7.4 Features of Science: Objectivity, Falsifiability, Replication and Paradigms: 10-minute Pack

AQA 7182 · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer in full sentences for questions worth 4 marks or more.

1 Outline what is meant by the empirical method in psychology, and give one example of an empirical technique used to test hypotheses in a lab context.

(Total for Question 1 is 3 marks)

2 Define 'falsifiability' with reference to Karl Popper and state why Popper considered it a key criterion for a theory to be scientific in psychology.

(Total for Question 2 is 3 marks)

3 Outline Thomas Kuhn's idea of a 'paradigm' in the context of psychology, and name one feature of a scientific paradigm Kuhn emphasised.

(Total for Question 3 is 3 marks)

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Mark scheme · 7.4 Features of Science: Objectivity, Falsifiability, Replication and Paradigms: 10-minute Pack

Question 1

states that the empirical method relies on systematic observation or measurement of behaviour or mental processes oe	**M1**
gives an example of an empirical technique, e.g. controlled laboratory experiment measuring behaviour under manipulated conditions oe	**A1**
explains that empirical findings are used to support or refute hypotheses oe	**A1**

Answer: The empirical method uses systematic observation and measurement of behaviour or mental processes to test ideas. For example, a controlled laboratory experiment manipulates an independent variable and measures behaviour as empirical evidence to support or refute a hypothesis.

Question 2

defines falsifiability as the principle that a scientific theory must make predictions that could in principle be shown to be false by observation or experiment oe	**M1**
names Popper or refers to Karl Popper and his view that unfalsifiable claims are not scientific oe	**A1**
explains why Popper saw it as key: falsifiability allows theories to be tested and potentially refuted, driving scientific progress rather than protecting theories from disproof oe	**A1**

Answer: Falsifiability, in Popper's sense, means a theory must make testable predictions that could in principle be shown false by observation or experiment. Popper argued that only falsifiable theories are scientific because they can be tested and risk refutation, which is necessary for genuine scientific progress.

Question 3

outlines Kuhn's concept: a paradigm is a shared framework of theories, methods and standards that guides normal scientific research oe	**M1**
names a feature Kuhn emphasised, e.g. shared theoretical assumptions, accepted methods, or exemplar studies that define legitimate problems oe	**A1**
explains briefly that paradigms shape what counts as valid questions and acceptable evidence in a scientific community oe	**A1**

Answer: Kuhn's paradigm is a shared framework of theories, methods and standards that guides normal scientific research. One feature Kuhn emphasised is that a paradigm provides shared theoretical assumptions and exemplar studies which determine what problems and methods are considered legitimate.

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