



HELP CARD

PoLlution

Pollution is a word that covers lots of ways the environment can be poisoned. Two of the most obvious ways that we can see are air and water pollution.

Humans can do things that produce substances that are harmful to humans, plants and animals. Gases from vehicles and factories that burn fossil fuels, chemicals from farming and human waste all combine to make our environment a more dangerous place. The result of this can vary from global warming to disease to the destruction of plant and animals habitats.

Some governments have laws that help to keep the air, rivers and seas cleaner by limiting the use of dangerous pollutants, but because this does not happen worldwide, there is a big problem.



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Habitat Destruction

A habitat is the environment in which a species lives. Habitat destruction is the single most important danger to wildlife and there are few parts of the world that have not been altered, damaged or destroyed.

Humans build cities and roads, fell trees, and strip land bare for mining and change the natural pattern of growth when they farm. Many plant, bird and animal species are in danger of extinction as a result.

Organisations are trying to conserve what is left of special areas by setting them aside to protect their plants and wildlife. This idea of planning for the future without spoiling our natural environment is called sustainable development.





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Global Warming

Over the last 100 years the earth has warmed up. In the next 50 years scientists say that there will be a bigger rise in temperature. This big increase is thought to be because the things that people do are helping to make the earth warmer. One of these has resulted in something called The Greenhouse Effect.

A thick layer of gases called the atmosphere protects the earth. The earth's atmosphere acts like a giant greenhouse. It allows the sun's heat to pass through to warm up the earth enough for life to exist. Gases in the atmosphere then trap this heat, because otherwise we would freeze. This is a very delicately balanced system. We now use so much extra fuel to heat our homes and to power our electrical equipment, our transport and our factories, that we are producing many more gases than in past centuries. These gases, especially carbon dioxide, are thickening the atmosphere and trapping more heat than is required. **This is called Global Warming.**

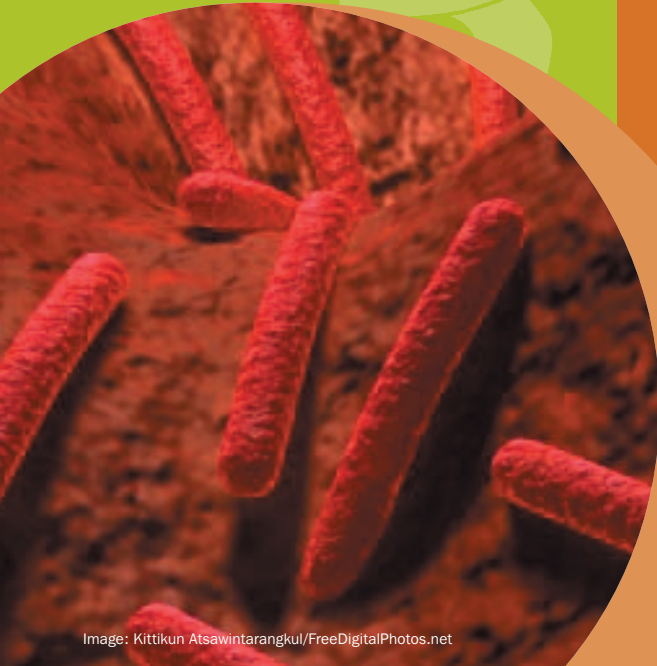
Global Warming is a serious problem because it could change the world's weather. Ice could melt, sea level could rise, flooding could affect millions of people and some areas could become either wetter or drier than at present. Humans, plants and wildlife would all feel the change.

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Malnutrition and Disease

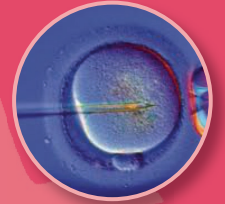
- If people do not have food they suffer from famine and die. A serious crisis like this can happen if there is a natural disaster such as drought, flooding or volcanic activity. Usually many countries give aid at times like this.
- A much more common problem is when people suffer from **malnutrition**. This is when they only have a small amount to eat and the food they have lacks the correct balance of proteins, vitamins and minerals. Without these ingredients, people become weak and unable to fight off diseases.
- **Diseases** can be spread by viruses or bacteria and are very common where the water is not clean, where toilets are not provided and where the weather is hot enough to help spread the disease quickly. Many people, especially children and babies, die of simple illnesses like sickness and diarrhoea. There are not enough doctors, nurses, clinics or hospitals to make sure everybody receives help.
- As the population of the world keeps rising it is going to be a challenge to make sure that everybody has enough food and the necessary healthcare to have a good standard of living.



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Designer Babies



Woman's eggs can be fertilised with men's sperm outside the woman's body (IVF).

This means that if several eggs fertilise it might be possible to select which of the fertilised eggs or **embryos** to put back into the woman's womb. So a couple can choose one embryo over another one. This might be important if the couple were carriers of a genetic disease like cystic fibrosis they would then be able to select an embryo which would not have this disease.

Recently there has been concern because some couples already have a child which has a serious previously untreatable disease. They then want to have another child who will be selected to have a particular tissue type and this second child can help to treat the first child.

Children who are selected in this way are sometimes called **designer babies** because they have been selected for a particular characteristic.

<http://news.bbc.co.uk/1/hi/health/590919.stm>
<http://www.tecsoc.org/biotech/focusbabies.htm>

Let's Talk

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Test-tubes Babies

Most couples who want to have a baby have sexual intercourse and the man's sperm can fertilise the woman's egg inside the woman's body. It may take some time for the woman to become pregnant because many things can go wrong with this amazing process.

For many different reasons this kind of reproduction is not successful for some couples. Sometimes the woman's egg carrying tubes are blocked or the man's sperm cannot swim through the woman's body. It is now possible for doctors to remove eggs from the woman's body and sperm from the man and for them to fertilise outside the body in a special dish. Once this has happened the fertilised eggs or **embryos** can be put into a woman's womb so that it can develop into a baby.

Children born this way have been called **test-tube babies**.

This method of fertilising an egg is known as **IVF** (in-vitro fertilisation)

