Benchmark SC.5.N.2.2

Reporting Category	Nature of Science
Standard	**Big Idea 2** The Characteristics of Scientific Knowledge
Benchmark	**SC.5.N.2.2 Recognize and explain that when scientific investigations are carried out, the evidence produced by those investigations should be replicable by others. (Also assesses SC.3.N.1.2, SC.3.N.1.5, SC.4.N.1.2, SC.4.N.1.5, and SC.5.N.1.3.)**
Also Assesses	**SC.3.N.1.2** Compare the observations made by different groups using the same tools and seek reasons to explain the differences across groups. **SC.3.N.1.5** Recognize that scientists question, discuss, and check each others' evidence and explanations. **SC.4.N.1.2** Compare the observations made by different groups using multiple tools and seek reasons to explain the differences across groups. **SC.4.N.1.5** Compare the methods and results of investigations done by other classmates. **SC.5.N.1.3** Recognize and explain the need for repeated experimental trials.
Benchmark Clarifications	Students will identify and/or explain the need for replication of scientific investigations. Students will explain the reason for differences in data across groups as a result of using different tools and/or procedures. Students will identify and/or explain the need for repeated trials in a scientific investigation.
Content Limit	Items may use the terms *accurate* and/or *valid* in context but should not assess these terms or the difference between these terms.
Stimulus Attributes	None specified
Response Attributes	None specified
Prior Knowledge	Items may require the student to apply science knowledge described in the NGSSS from lower grades. This benchmark requires prerequisite knowledge from SC.2.N.1.2, SC.2.N.1.4, and SC.3.N.1.4.

Sample Item 3 SC.5.N.2.2

Gabriel is designing an experiment to see whether sugar or artificial sweetener will attract the greater number of ants. Which statement **best** describes why Gabriel should write down his experimental procedure?

★ **A.** The exact experiment can be repeated by others and the results compared.
B. The experiment can be changed by others to get different results.
C. The data will help people decide what type of sweetener to use.
D. The data will show people which ants are more common.