

Chapter 9 The Natural Sciences

Handout

Chart for analysing the five underlying principles of natural science inquiry

Principle	Notes on its significance
The world exists apart from our sensory perception of it.	
Humans are capable of perceiving the real world accurately and attempting to understand the physical universe.	

<p>Natural processes are sufficient to explain or account for natural phenomena or events. Scientists must, therefore, explain the natural world in terms of natural processes. They must not explain the real world in terms of supernatural processes, which cannot be observed or tested.</p>	
<p>All human perceptions are shaped by our past experiences, which means that our ability to perceive is shaped by those experiences. Our perceptions, therefore, may be inaccurate or biased.</p>	

Scientific explanations are limited. Scientists cannot observe every instance of any phenomenon; therefore, scientific knowledge is necessarily **contingent** knowledge rather than absolute. This means that scientific knowledge must be open to revision if new evidence arises. It is impossible to know if we have thought of every possible alternative explanation or every variable. The technology available to us at any given time might be insufficient for helping us observe all that is there, in the real world.