

Year 9: Science and Religion Half term 3

Key Terms		Key Concepts	Key Questions
Red Shift Effect	Evidence through latent gases of the continued expansion of the universe	<p><u>Evolution:</u> This is a theory created by Charles Darwin, An English Christian. He theorised that all living species are descended from earlier more simplistic life forms. He travelled the world observing key differences in creatures around the world that had changed over millions of years dependent on their environment. With this discovery came the idea that Humans had been descended from apes. Those species that had died out such as the Dodo did so as they failed to adapt to a changing world, Darwin would label this survival of the fittest. His work was published in a book called "the origin of species"</p>	<p>Why is it surprising that Darwin is Christian? How might this theory be seen as a threat to the Biblical account? Have all species evolved? How might someone criticise the theory?</p>
Origin of species	Darwin's book in which he published evolution for the first time		
Survival of the fittest	Those species that had evolved to better suit their environment were more likely to survive and pass on their genes to the next generation	<p><u>Creationism:</u> A view held by a minority of Christians that says that the creation of the Earth happened exactly as described in the bible. This dates the Earth and universe as being only 7000 years old contrary to what is commonly accepted by the scientific community that the earth is between 14-16 Billion years old. This theory also suggests that anything omitted from the creation in the Bible did not happen so many creationists do not believe in dinosaurs .</p>	<p>Why is this view only held by a minority of Christians? How might someone criticise this view? What evidence exists for its truth? Out of Evolution and creationism which offers greater truth?</p>
Cause and effect	A Newtonian law that states that all things in the world as an effect of an earlier cause	<p>Islamic Cosmology: The Muslim creation story is very similar to the Christian story with a few subtle differences such as the world was created in stages or "Ayyams" rather than days. In most other senses including the story of Adam and Eve (Hawwa) the story is the same, yet very few Muslims could be considered creationists.</p>	
First cause (cosmological argument)	everything can be traced back to a first cause and in the case of the universe the first cause was God.	<h2>Sources of Wisdom and Authority</h2>	
Sufficient Reason	This is a cause that is powerful enough to create a respective effect. Eg hitting your head is sufficient reason to have a bump afterwards	<p>'Your Guardian-Lord is Allah, Who created the heavens and the earth in six periods (ayyams), then He established Himself on the Throne (of authority): he draweth the night as a veil over the day, each seeking each other in rapid succession: He created the sun, the moon, and the stars, all governed under His command' (Surah 7:53)</p>	
		<p>"Do not the disbelievers realise that the heavens and earth were a solid mass, then We split them asunder, and We made from water every living thing? ... He it is Who created the night and the day, and the sun and the moon each gliding freely in its orbit." Surah 21:31-34</p>	
Astronomers	Scientists who study the stars	<p>"I have created men, high and low, that they may worship Me. I desire no support from them, nor do I desire that they should feed Me. Surely, it is Allah who is the Great Sustainer, the Lord of Power, the Strong." (Surah 51:56)</p>	

Who was George Lemaitre?

a Belgian Roman Catholic priest, astronomer, and professor of physics at the Catholic University of Leuven. He proposed on theoretical grounds that the universe is expanding, which was observationally confirmed soon afterwards by Edwin Hubble. He was the first to derive what is now known as Hubble's law and made the first estimation of what is now called the Hubble constant, which he published in 1927, two years before Hubble's article. Lemaitre also proposed what became known as the "Big Bang theory" of the creation of the universe, originally calling it the "hypothesis of the primeval atom" or the "Cosmic Egg"

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Cosmology	The study and debate of the origins of the universe	<p>Big Bang theory: The Big Bang theory is the prevailing cosmological model for the observable universe from the earliest known periods through its subsequent large-scale evolution. The model describes how the universe expanded from a very high-density and high-temperature state, and offers a comprehensive explanation for a broad range of phenomena, including the abundance of light elements, the cosmic microwave background, large scale structure and Hubble's law (the farther away galaxies are, the faster they are moving away from Earth). If the observed conditions are extrapolated backwards in time using the known laws of physics, the prediction is that just before a period of very high density there was a singularity which is typically associated with the Big Bang</p>	<p>What existed before the big bang? Is it just a theory? Could God have caused it? What's the evidence? Does it contradict religious belief? Do only atheists believe in this? Why is it called "Big Bang"?</p>
Genesis story	The account of the worlds creation according to the old testament		
Ex nihilo	To come from nothing; For example the universe was Ex nihilo		
Humanity	The collective term for humans as well as the quality of being human; for example benevolence	<p>Design argument: This is a theory created by William Paley that states that the world is too perfect to have been an accident and that within nature and creation we see evidence of a deliberate and intelligent design, since the only force powerful enough to design a universe is God then, God must have been the designer</p>	<p>Is the world really perfect? Where is the greatest source of evidence? Does it negate evolution? Does this compliment religion?</p>
Evolution	The theory that all life is descended from earlier more simplistic life forms and through a process of survival of the fittest small changes occur over the space of millions of years.	<p>Cosmological argument: An argument popularised by Saint Thomas Aquinas states that the universe had a first cause, a cause that in itself did not have to be an effect of an earlier cause. God is the only entity that is eternal and has therefore always existed therefore God is the uncaused causer, the first cause the source of all creation</p>	<p>How can God be eternal? Must God be the cause? Is infinite regression possible? Is this observable? Do Muslims support it?</p>
Sources of Wisdom and Authority			
Creationism	A fundamentalist Christian view that creation happened exactly as described in the Bible, if its not in the Bible it didn't happen; this negates evolution and the big bang theory	<p>"We are just an advanced breed of monkeys on a minor planet of a very average star. But we can understand the universe. That makes us something very special." Stephen Hawking, scientist (1942-2018)</p>	
		<p>"In the beginning God created the heavens and the earth." (Genesis 1:1)</p>	
		<p>"Be fruitful and increase in number; fill the earth and subdue it. Rule over the fish of the sea and the birds of the air and over every living creature that moves on the ground." (Genesis 1:28)</p>	
Solar system	The group of planets that orbit around any particular sun.		

The Six days of creation according to the book of Genesis (He rested on the seventh day)

DAY 1: God created light	DAY 2: God separated the seas from the sky	Day 3: God created land and vegetation
Day 4: God created planets, stars and the sun	Day 5: God Fish and Birds	Day 6: God created Man