

Unit 2: Year group(s) - Years 5 and 6

Does Science tell the truth?



Introduction to the unit:

In this unit we examine and reflect on some key issues in the nature of science. Historically science was known as 'natural philosophy' and was intimately connected with philosophy and theology. The 19th century saw the beginning of a break away of science from other areas of learning and enquiry. Science has now become a powerful ideology, with commonly held ideas that science rules supreme above all other methods of enquiry and, for some, that the only real sort of knowledge is scientific knowledge.

Here some of those assumptions are challenged or reflected upon. Pupils are introduced to notions of meaning and truth; they explore the fallibility of scientists and scientific theories; they consider differences between evidence and proof; they reflect on where our beliefs come from and how reliable they are, and examine ethical issues.

Links to the RE NSNF

1.1 Belief and teachings (what people believe)

1.2 Practices and lifestyle (what people do)

1.3 Expression and language (how people express themselves)

2.1 Identity and experience (making sense of who we are)

2.2 Meaning and purpose (making sense of life)

2.3 Values and commitments (making sense of right and wrong)

Unit Aim:

The nature of scientific ideas and whether they are the only source of real knowledge and the only way to the truth. The applications of science; the ways science and technology are used and their effects.

Unit Objectives

- (1) To examine why we do science and what we can expect from it.
- (2) To reflect on whether science is the only way to search for truth.
- (3) To explore the fallibility of scientists and of scientific theories.
- (4) To reflect on where our beliefs come from and how reliable they are.
- (5) To find differences and similarities between scientific and religious-type questions.
- (6) To examine ethical issues around scientific discoveries and their consequences.

Key Questions

- (1) Does science tell the truth?
- (2) Is science always right?
- (3) You believe it but can you prove it?
- (4) Should science have a conscience?

Prior Knowledge

None

<p>Links to the Science NC</p>	<p>Key Quotes</p> <p>The glory of science is not that it never makes mistakes, which is plainly false anyway. It is much more a matter of dealing with supremely interesting topics – matters that can seriously affect the way we see human life. <i>Science as Salvation: A modern myth and its meaning (Routledge 1992) by Mary Midgley p6/7</i></p> <p>The tendency of science to imperiousness in our intellectual and cultural life has been dubbed 'scientism' – the attitude that the <i>only</i> kind of reliable knowledge is that provided by science, coupled with a conviction that all our personal and social problems are 'soluble' by enough science. <i>Theology for a Scientific Age (Fortress Press 1993) Arthur Peacocke</i></p>	<p>Teacher Resources</p> <p>'The Question is' by Russell Stannard, a video sponsored by the Templeton Foundation. Especially program 4, 'Science rules supreme?' Produced by the BBC Open University team. 'Scientism: Science, Ethics and Religion' (Ashgate) by Mikael Stenmark. 'Religion and Science' (Arnold) by M. Thompson.</p> <p>Classroom Resources</p> <p><i>Lesson 2: access to Internet for Hubble website.</i> <i>Lesson 4: lemon juice or vinegar for invisible writing (extension activity) and access to the internet.</i></p> <p>ICT opportunities</p> <p>Lesson 2: website activities using: http://hubblesite.org/newscenter/archive/2001/24/ and: http://mars.jpl.nasa.gov/science</p> <p>Lesson 4: how to make invisible writing at: www.canteach.ca/elementary/physical/.html</p> <p>research the life of Alfred Nobel at: http://nobelprize.org/nobel/alfred-nobel/index.html</p> <p>Research Dolly the sheep at: http://newsbbc.co.uk/2/hi/science/nature/2764039.stm</p>
<p>Links to other parts of the NC</p> <p>Speaking and Listening Literacy Numeracy - Probability Foundation subjects Thinking Skills Critical thinking Creativity SMSC</p>	<p>Learning Styles / Intelligences</p> <p>Visual / Auditory / Kinaesthetic Linguistic intelligence ("word smart"): Logical-mathematical intelligence ("number/reasoning smart") <i>Spatial intelligence ("picture smart")</i> <i>Bodily-Kinaesthetic intelligence ("body smart")</i> <i>Musical intelligence ("music smart")</i> <i>Interpersonal intelligence ("people smart")</i> Intrapersonal intelligence ("self smart") Naturalist intelligence ("nature smart")</p>	