Let's Talk

Environmental Issues

Teacher Guide

These resources aim to provide teachers with materials which will help them to raise environmental science issues with their pupils. *Environmental Issues* is written for pupils at second and third level of CfE or Key Stage 2 and 3.

This activity could be used with pupils when they are studying environmental science and aims to encourage the pupils to discuss some of the issues and conflicts associated with global environmental issues.

There are 3 parts to the activity:
1) What is happening to the planet?
2) How does it make you feel?
3) What is the way forward?

What is happening to the planet?

The lesson begins with a general discussion about the main concerns which we have about the planet. Help cards about the following issues are available:

- **Pollution**
- **Habitat Destruction**
- **Global Warming**
- **Malnutrition and Disease**

Then the teacher puts the pupils into groups of about 6 pupils and each group is given a card showing an environmental issue - they are asked not to show the card to the other groups. The teacher then asks each group to prepare to 'act out' the issue on their card; they can do this in any way they like but they are not allowed to speak. The teacher then asks the groups to perform their issue and the other pupils are asked to guess what the issue is. At this point the pupils might be asked to research the topic they have chosen and be able to explain it to the class:

Useful website links:

http://eschooltoday.com/pollution/air-pollution/air-pollution-facts.html
http://news.bbc.co.uk/cbbcnews/hi/find _ out/guides/world/global _ warming/newsid _ 1575000/1575441.stm
http://wwf.panda.org/about _ our _ earth/species/problems/habitat _ loss _ degradation/
http://www.wfp.org/hunger/malnutrition
http://dnr.wi.gov/org/caer/ce/eek/earth/index.htm

How does it make you feel?

In this activity the pupils are going to be asked to describe how they feel about one of these issues. It could be done in groups of about 8 pupils or with a whole class.

- Place the picture cards on a table.
- The pupils are asked to say how they feel about an issue by using the one of the picture cards, e.g. they could be asked how they feel about global warming and they might pick a picture of a ghost and say that they feel frightened of what might happen if our climate changes. It might be helpful if the teacher began by picking a card and giving his or her feelings.
- To get the pupils started with this activity, before they consider environmental issues, they could be asked to pick a card to describe how they feel about a recent school event or visit, e.g. they might be asked to pick a card to say how they felt about a visit to a local centre and they might pick a picture which made them feel happy if they had enjoyed the visit.

What is the way forward?

This part of the activity is based around Edward de Bono's thinking hats - http://www.debonothinkingsystems.com/tools/6hats.htm

There are hat templates at the end of the Teacher Guide. The templates can be copied onto coloured card.

The pupils should be in a group of 6 for this activity - if that is not possible then 2 or more pupils will have to be assigned the same colour. There are 6 colours - black, white, red, yellow, green and blue. Each group writes down one of the issues:

Then the pupils consider aspects of the issue such as:
- How bad is this problem?
- How can we improve the situation?
- Why does it matter that things get better?

The teacher gives each pupil a coloured hat to wear (or assigns each pupil to a colour). The pupil in the black hat (or assigned to the black colour) is in charge of all the ideas about that point and he or she has to record the views of the group in the black box on the record sheet. Views can be duplicated in more than one box if the pupils think it appropriate.

If, for example, a group was considering climate change they might write things such as:

BLACK - write down all the bad things about this problem.
- Some areas of the planet become very dry and people cannot live there.
- The climate keeps changing all the time.

GREEN - write down all your ideas of how things could be improved.
- People could stop using so much fuel.
- People could walk instead of going in a car.

WHITE - write down all the things you have to find out more about.
- Why do we have droughts?
- How do carbon dioxide levels affect climate?

RED - write down how you feel about the way forward.
- Sad, frightened, angry.
- That we need to start changing things now.

BLUE - write down any things which you think have been done to help the problem so far.
- Alternative energy sources e.g. wind and wave.
- Eco-cars.

YELLOW - write down the good points such as why is this worth doing?
- We only have one planet and we need it to be healthy.
- People like to work together for a good cause.

