum

## KEY CONCEPTS

Negotiation, engagement, science, scientific exploration, technology in everyday settings, sustainability

## NARRATIVE OVERVIEW

Mrs Lee's class visits a science museum or virtual science museum to help students identify science concepts they find challenging. This initial work sets the scene for a collaborative student-led project. Students work in 'teams'; each team is asked to choose a challenging concept and then to construct a working model – either virtual or real – that demonstrates the science concept they find difficult.

Students work with Mrs Lee to develop assessment criteria and milestones for their project. She facilitates the project and supports students to use a variety of digital resources (such as GPS, data loggers or internet resources) to research and develop a working model of the concept. Support is also available from an online database of scientific experts who can act as mentors in a "people bank". The working models are displayed and shared in an interactive exhibition.

## TREND/S

### A growing MST (Mathematics, Science and Technology) skills gap

Although predictions of actual human resource requirements for the next 5-10 years are difficult, many employers in Europe believe that the potential demand for MST (Mathematics, Science and Technology) skills is likely to increase.

### Enhanced professional development

There is a trend of increased emphasis on teacher professional development, in which the use of technology plays an important part. For example, technology is used to create collaborative platforms and communities of practice to bring life to the "hard to teach" and "hard to understand" areas of the curriculum, like MST (Mathematics, Science and Technology), thus engaging students with such crucial subjects.

### The challenges of fostering MST (Mathematics, Science and Technology): tackling lack of interest

There is currently a great emphasis on MST skills, but teachers face challenges when supporting such skills in the classroom. There is a lack of interest from students (particularly girls) in MST subjects and jobs compared to other disciplines and professions.

## VISION (ASPIRATIONS & AIMS)

- to popularise science to lead to an increase in science graduates

## ENVIRONMENT

- science museums
- science centres
- learning rooms
- events

## PEOPLE & ROLES

- scientists as expert mentors
- teacher as project facilitator and technology expert
- students working in teams
- students as designers

## INTERACTIONS (INCL. PEDAGOGIES)

- problem-based learning
- student-led
- students working collaboratively

## ACTIVITIES

- Build an interactive exhibition

## RESOURCES (INCL. TECHNOLOGIES)

- Virtual science museum
- "people bank": a network of teachers, experts and classrooms, always on and easily customisable and expandable
- Technology in everyday settings eg data loggers, sensors, GPS, Lego