

Institute of Education, University of London

Implementing and Managing Practice in the use of Ideas and Evidence in Science (IMPIES)

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Introduction

The materials were produced by teacher mentors and trainees from partnership schools working with the Institute of Education's Secondary Science PGCE programme. The IMPIES project was first introduced to teachers at a mentor training day and ten teachers volunteered to work on the project. Of these, seven were able to complete the project. The schools, mentors and trainees were as follows:

Seven Kings: Clare Sadler and Laurie Glees.
King Alfred School: John Peisley and Carmen Herzenberg.
Carshalton Boys Sports College: Rachel Hassall and Martin Clarke.
Twyford Church of England School: Ruth Wheeldon, Sam Peyton and Bob Rollins.
Drayton Manor High School: Karlene Dampha and Greg Mann.
Riddlesdown High School: Carl Roberts and Lisa Richards.
Camden School for Girls: Cormac McCormack and Anisa Mamoojee.

The mentors attended two workshops where they were introduced to resources and strategies for teaching *Ideas and Evidence in Science*. These sessions drew on the argumentation materials from the Nuffield IDEAS pack produced by Osborne, Erduran and Simon (2004). Between the two workshops the mentors taught a lesson involving argumentation, either using the IDEAS resources or materials that they developed themselves. The mentors shared their experiences at the second workshop and subsequently worked with their trainees to produce lessons involving *Ideas and Evidence*. The trainees presented the outcomes of their work at a third workshop. An account of their work can be found in the cases produced for the Key Stage 3 National Strategy website. Some trainees produced materials in a format that could be incorporated into this publication, and these are presented here. Accounts of useful ideas from the other teachers are documented in the case studies and will be fully written up in School Science Review.

The resources are in two different formats. It is envisaged that teachers will be able to use the pupil materials together with the teachers' notes to guide them in planning their own *Ideas and Evidence in Science* lessons.

Overview of activities

Activity 1: Sedna: Planet or not?

Developed by Greg Mann, Drayton Manor High School

This activity was inspired by one of the resources from the IDEAS pack (Osborne, Erduran, Simon, 2004), an activity called *Euglena*. The notes for teachers take the same format as those in the IDEAS pack, including aims, learning goals, teaching points and a teaching sequence. The pupil resources include evidence cards and a template on which to place the cards, and a PowerPoint presentation.

Activity 2: How does an elastic band stretch?

Developed by Bob Rollins, Twyford Church of England School

This was inspired by the IDEAS pack and is presented in the IDEAS format. The notes for teachers include aims, learning outcomes, teaching points and a teaching sequence. The pupil resources include 3 graphs and a series of evidence statements.

Activity 3: Ideas about particles

Developed by Sam Peyton, Twyford Church of England School

The activity was carried out with a year 7 group to explore their initial ideas at the beginning of a topic on particles. The evaluation of evidence was modelled using a simple starter activity. Pupils were given two activities involving small group discussion and were provided with a writing frame during the plenary to help them record their ideas.

Reference

Osborne, J., Erduran, S., Simon, S., (2004) *Ideas, Evidence & Argument in Science Resources Pack* London: King's College, London.