Curriculum Links

SCOTLAND - Curriculum for Excellence (CfE)
http://www.educationscotland.gov.uk/learningteachingandassessment/curriculumareas/index.asp

This activity supports the following CfE outcomes:

Science
- I can explain some of the processes which contribute to climate change and discuss the possible impact of atmospheric change on the survival of living things [SCN 3-05b].
- I understand how animal and plant species depend on each other and how living things are adapted for survival. I can predict the impact of population growth and natural hazards on biodiversity [SCN 4-01a].

Social Sciences
- I can discuss the environmental impact of human activity and suggest ways in which we can live in a more environmentally-responsible way [SOC 2-08a].
- I can identify the possible consequences of an environmental issue and make informed suggestions about ways to manage the impact [SOC 3-08a].

Additionally the activity develops the skills required to fulfil the requirement from the **Science Principles and Practice**:
- making informed personal decisions and choices;
- expressing opinions and showing respect for others' views;
- developing informed social, moral and ethical views of scientific, economic and environmental issues;
- discussing and debating scientific ideas and issues.

The activity also supports the **Life on Earth** unit of National 4 Biology: http://www.sqa.org.uk/sqa/45723.html

Key areas - Impact of population growth and natural hazards on biodiversity.

Exemplification of key areas - Investigate/research ecological footprints that measure human demands on earth's resources. Investigate human influenced environmental disruptions on biodiversity eg habitat destruction, deforestation, over-fishing, intensive agriculture, genetic pollution, over population, climate change, acid rain, oil and chemical spills, sewage and litter.

ENGLAND AND WALES
http://www.education.gov.uk/schools/teachingandlearning/curriculum/primary
http://www.education.gov.uk/schools/teachingandlearning/curriculum/secondary

This activity support the following areas of the Science and Citizenship curriculum:

Science - Key Stage 2: Sc2 Life processes and living things
Pupils should be taught:
- *Living things in their environment*
  5. a. about ways in which living things and the environment need protection.

Citizenship - Key Stage 2
Pupils should be taught:
- 1. a. to talk and write about their opinions, and explain their views, on issues that affect themselves and society.

Science - Key Stage 3

- *Science: Key concepts*
  Pupils need to understand these concepts in order to deepen and broaden their knowledge, skills and understanding.
- *1.2 Applications and implications of science*
  b. examining the ethical and moral implications of using and applying science.

- *Science: Range and content*
  The study of science should include:
- *3.4 The environment, Earth and universe*
  c. human activity and natural processes can lead to changes in the environment.

- *Science: Attainment target level descriptions - Organisms, their behaviour and the environment - Exceptional performance*
  Pupils demonstrate both breadth and depth of knowledge and understanding of organisms, their behaviour and the environment. They apply this effectively in their descriptions and explanations, identifying links and patterns within and between topics, for example example in the study of global climate change. They describe and explain the importance of a wide range of applications and implications of science in familiar and unfamiliar contexts, such as addressing problems arising from global climate change.

NORTHERN IRELAND

The World Around Us - Key Stage 2
http://www.nicurriculum.org.uk/key _ stages _ 1 _ and _ 2/areas _ of _ learning/the _ world _ around _ us/

This activity support the following outcomes from the World Around Us area of learning :

Interdependence
Pupils should be enabled to explore:
- How they and others interact in the world;
- How living things rely on each other within the natural world.

Place
Pupils should be enabled to explore:
- How place influences the nature of life;
- Positive and negative effects of natural and human events upon place over time.

Change over time
Pupils should be enabled to explore:
- How change is a feature of the human and natural world and may have consequences for our lives and the world around us;
- The effects of positive and negative changes globally and how we contribute to some of these changes.

Science and Technology - Key Stage 3
http://www.nicurriculum.org.uk/key _ stage _ 3/areas _ of _ learning/science _ and _ technology/

- (Objective 3)
  Developing pupils as Contributors to the Economy and the Environment.

- Investigate the effects of pollution, for example, water, air, land, sound etc and specific measures to improve and protect the environment, for example, renewable energy, efficient use of resources and waste minimisation etc.

How to make a visor

1. Cut out the shape. This is your visor.
2. Use a hole punch to make a hole on each end of the visor, at least 1/4" from each end.
3. Cut 40cm lengths of elastic.
4. Thread through holes and tie.
5. You can easily adjust the elastic to custom fit your head.