

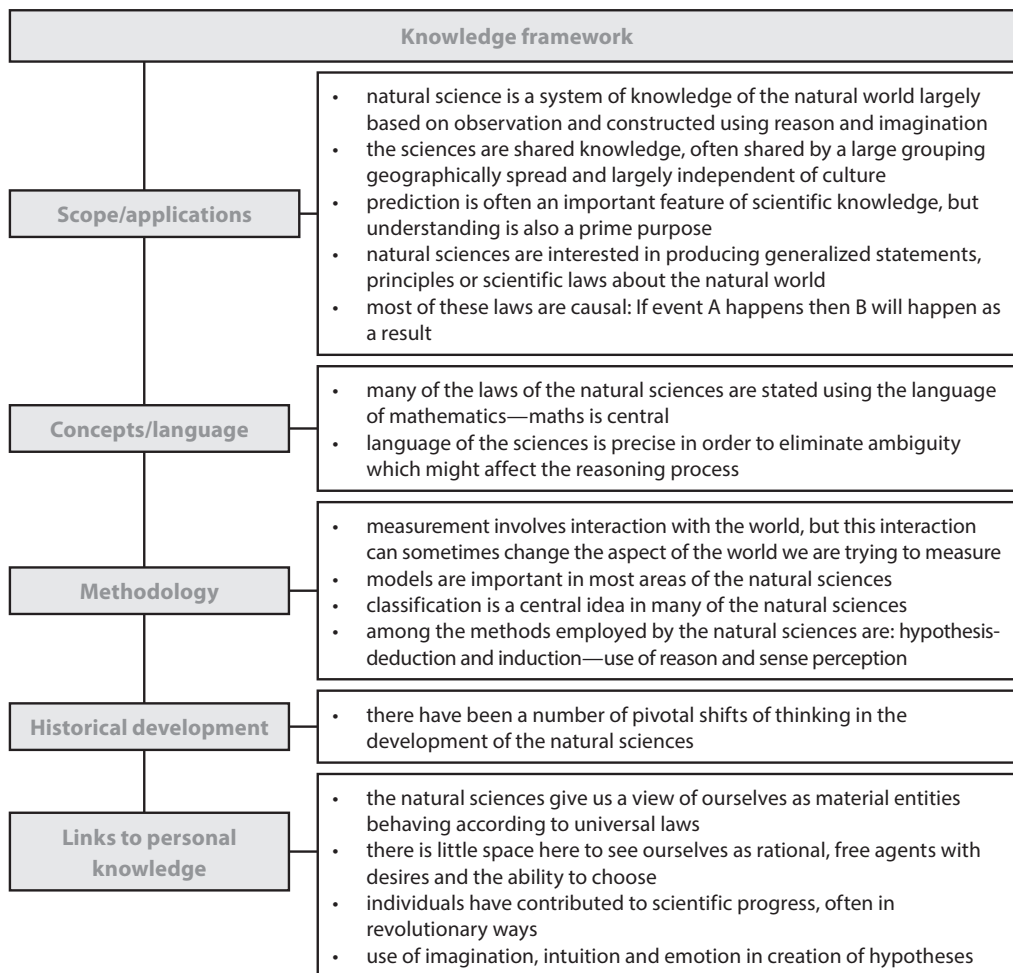
Natural sciences

What does it mean for a discipline to be a science? Is there just one scientific method? Should there be ethical constraints on the pursuit of scientific knowledge?

The natural sciences seek to discover laws of nature—regularities in the natural world. These are often causal relationships of the form “if X happens then Y will be the result”. This description implies that there is an attempt to produce a system of knowledge that is independent of human agency. Whether this is indeed possible is a matter of debate.

The methods of the natural sciences based on observation of the world as a means of testing hypotheses about it are designed to reduce the effects of human desires, expectations and preferences, in other words they are considered objective. In this sense, the natural sciences emphasize the role of empirical inquiry: scientific knowledge must be able to withstand the test of experience and experiment.

