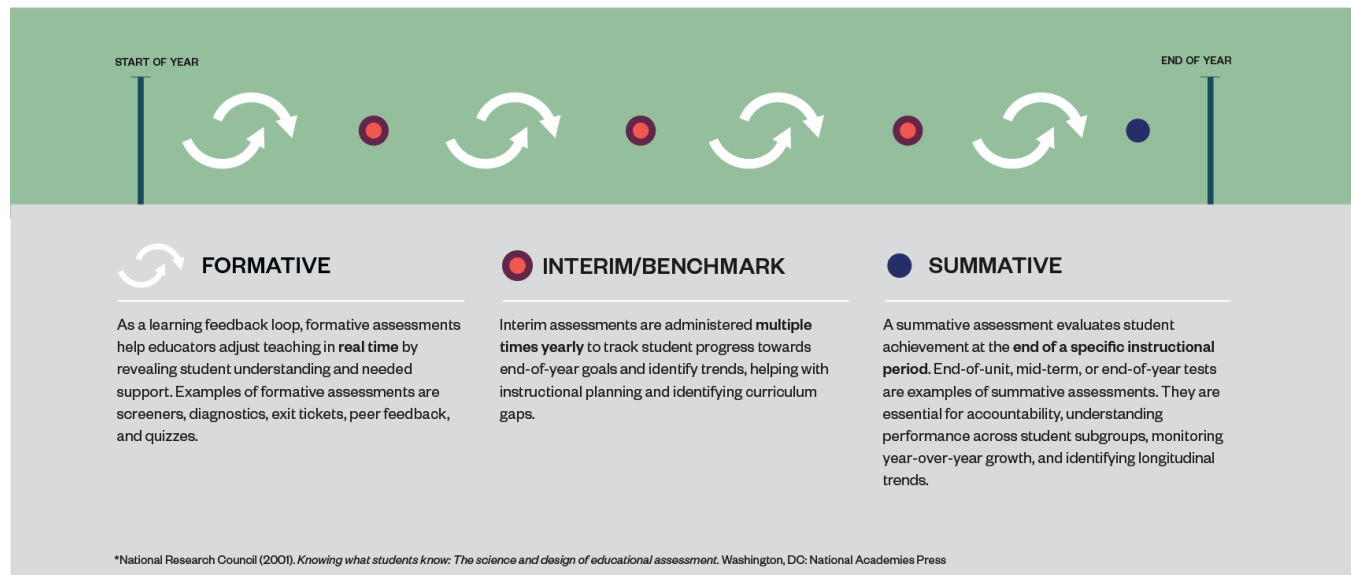


Science Benchmark Assessments

The BIE Science Benchmark assessment forms are the Bureau of Indian Education's optional interim assessment for science, administered periodically throughout the school year, often at the end of a grading period or unit of instruction. The BIE Science Benchmark assessment forms measure students' proficiency with the Next Generation Science Standards (NGSS). Benchmark assessments identify students' learning gaps for different sets of science content and skills while learning is still taking place and timely interventions can be made. These Benchmark assessments are part of the BIE's comprehensive assessment program.

While formative assessment should be happening on an ongoing basis in the classroom to support daily learning, the use of periodic Benchmark assessments provides key checkpoints on students' progress toward end-of-year learning goals and standards mastery. End-of-year achievement is also verified by the summative assessment results.



Benchmark Assessment Form Design

Each BIE Science Benchmark form is composed of two clusters and two 4-point open-ended items. Each cluster is a set of 5-6 items aligned to two NGSS Performance Expectations (PEs), and all items are associated to an introductory passage, or "stimulus." The stimulus typically contains both text and graphics such as diagrams, tables, or graphs. Open-ended items are standalone items aligned to one NGSS PE that require students to provide a written response to a prompt or question. The item types and formats in the benchmark forms are also included in the summative end-of-year science assessment.

There is no set administration sequence or timing for the forms within the benchmark testing window. Forms should be administered at the time that best aligns with the specific content being covered in the classroom. Testing is not restricted to only those students in the summative testing grades of 5, 8, and 11, and there are no restrictions on the grade at which a particular form may be administered. Science Benchmark forms are available at the elementary, middle, and high school levels as follows:

- 4 forms each for grade 3, grade 4, and grade 5
- 12 forms for middle school grades 6-8
- 12 forms for high school grades 9-12

Each form covers a different subset of standards and topics. The following documents provide information on the content of the benchmark forms, either by topic of each form or by standards coverage:

- The *BIE Science Benchmark Test Forms Offering* document provides the list of forms available for each grade, listed with their content topic or focus and associated standards for each topic.
- The *BIE Science Benchmark by Standards & Form Numbers* document provides tables for all NGSS PEs by grade/grade band and the benchmark form in which that PE is tested.
- Both of these documents are available on the Benchmark Administration page of the BIE Science Help & Support site (<https://bie.onlinehelp.cognia.org/benchmark-administration/>).

Testing Time, Testing Mode, and Scoring

Science Benchmarks are untimed, but each form is designed to be completed in approximately 45-50 minutes, for administration during a class period. The test is divided into two sessions, however, and could be administered across two class periods if needed or desired.

Science Benchmark forms are available both online and for printing at BIE schools so that students can take benchmark assessments using the same testing mode they will use for the summative assessment. The online version is accessed through the same BIE Portal used for summative testing. Within this portal, there are also print-ready PDFs of each form available for printing.

For online testers, selected-response items are scored on the eMetric platform, and scores are available the same day in the Data Interaction (D.I.) portal. Open-response items are scored by the teacher using the rubrics provided by Cognia. Teachers are encouraged to score students' open-response items and enter their scores online to enrich the reporting information that can be viewed in the D.I. portal. For those utilizing the print option, an answer key is provided with the download for teachers to score all their students' responses.

Students can take the same Science Benchmark form more than once, though the items in the forms are fixed and the same items are administered every time in a particular form. For a student to be able to test on the same form another time, the student must be scheduled into another class/test session. For support in scheduling students into testing sessions, refer to the guides on the Resources page of the BIE Science Help & Support site (<https://bie.onlinehelp.cognia.org/resources/>).