Unit 9: Year Groups - Years 4,5 and 6	Are you an alien?	Science & Religion in Schools

Introduction to the unit: This unit explores environmental ethics as it relates to science and religion issues. Pupils are encouraged to think about human values concerning other life-forms and non-living entities.
In lessons 1 and 2 pupils extend their thinking beyond our own planet. Our future will almost certainly involve continued space exploration, and this raises many ethical questions not dissimilar to those on Earth. What are or could be our relationships to other life-forms and to natural, non-living entities such as mountains? Is terraforming and colonising other planets a good idea – for whom?
Pupils consider the respective claims of species self-interest, consideration for others, religious teaching and individual conscience within the context of scientific and technological advances in space knowledge and exploration.
In lesson 3 pupils consider and reflect on how we gain scientific knowledge, with reference to the kinds of experiments they are asked to do with plants in their science curriculum. They are encouraged to develop and express their own values and analyse their own feelings.
In lesson 4 pupils explore ideas of inter-connectedness through Buddhism and living-systems theory.
They learn the meaning of the term 'sentient' and take part in a guided imagery activity.

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:

To explore environmental ethics in relation to science and religion issues.

Unit Objectives / Learning outcomes

(1) To consider some possible future consequences of human space exploration to other life-forms and their environments.
(2) To evaluate our reasons for doing experiments; whether experiments on living plants (and animals) are always justified and whether alternatives can be found
(3) To explore ideas of inter-connectedness through Buddhism and living-systems theory.

Key Questions

(1) Brave new worlds?
(2) Space explorers or terraformers?
(3) Helping plants grow well?
(4) Are we all connected?

Prior Knowledge

Completion of Science QCA Unit 3B Helping Plants Grow Well for lesson 3.

Background understanding of Buddhism would be useful for lesson 4 but is not essential.

Links to the Science NC	Key Quotes	Teacher Resources
S**c1.1 Ideas and evidence in science** S**c1.2 Investigative skills** **Sc2.1 Life processes** Sc2.2 Humans and other animals **Sc2.3 Green Plants** Sc2.4 Variation and classification **Sc2.5 Living thing in their environment** Sc3.1 Grouping and classifying materials Sc3.2 Changing materials Sc3.3 Separating mixtures of materials Sc4.1 Electricity Sc4.2 Forces and motion Sc4.3 Light and sound **Sc4.4 The Earth and beyond**	The organic nature of some of the chemicals found in Titan's atmosphere might indicate that this fascinating moon could harbour some form of life. *Nasa: Solar System Exploration; Moons, Titan at:* *http://solarsystem.nasa.gov/planets/profile.cfm?Object=Titan* Protecting something as wide as this planet is still an abstraction for many. Yet I see the day in our own lifetime that reverence for the natural systems – the oceans, the rainforests, the soil, the grasslands, and all living things – will be so strong that no narrow ideology based upon economics or politics will overcome it. *Jerry Brown, former Governor of California, 1979.* We must learn to 'let beings be', to allow other species to follow their separate evolutionary destinies without dominating them. We must come to understand that life-forms do not constitute a pyramid with our species at the apex, but rather a circle where everything is connected to everything else. *John Seed, 'To Hear Within Ourselves the Sound of the Earth Crying' in 'Thinking like a Mountain' (New Society Publishers)* The Buddhist position on animals is very simple. It does not take long to set it out. The Buddhist position is that animals are sentient beings and should be treated with care and respect.' *Dharmavidya David Brazier in the paper, 'Buddhism and animals' based on a talk given at Quaker Concern for Animals, May 2005.* The burden of proof should not be on those trying to prove the sentience of animals, but rather on those seeking to disprove it. *Dr Jane Goodall DBE speaking at the CIWF Trust's International Animal Sentience conference, March 2005.*	*The Amida trust at:* *www.amidatrust.com/ for the paper 'Buddhism and animals'.* *www.engagedbuddhists.org.uk* *www.joannamacy.net* *The Buddhist Education Foundation at:* *www.buddhisteducation.co.uk which publishes good KS1 and 2 materials.* *Eastern Philosophy (Teach Yourself) by Mel Thompson.* *Information on forest schools at:* *www.forestry.gov.uk/forestry/infd-5czhlp.* **Classroom Resources** 'Find the Constellations' (Sagebrush Educational Resources) by Hans Augusto Rey. BBC Space at: www.bbc.co.uk/science/space for astronomy resources. Buddhist music CDs: Om Mani Padme Hum And Temple Music from Tibet both obtainable from The Festival Shop at; www.festivalshop.co.uk **ICT opportunities** Lesson 1: computer-based activity based on the British National Space Centre site at www.brisc.gov.uk/learningzone.aspx?nid=4832 Lesson 2: Use a computer program such as Starmap to explore constellations. Lesson 4: Explore Buddhism and the life of Buddha on CD ROMs such as *Exploring World religions, Aspects of faith, World Faiths in Animation.*

Links to other parts of the NC **Speaking and Listening** ***Literacy – story writing.*** **Numeracy – reasoning about numbers and shapes; ratio and proportion (years 5/6); numbers and the number system, line and reflective symmetry, reflection and translation.** **Foundation subjects – art and design; Islamic tile patterns, abstract art.** **Thinking Skills** **Creativity** SMSC	**Learning Styles / Intelligences** **Visual / Auditory /Kinaesthetic** **Linguistic intelligence ("word smart"):** **Logical-mathematical intelligence ("number/reasoning smart")** Spatial intelligence ("picture smart") Bodily-Kinaesthetic intelligence ("body smart") Musical intelligence ("music smart") **Interpersonal intelligence ("people smart")** **Intrapersonal intelligence ("self smart")** **Naturalist intelligence ("nature smart")**	