

QUIZ MODULE 1 – CLASS #1

Question 1	
What is the correct order of the steps in the scientific method?	
Answer	feedback
a) Ask a question, analyze results, make a hypothesis, test the hypothesis, and draw conclusions.	Incorrect – the scientific method starts with a research question and a hypothesis. Then, the hypothesis is tested through experimentation, the results are analyzed, and lastly, a conclusion is drawn.
b) Ask a question, make a hypothesis, test hypothesis, draw conclusions, and analyze results.	Incorrect – the scientific method starts with a research question and a hypothesis. Then, the hypothesis is tested through experimentation, the results are analyzed, and lastly, a conclusion is drawn.
c) Make a hypothesis, test the hypothesis, analyze the results, ask a question, and draw conclusions.	Incorrect – the scientific method starts with a research question and a hypothesis. Then, the hypothesis is tested through experimentation, the results are analyzed, and lastly, a conclusion is drawn.
d) Ask questions, make a hypothesis, test the hypothesis, analyze results, and draw conclusions.	Correct – the scientific method starts with a research question and a hypothesis. Then, the hypothesis is tested through experimentation, the results are analyzed, and lastly, a conclusion is drawn.

Question 2	
Which of the following research question is better structured?	
Answer	feedback
a) Does the adjunct use of systemic antibiotics improve the results of the periodontal therapy?	Incorrect – The research question should define the intervention, the outcome (clinical, microbiological, or immunological outcomes), and the study population. The outcome and study population are not defined in this research question.
b) Does the adjunct use of systemic antibiotics improve the clinical results of the periodontal therapy?	Incorrect – The research question should define the intervention, the outcome (clinical, microbiological, or immunological outcomes), and the study population. The study population is not defined in this research question.

<p>c) Does the adjunct use of systemic antibiotics improve the clinical results of the periodontal therapy in patients with severe periodontitis?</p>	<p>Correct – The research question should define the intervention, the outcome (clinical, microbiological, or immunological outcomes), and the study population. This research question states all required information.</p>
<p>d) Does the adjunct use of systemic antibiotics improve the clinical results of the periodontal therapy in patients with severe periodontitis? Does plaque control impact the outcomes?</p>	<p>Incorrect – The research question should be narrowly focused on only one subject.</p>

<p align="center">Question 3</p>	
<p>What is a research hypothesis?</p>	
<p>Answer</p>	<p>feedback</p>
<p>a) An experiment</p>	<p>Incorrect – The hypothesis is a prediction about the outcome of the study based on the available knowledge and should be limited to answering the research question. The experiments should be designed to test the hypothesis.</p>
<p>b) An untestable statement</p>	<p>Incorrect – Both the research question and the hypothesis must be testable.</p>
<p>c) A prediction about the outcome of the study</p>	<p>Correct – The hypothesis is a prediction about the outcome of the study based on the available knowledge and should be limited to answering the research question.</p>
<p>d) A conclusion</p>	<p>Incorrect – The hypothesis is a prediction about the outcome of the study based on the available knowledge and should be limited to answering the research question. The conclusion can either prove or disprove the hypothesis.</p>

<p align="center">Question 4</p>	
<p>Experiments are specifically designed to:</p>	
<p>Answer</p>	<p>feedback</p>

a) collect data	Incorrect – Experiments are designed to test a hypothesis. Data generated through experimentation are analyzed in order to reach a conclusion.
b) collect quantitative data	Incorrect – Experiments are designed to test a hypothesis. Qualitative and/or quantitative data generated through experimentation are analyzed in to reach a conclusion.
c) test a hypothesis	Correct – Experiments are designed to test a hypothesis.
d) prove a hypothesis	Incorrect – Experiments are designed to test, and not necessarily prove, a hypothesis. Experiments will only accurately approve or disapprove your hypothesis if they are well planned and executed.

Question 5	
Scientific inquiry begins with:	
Answer	feedback
a) a unsolved problem or a question	Correct – The scientific method begins with the definition of a research problem or question that can be addressed by research. A research problem is a statement about an area of concern, a condition to be improved, or a difficulty that needs to be eliminated.
b) a checklist of methodological procedures	Incorrect – The scientific method begins with the definition of a research problem or question that can be addressed by research. Methodological procedures are planned and executed only after the research question and the research hypothesis are established.
c) laboratory results	Incorrect – The scientific method begins with the definition of a research problem or question that can be addressed by research. Next, a research plan is planned and executed. Data collection and data analysis occur later on, being considered late-phase steps of the scientific method.
d) a hypothesis that fits with existing knowledge	Incorrect – The scientific method begins with the definition of a research problem or question that can be addressed by research. Next, the research hypothesis is defined as an answer to the research question.

Question 06	
When applying the scientific method, which one is tested?	
Answer	feedback

a) observation	Incorrect – The scientific method is an objective, step-by-step, systematic method used in research to prove or disprove a scientific hypothesis.
b) question	Incorrect – The scientific method is an objective, step-by-step, systematic method used in research to prove or disprove a scientific hypothesis.
c) hypothesis	Correct – The scientific method is an objective, step-by-step, systematic method used in research to prove or disprove a scientific hypothesis.
d) outcome	Incorrect – The scientific method is an objective, step-by-step, systematic method used in research to prove or disprove a scientific hypothesis.