



Alaska Statewide Summative Assessment Calculator Policy

Students taking the computer-based assessments have access to a calculator appropriate for the grade level and content within the test platform. Students taking the computer-based assessments cannot use handheld calculators in lieu of the calculators within the test engine; only the calculators within the test engine are allowed during the computer-based assessments. The specific type of calculator depends on grade level, as shown in the tables below.

Mathematics

The Alaska Mathematics Standards were developed with a strong focus on building foundational skills and fluency in arithmetic, specifically in kindergarten through grade 5. Arithmetic is a foundational skill that requires fluency as well as the building of conceptual understanding, which is a precursor for algebraic concepts. The standards were developed to help students gain a deeper understanding of mathematics and to use a variety of strategies to come to mathematical solutions. The mathematics standards focus on the students' ability to become fluent on grade specific concepts in grades kindergarten through sixth grade. In order for students to demonstrate fluency, calculators are **NOT** allowed for grades 3, 4, and 5 on the AK STAR mathematics assessment *even if the student has an accommodation to use a calculator on other assessments or in their daily work.*

The specific type of calculator depends on grade level, as shown in Table 1. Due to the adaptive nature of the AK STAR assessments, calculators are provided, or not provided, at the item level. Only one calculator will be presented to a student at a time. Some items will have a calculator available and other items will not.

During the growth component of the AK STAR assessment, a student could be presented with an item that is outside of their tested grade level. For example, a fifth grader could be presented with a Grade 6 item that has a calculator provided (Basic or Four-Function). Adversely, a ninth grader could be presented with a Grade 8 item that **does not** have a calculator provided. Once a student answers an item and moves on, they cannot return to any previous items. This functionality prohibits the misuse of calculators on items where a calculator should not be used.

Table 1: Calculator Use by Grade Level for the AK STAR Mathematics Assessments

Grades	Basic (Four-Function)	Scientific	Graphing
Grades 3-5	Not available*	Not available	Not available
Grades 6-8	Available	Available	Not available
Grade 9	Available	Available	Available

** During the growth component of the AK STAR assessment, students in grades 3-5 could be presented with an item that is above their tested grade level. For example, a fifth grader could be presented with a Grade 6 item that has a calculator provided.*

Science

According to the *K-12 Science Standards for Alaska*, adopted in 2019, students are expected to use mathematics to represent physical variables and their relationships, and to make quantitative predictions. Mathematics is a tool that is key to understanding science and classroom instruction should enhance all of science through the use of quality mathematical and computational thinking. Therefore, specific types of calculators are allowable on the Alaska Science Assessment according to Table 2.

Table 2: Calculator Use by Grade Level for the Alaska Science Assessments

Grades	Basic (Four-Function)	Scientific
Grade 5 (all parts)	Available	Not available
Grade 8 (all parts)	Available	Not Available
Grade 10 (all parts)	Available	Available

Guidance for Calculator Use When Providing Print-on-Demand (POD) or Handheld Calculator Accommodation

Students who require a paper-based assessment as an accommodation will be accommodated using the print-on-demand (POD) format. This accommodation allows paper copies of the test to be printed locally and provided to the student. Students who use the POD format for the mathematics or science assessments must be provided with a handheld calculator, the type of which depends on the student's grade level and content area, see Table 3 and Table 4.

Students in Grades 6, 7, or 8 who have the documented accommodation to use a handheld calculator for math assessments instead of the calculator embedded in the test platforms will be required to take the POD format of the assessment and should be provided the appropriate calculator following Table 3 and Table 4.

Students in Grade 9 and students taking the science assessment who have the documented accommodation to use a handheld calculator are not required to take the POD format of the assessment.

Table 3: Handheld Calculator Use (POD) by Grade Level for the AK STAR Mathematics Assessments

Grades	Calculator to provide
Grades 3-5	None
Grades 6-8 (part 2 only)	Scientific
Grade 9 (all parts)	Scientific and Graphing*

**Schools may choose to provide just a graphing calculator in lieu of providing both a scientific and graphing calculator in Grade 9.*

Table 4: Handheld Calculator Use by Grade Level for the Alaska Science Assessments

Grades	Calculator to provide
Grades 5 and 8	Basic (four-function)
Grade 10	Basic and Scientific*

**Schools may choose to provide just a scientific calculator in lieu of providing both a basic and scientific calculator in Grade 10.*

Requirements

In order to maintain test security, **the memory of every handheld calculator used during testing must be cleared by a building test coordinator (BTC) or test administrator (TA) before and after testing to clear all applications and programs.** Some calculators have special features such as Test Guard and Press-to-Test which disable applications and programs during test administration. A TA may activate such features on these calculators instead of clearing the memory. Information is available from the manufacturers.

- Calculators must be available to students on specified parts of the mathematics and science assessments, but students are not required to use them.
- Handheld calculators are not allowable for students taking the computer-based assessment (except as a documented accommodation and the POD format is required)
- Students may not use the calculator functions of cell phones, smart phones, PDAs, laptops, tablets, pocket organizers, etc. in place of a handheld calculator.
- Students may not use calculators with infrared, Wi-Fi, Bluetooth, or other transmitting capabilities.
- Students may not use calculators with QWERTY keyboards, typewriter-like keyboards, or keypads (e.g., Dvorak).
- Students may not use calculators with built-in Computer Algebra Systems (CAS) such as, but not limited to:
 - Casio: Algebra fx 2.0, ClassPad 300, and all model numbers that begin with CFX-9970G
 - Texas Instruments: All model numbers that begin with TI-89 or TI-92, TI-Nspire CAS
 - Hewlett-Packard: HP-48GII and all model numbers that begin with HP-40G or HP-49G
- Students may not use calculators that make noise, use paper tape, need to be plugged in, or talk.
- Students may not share calculators during a test session.
- Students may not use any and all non-factory programs or information stored in the calculator.
- Students may not send communications from one calculator to another.

During the portions of the POD format of the assessments (both AK STAR and the Alaska Science Assessment) where a calculator is permitted, students must adhere to the guidelines above. It is incumbent upon the Building Test Coordinator and Test Administrators to ensure that all calculator policies are implemented and followed. Not adhering to these policies will result in a test irregularity, a violation of test security, and/or invalidation of the student's assessment.

This calculator policy is intended to be a general description of what is not allowed. It is not meant to be an exhaustive list of specific calculators, devices, or technologies that cannot be used on the AK STAR and Alaska Science assessments. Please note that as assessments and technology change, this policy may also change.