

Topic	Knowledge
<b>Life &amp; Consciousness</b>	<p>To create human life the sperm cell from a male and an egg cell from a female are needed. <b>When the sperm and egg cell meet this is known as conception.</b> The fertilised egg then implants into the lining of the mother's womb where it continues to develop. At around <b>6 weeks the foetus has a heartbeat</b>, and <b>after 9 weeks it starts to develop limbs.</b> Between <b>10 and 19 weeks the brain develops rapidly</b> creating new neurons and heightening the senses. <b>At 24 weeks it can survive outside of the womb.</b> After 9 months (40 weeks) the baby is born. There is great debate over when life actually begins, <b>Christians would argue that life begins at conception</b> however <b>many people consider a heartbeat to be a key point of development.</b> According to UK law a woman cannot terminate her pregnancy after 24 weeks – this is the point at which the foetus could survive independently outside the womb with medical intervention. There is also much debate over when consciousness begins as this marks humans from all other living things as we have the ability to understand ourselves, our place in society and interact with others.</p>
<b>The Sanctity of Life</b>	<p><b>Christians believe in the sanctity of life, that all life is holy and made by God.</b> This is backed up by many references in the Bible which show God created all humans equally in his image. Christians believe that humans are unique creations of God that are sacred from the moment of conception, God knows us all individually. <b>Life should be treated with respect and love and not be abused or killed.</b> Our bodies are special and contain the essence of God within our souls, it is not for humans to make life or death decisions, this judgement can only be made by God, who first gave us life. These views are evident in the case of Jodie and Mary the conjoined twins, if they remained joined they would both die, if they were separated Mary would die. The parents refused treatment on the grounds that life is sacred and should not be taken – they wanted to leave the decision to God. The case went to the courts and a judge ruled that they should be separated. Jodie went on to live a happy life.</p>
<b>Genetic Engineering</b>	<p><b>All living organisms have DNA this contains information about the living thing</b> and determines things such as colour, shape and size. <b>Scientists are able to alter DNA by adding or removing information.</b> 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, some <b>positives</b> include:</p> <ul style="list-style-type: none"> <li>+ We can alter human being to make them resistant to disease</li> <li>+ We can make animals healthier and more productive for food consumption</li> <li>+ We can change the DNA in crops to make them resistant to cold/ heat and need less water</li> <li>+ We can create new medicines to beat cancer and cure diseases</li> </ul> <p>However <b>negatives</b> include:</p> <ul style="list-style-type: none"> <li>- Changing human DNA could result in a race of superhumans – conception would no longer be natural</li> <li>- Animals suffer due to genetic changes such as chickens so heavy they cannot stand and without feathers that causes injury</li> <li>- People have raised concerns about crops being dangerous for the environment and humans</li> <li>- Genetic engineering could be abused to create dangerous weapons that could kill millions</li> </ul>
<b>Organ Donation</b>	<p><b>Organ donation is the process of surgically removing an organ or tissue from one person (the organ donor) and placing it into another person (the recipient).</b> There are <b>5 types of tissue and 6 types of organ you can donate.</b> Donors can be living or dead (dependant on what is being donated), <b>people can donate as a living donor, from brainstem death or circulatory death.</b> Despite this technology 3 people every day in the UK die waiting for an organ. The main issue is either not signing up to the NHS organ register or relatives refusing donation after death. The UK has decided to introduce an <b>'Opt Out' system which will come into place in 2020. This means that everyone in the UK will be eligible for organ donation unless they contact the NHS and state otherwise.</b> There is hope that this will dramatically increase the number of lives saved.</p>
<b>Abortion</b>	<p>An abortion is the termination of pregnancy and is legal in England and Wales under strict conditions. For Christians, human life is sacred and a gift from God which is to be respected and protected. The Abortion Act 1967, as amended by the Human Fertilisation and Embryology Act 1990, allows termination of a pregnancy by a registered medical practitioner, subject to certain conditions. This applies to England, Scotland and Wales. Under the Act an abortion must be carried out in a hospital or specially licensed clinic. Before a legally induced abortion can take place, two doctors must agree that: the woman is less than 24 weeks pregnant, and</p>

Key Word	Meaning
Foetus	A foetus is an animal or human being in its later stages of development before it is born
Sperm	The male reproductive cell involved in sexual reproduction.
Egg	The female reproductive cell involved in sexual reproduction.
Conception	When the sperm meets the egg
Consciousness	The state of being aware of and responsive to one's surroundings
The Sanctity of Life	The belief that all life is holy and made by God
Genetic Engineering	When the DNA of an organism is altered to produce a desired trait
DNA	Material which is present in all living organisms which contains genetic information
Organ Donation	Is the process of surgically removing an organ or tissue from one person (the organ donor) and placing it into another person (the recipient).
Artificial Intelligence	The theory and development of computer systems able to perform tasks normally requiring human intelligence
The Turing Test	A test created by Allan Turing to test a machines ability to exhibit intelligent behaviour

Quotes	Topic
'God made man in his own image' Bible	The Sanctity of Life
'You knit me together in my mothers womb' Bible	The Sanctity of Life
'The technology itself has got enormous potential to correct other (medical) conditions' Prof Waseem Qasim	Genetic Engineering
'I think therefore I am' Rene Descartes	AI Technology
'Not until a machine can write a sonnet or compose a concerto because of thoughts and emotions felt, and not by the chance fall of symbols, could we agree that machine equals brain' Professor Jefferson Lister	AI Technology

Key Thinker	Ideas
Allan Turing	<p>Alan Turing, an English mathematician who pioneered machine learning during the 1940s and 1950s. He created the 'Turing Test' which is a method of inquiry for determining whether or not a computer is capable of thinking like a human being. Turing proposed that a computer can be said to possess artificial intelligence if it can mimic human responses under specific conditions. The original Turing Test, requires three terminals -- each of which is physically separated from the other two.</p> <p>One terminal is operated by a computer, while the other two are operated by humans.</p> <p>During the test, one of the humans acts as the questioner, while the second human and the computer respond. The questioner interrogates the respondents within a certain subject area, after a length of time or number of questions, the questioner is then asked to decide which respondent was human and which was a computer.</p> <p>The test is repeated many times. If the questioner makes the correct determination in half of the test runs or less, the computer is considered to have artificial intelligence, because the questioner regards it as "just as human" as the human respondent</p>
Rene Descartes	<p>Rene Descartes a 17th century philosopher argued that nothing is more obvious and undeniable than the fact that you're conscious. In theory, everything else you think you know about the world could be a crazy illusion trying up to trick you – but your consciousness itself cannot be an illusion.</p> <p>He created the famous quote 'I think therefore I am' meaning the fact that he is aware of this own consciousness proves he must exist. This obeys none of the usual rules of science. It doesn't seem to be physical. It can't be observed, except from within, by the conscious person. It can't even really be described.</p> <p>The mind, Descartes concluded, must be made of some special, immaterial stuff that didn't abide by the laws of nature; it had been given to us by God.</p>