

PRE – Global issues

Genetic Engineering

All living organisms have DNA this contains information about the living thing and determines things such as colour, shape and size.

Scientists are able to alter DNA by adding or removing information. This alters the traits of the living thing and allows scientist to get the desired end result.

The organism will pass these new features onto its offspring.

There is great debate around the ethics and safety of genetic engineering,

Pros and cons genetic engineering

- + We can alter human beings to make them resistant to disease
- + We can make animals healthier and more productive for food consumption
- + We can change the DNA in crops to make them resistant to cold/ heat and need less water
- + We can create new medicines to beat cancer and cure diseases
- +It is using the talents that God has given to Humans

- Changing human DNA could result in a race of superhumans – conception would no longer be natural
- Animals suffer due to genetic changes such as chickens so heavy they cannot stand and without feathers that causes injury
- People have raised concerns about crops being dangerous for the environment and humans
- Genetic engineering could be abused to create dangerous weapons that could kill millions
- Goes against the sanctity of life- only God can give or take life

| Technology | What is it? | Benefits | Problems |
|----------------------|---|--|--|
| Saviour Siblings | A child that is genetically modified at creation to save a living sibling. | Can save the life of a sibling. The saviour sibling has their own life | A baby is being used as a means to an end. The life of that baby is not valued in itself. |
| Reproductive Cloning | The implantation of a cloned embryo | It can be used to revive/ reproduce endangered or extinct species. | Should humans play God? The process of extinction is part of natural selection, changing this could have impacts. |
| Stem Cell Research | An embryo is created using stem cells from another. This is then used to create organs etc. to help cure diseases | Can be used to cure diseases and illness in people already living e.g. some cancers and genetic illnesses. | Embryos are destroyed after use. This raises the issue of when does life begin. Some would argue the creation of life to end is ethically problematic. |

Islam

- Generally for genetic engineering
- Believe that Allah has given them these gifts and they should be used.
- Many Muslims believe that the embryo at the early stages isn't a viable life.
- Muslims generally believe that prevention is better than a cure.

Christianity

- Christians are generally against genetic engineering.
- Believe That we are all created in the image of God and entitled to life.
- Believe that it encourages people who are not 'perfect' to be destroyed before they are born.
- Christians believe that every person has the right to life.
- However, some Christians believe that God gave us the gifts of science therefore they are his will.

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|-------------------------------|--|--|---|
| AID | artificial insemination from donor; a form of fertility treatment | Therapeutic Cloning | an embryo is created using stem cells from another. This is then used to create organs etc. to help cure diseases |
| AIH | artificial insemination from husband/partner; a form of fertility treatment | Euthanasia | gentle and easy death of someone who is very ill. |
| brain death | complete loss of brain function, so that a person is legally dead | Assisted Suicide | deliberately providing help to someone who is ending their own life. |
| conceive | become pregnant | Compassion- | sympathetic understanding of someone else’s suffering. |
| donor | the person from whom an organ is taken for use in a medical procedure to help another person | Dharma | teachings of the Buddha. |
| in vitro fertilisation (IVF): | often referred to as ‘test tube babies’; a form of fertility treatment | <div> <div> <h3>When does a person become a person?</h3> <p>It is clear that a newborn baby is a person. But when did it become a person? Here are the stages of development before a baby is born.</p> </div> <div> <p>Conception – an egg is fertilised by a sperm to become a zygote</p> <p>Segmentation – the zygote begins to divide into separate cells to become a blastocyst (4 days)</p> <p>Implantation – the blastocyst becomes attached to the wall of the uterus to become an embryo (6 days)</p> <p>The heart begins to pump blood (5 weeks)</p> <p>The brain starts to develop (6 weeks)</p> <p>The embryo becomes a foetus (8 weeks)</p> <p>Essential organs begin to form (9 weeks)</p> <p>The foetus becomes male or female (12 weeks)</p> <p>The foetus starts to move (16 weeks)</p> <p>The foetus can feel pain (20–26 weeks)</p> <p>The foetus could survive outside its mother's body (24 weeks)</p> <p>The baby is born (38 weeks)</p> </div> <div> <p>When does a new person come about?</p> </div> </div> <div> <p>Organ transplantation is a miracle. Someone in need gets life from someone else's death. God must have given us this knowledge. Donating shows love and helps people – a good thing.</p> <p>I do worry about who gets the organ, and how that is decided – is it always fair? Do the really deserving people get them?</p> <p>It is a worry. We should be buried whole, not cut up for our parts. Who knows if the person on life support might have recovered? But a doctor decides: they won't so switches off their machines, kills them and then takes their parts.</p> <p>Being a living donor is a great act of kindness. As long as the donor doesn't get sick after donating, that is – which happens, even if it is rare. Compassion and love are really important whether you are religious or not.</p> <p>If you donate an organ, you should be paid. There is recovery time and possibly health issues. More people would donate. Families of the dead donors could get some money as well.</p> <p>I think these methods are part of what God lets us do. God has given us the knowledge. The fact they are successful shows God is happy with them.</p> <p>I think that if God has not given a couple children, they should accept that. There are a great many children who are orphans and need loving families. Couples without children could adopt, which is a greater good than paying for medical treatment.</p> <p>I think medicine has gone too far in this field. We should just accept what is our natural state – some people are not meant to have children. Don't forget, these treatments mean that anyone who has the money can get a child – they don't have to be married, or even have a partner.</p> <p>I think that these methods are just part of the advance of medicine. Kindness and compassion makes us want to help others. Some people are desperate to conceive, so we should help them as it isn't their fault they cannot do that naturally.</p> </div> | |
| medical ethics | ideas of what is right/wrong within medicine; principles governing medical advancement | | |
| organ transplant | surgically removing an organ, e.g. a kidney, from one person (donor) to put into another (recipient) to save or improve their life | | |
| recipient | the person to whom an organ is given in a medical procedure to save/improve life | | |
| Conception | the point where the sperm meets the egg. | | |
| Embryo | early stages of pregnancy | | |
| Fertilisation | the joining of the sperm and egg to form an embryo. | | |
| Sacred | to be holy and special | | |
| Foetus | an unborn human older than 8 weeks. | | |
| Genetic Engineering | changing/adapting the genetic makeup of an embryo. | | |
| Saviour Sibling | child that is genetically modified at creation to save a living sibling. | | |
| Stem Cell Research | an embryo is created using stem cells from another. This is then used to create organs etc. to help cure diseases | | |
| Reproductive Cloning | the implantation of a cloned embryo | | |
| Human Cloning | replication of an embryo using the genetic material from another human being. | | |