One interesting area of discussion is what differentiates the scientific from the non-scientific. Many would suggest that it is the methods used in science. It is therefore interesting to consider what it is about these methods that mean that the knowledge they generate is often regarded as more reliable than those employed by other AOKs.



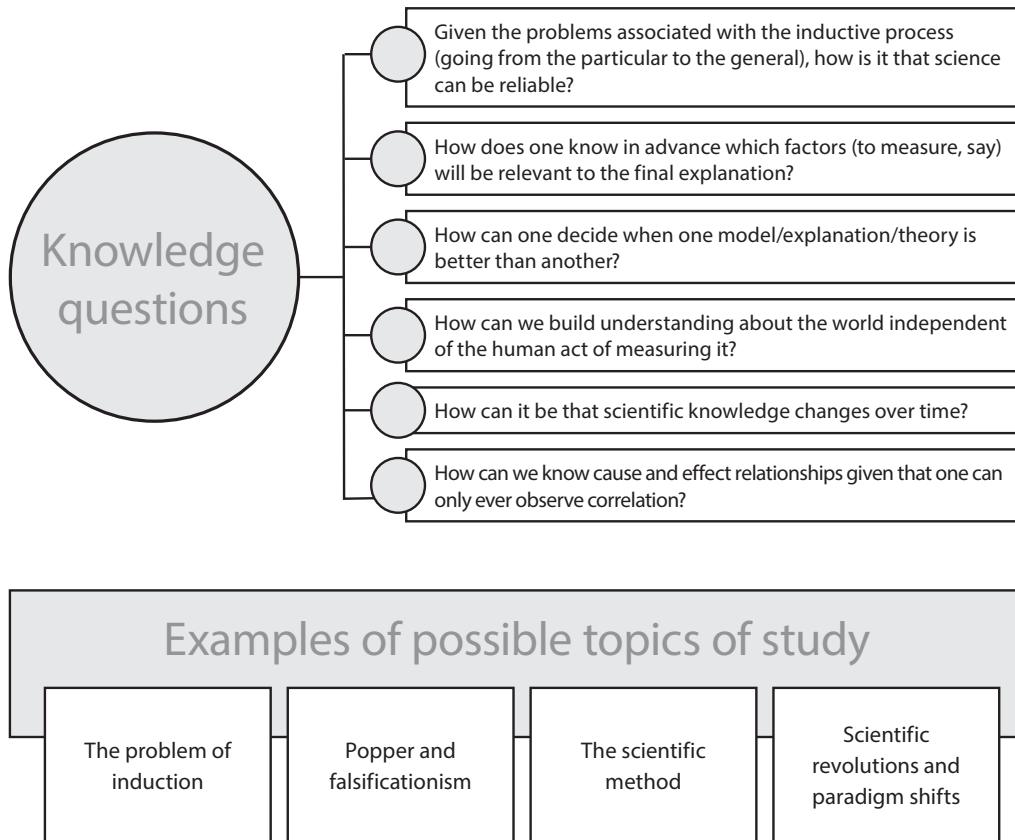


Figure 12

Human sciences

To what extent are the human sciences reliable? Can human behaviour be subject to laws in the same way as the material world? What constitutes good evidence in the human sciences?

In TOK, the term “human sciences” includes many of the subjects in group 3 (individuals and societies) in the Diploma Programme. In simple terms, the human sciences study the reality of being human. More specifically, the human sciences study the social, cultural and biological aspects of human existence. If we add the study of human behaviour to this definition then the Diploma Programme offerings cover a range of human sciences including psychology, social and cultural anthropology, economics and geography.

A fundamental difference between human sciences and natural sciences is in the interpretation of the word “science”. The human sciences might be classified as science because they use the scientific method to test the validity and reliability of hypotheses. However, unlike the natural sciences, the phenomena they try to explain might not possess hard and fast laws that admit no exceptions. They might therefore resort to statistical methods to establish their findings, producing knowledge that is less reliable in terms of issuing predictions.