CenterPoint
EDUCATION SOLUTIONS

Mathematics Interim Assessments

Grades 3 – High School

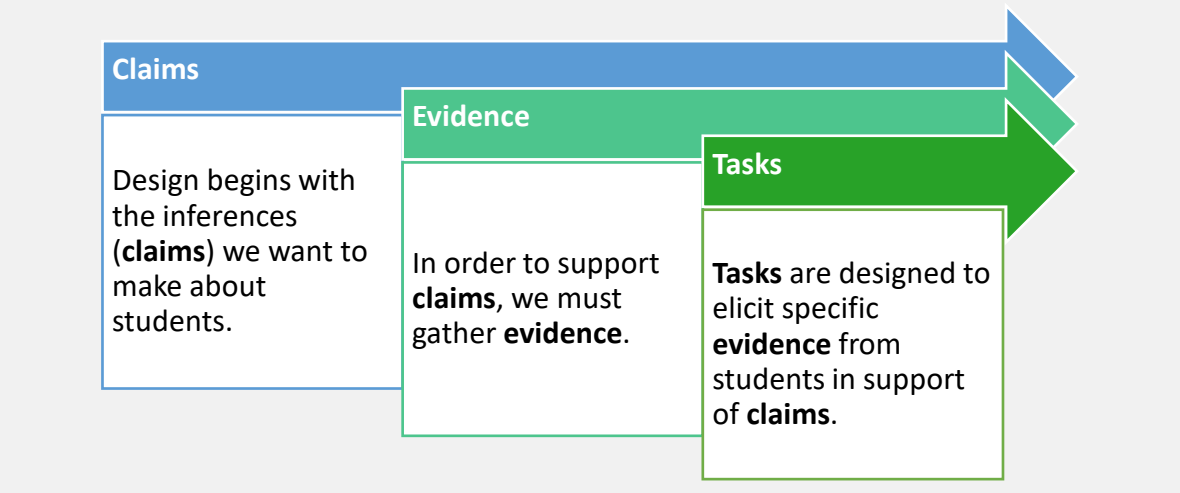
Implementation Guide

OVERVIEW

The CenterPoint interim assessments were designed to provide information that help teachers understand the breadth of students' skills and understandings in mathematics content and mathematics practices that are typically measured on state summative assessments. Students answer a variety of questions, including selected response, multiple selected response, fill in the blank, technology-enhanced items, and constructed response items and engage in tasks that are both scaffolded and un-scaffolded. These assessments provide educators with meaningful data that can be used to inform curriculum and instructional decisions.

