

SMSC in Science

Spiritual education at The North Liverpool Academy in Science involves the search for meaning and purpose in natural and physical phenomena. It is the wonder about what is special about life, an awe at the scale of living things from the smallest micro-organism to the largest tree and the interdependence of all living things and materials of the Earth. It concerns the emotional drive to know more and to wonder about the world and aesthetically appreciate its wonders including for example the enormity of space and the beauty of natural objects or phenomenon, plants, animals, crystals, rainbows, the Earth from space etc.

Moral education at The North Liverpool Academy in Science encourages pupils to become increasingly curious, to develop open mindedness to the suggestions of others and to make judgements on evidence not prejudice. Students realise that moral dilemmas are often involved in scientific developments. When considering the environment the use of further natural resources and its effect on future generations is an important moral consideration.

Social education at The North Liverpool Academy involves group practical work which provides opportunities for pupils to develop team working skills and to take responsibility. Pupils must take responsibility for their own and other people's safety when undertaking practical work. Science has a major effect on the quality of our lives. Pupils are encouraged to consider the benefits and drawbacks of scientific and technological developments and the social responsibility involved.

Cultural education at The North Liverpool Academy in Science involves thinking of scientific discoveries as much of a part of our culture as great music and films. Credit is given to scientific discoveries of other cultures. Science is also seen as a contemporary activity and developments are made all over the modern world. It is therefore an activity undertaken by a wide range of men and women in many different cultures both now and in the past. The interdependence of the world in environmental issues is central to science.

Examples of Spiritual, Moral, Social and Cultural Education in **Science** at The North Liverpool Academy include:

- Students understanding ideas behind the history of human life, including African Eve theory and evidence of mitochondrial DNA.
- Students debate ethics of abortion, embryonic stem cell therapy, human genome project, cloning and organ transplants.

- Students study genetic modification considering advantages and disadvantages of using bacterial cells to make human insulin and genetic modification of golden rice.
- Students gaining an insight into the chemical nature of natural changes in the lithosphere, hydrosphere, atmosphere and biosphere
- Students explore the applications of science in a variety of different contexts for instance the ethics of harvesting from rainforests, impact of mining (both positive and negative), uses of plastics.
- Learning about the future implications of the use of finite resources and landscape changes
- Learning about theories concerning the creation of the universe and evolution of life with consideration of religious beliefs with a particular focus on the work of Charles Darwin.
- Looking into the future options for the production of electricity, alternative fuels, and methods to reduce pollution with discussion of how these can improve people's lives and the environment in general
- Students investigating the historical impact of scientists from around the world in numerous famous discoveries
- Students considering how scientific perceptions can alter across the planet; from the phases of the moon, the safety of food additives and the local importance of recycling
- Students look at applied examples of health screening for diseases, biological tests for babies and the moral concerns that these raise.
- Students are encouraged to work in groups regularly to complete practical work and large emphasis is placed on our human responsibility to protect one another during increased risk situations.