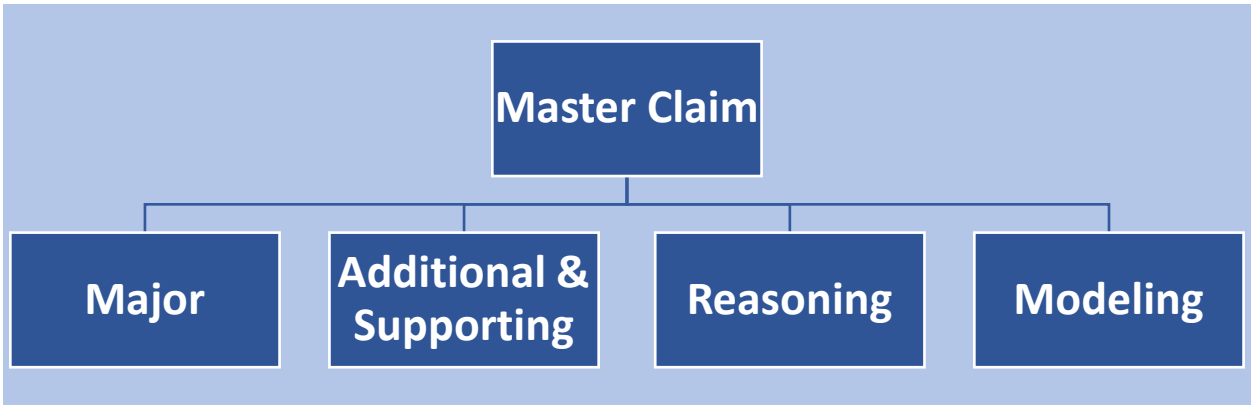
Evidence Centered Design

CenterPoint's interim assessments provide educators with the information needed to monitor student performances in Mathematics, so that teachers can identify students who need additional intervention or enrichment opportunities. Using evidence centered design helps to ensure the interims provide quality data that can be used to make informed decisions. The design of the interim assessments begins with inferences, or **claims** we want to make about student proficiency. To support those claims, we must gather **evidence** from **tasks** that are designed to elicit specific evidence in support of the claims.



CenterPoint Interim Assessment Claims

The CenterPoint Interim Assessments were designed to provide information about a master claim and four sub-claims as shown in the diagram and defined below.



Master Claim

On-track or ready for college and careers.

Major Content

Students solve problems involving the major content for the grade/course with connections to the Standards for Mathematical Practice.

Additional and Supporting Content

Students solve problems involving the additional and supporting content for the grade/course with connections to the Standards for Mathematical Practice.

Mathematical Reasoning

Students express grade/course level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others, and/or attending to precision when making mathematical statements.

Mathematical Modeling

Students solve real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated for the current grade/course, engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them, reasoning abstractly and quantitatively, using appropriate tools strategically, looking for and making sense of structure, and/or looking for and expressing regularity in repeated reasoning.

Evidence and Tasks

Each question or task on the interims was designed so that students could demonstrate evidence of learning to support the claims. Additionally, CenterPoint utilizes item types that provide the best way for students to show the evidence of learning that is desired. Below is a list of some of the item types utilized on the interims.

Machine Scorable Item Types

- Selected Response
- Drag and Drop
- In-line Selection (Drop-down menu)
- Numeric Response
- Expression/Equation Response

Human Scored Item Type

- Constructed Response

Universal Design

In addition to designing assessments within the framework of evidence-centered design, CenterPoint applies principles of universal design to increase the accessibility, and therefore fairness, of each assessment for all students. Universal design is essential to valid measurement practices. If assessment questions are not accessible or fair for every student, then the evidence collected will not provide meaningful information about students' knowledge and/or abilities.

Interim Assessment Specifications

College- and career-ready standards in Mathematics are designed to describe the knowledge, skills, and understandings essential to post-secondary success. This includes an emphasis on major content, supporting content, and additional content in each grade as well as the mathematical practices.

The interim assessments are designed to measure students' conceptual understandings and skills as defined in the standards. The mathematical practices also come into play as students solve problems in the constructed-response items that focus on students' abilities to model and reason with mathematics.

Number of Questions and Versions

In Grades 3-8 and in Algebra 1, Geometry, and Algebra 2, each interim contains 16 questions that vary in complexity levels. The content assessed in Interims A, B, and C is unique.

- Interim A: assesses content that would typically be taught in the first third of the school year.
- Interim B: assesses content that would typically be taught in the second third of the school year.
- Interim C: assesses content that would typically be taught in the final third of the school year.

There are two versions of each interim. **Version 1** contains machine-scored items assessing conceptual understanding and skills. There is also 1 constructed-response item that focuses on mathematical modeling and 1 constructed-response item that focuses on mathematical reasoning. **Version 2** is identical to version 1; however, version 2 does not contain constructed-response items. This version was designed to allow educators the flexibility of assessing the standards without including human-scored questions. Please see the Blueprints and Test Maps to view the standards assessed within each interim and grade.

Scoring Guidance

The questions on the interim assessments are like those on summative assessments to provide students with an indication of their progress throughout the year and a better understanding of what to expect on end-of-year assessments.

Raw score data and questions showing actual student responses can be used by educators to determine patterns of student performance and to diagnose students' strengths and areas of need. Data may also illuminate areas within the curriculum and instruction that require tweaks and tune-ups.

Of note: CenterPoint's interim assessments are designed to show students' progress toward meeting end-of-year expectations. Be cautious when reviewing student data at the standards level so as not to jump to immediate conclusions since most standards are assessed with a minimal number of questions. Similarly, the sub-claim data provides a better picture of student proficiency when looking at all the data points from the three assessments completed within the year. This design was intentional to keep testing time to a minimum, ensure assessment coverage of the standards, and provide a high-level view of progress towards meeting end-of-year expectations.

Scoring Student Responses

There are two constructed-response questions on each interim assessment. Each constructed-response question is aligned to a mathematical practice standard and a content standard. These questions are designed to be human scored using the scoring rubrics that accompany each question. The rubrics should be accessed within the online platform to score each student response. Teachers within schools and districts should work together to ensure student responses are being scored consistently. A sample rubric is shown.

Sample Constructed-Response Rubric

3 Points:

Student response includes the following:

- Modeling: complete and correct work or explanation for determining the amount of each type of filling used yesterday
- Modeling: complete statement or explanation for finding the difference in the amounts of filling used yesterday
- Computation: correct answer, $14\frac{2}{3}$ cups

Note: Students should receive the second modeling point if they identify they need to find the difference in the amounts of each type of filling but (a) use incorrect quantities from the first modeling part or (b) compute an incorrect difference.

Sample Student Response:

Al Pastor filling: $96 \times \frac{3}{8} \times = \frac{288}{8}$ cups

Asada filling: $64 \times \frac{1}{3} = \frac{64}{3}$ cups

$\frac{288}{8} = 36$

$\frac{64}{3} = 21\frac{1}{3}$

$36 - 21\frac{1}{3} = \frac{44}{3}$ or $14\frac{2}{3}$

Aaron used $14\frac{2}{3}$ cups more Al Pastor filling than Asada filling to make tacos yesterday.

2 Points:

2 elements correct.

1 Point:

1 element correct.

0 Points:

Incorrect or irrelevant response.

Implementation Guidance

The CenterPoint Interim assessments have been designed to maximize instructional time and minimize testing time. After administering an assessment, educators will receive immediate feedback from the computer-scored items and will have the opportunity to hand-score the constructed-response items using the scoring rubrics to help ensure scoring consistency. This information can then be analyzed to inform curriculum and instructional decisions.

Scope and Sequence

In Grades 3-8 and in Algebra 1, Geometry, and Algebra 2, each interim contains 16 questions that vary in complexity levels. The content assessed in Interims A, B, and C is unique.

- Interim A: assesses content that would typically be taught in the first third of the school year.
- Interim B: assesses content that would typically be taught in the second third of the school year.
- Interim C: assesses content that would typically be taught in the final third of the school year.

See the Blueprint and Test Map documents for more detailed information about the standards assessed on each interim.

Scheduling Testing Windows

To begin, review your local instructional calendar. Consider the first and last instructional days, time spent on curriculum units, school holidays, other assessment windows, and the time teachers need to analyze the data and plan for instruction. Each assessment is designed to be completed in one class period and should take between 45 minutes and one hour.

Sample Testing Window

First Day of Instruction	**Interim A**	**Interim B**	**Interim C**
September 1	October 18-22	December 13-17	April 4-8

Instructional Next Steps

The CenterPoint Interim Assessments are meant to provide information about student progress towards end-of-year expectations and to identify areas of strength and improvement regarding how well students can solve problems in mathematics aligned to college- and career-ready standards. Additionally, the questions on the interim assessments are like those on state summative assessments; thus, providing an indication of student progress throughout the year and a better understanding of what to expect on end-of-year assessments.

The score reports from the interims provide data that can be used to deepen educators' understanding of their students' learning progress toward college and career readiness and to determine patterns of student performance to diagnose students' strengths and areas of need.

Interim Expectations

In **mathematics**, students meet expectations when they can:

- solve problems involving the Major Content of the grade/course with connections to the Standards for Mathematical Practice;
- solve problems involving the Additional and Supporting Content of the grade/course with connections to the Standards for Mathematical Practice;
- express grade/course-level appropriate mathematical reasoning by constructing viable arguments, critiquing the reasoning of others, and/or attending to precision when making mathematical statements;
- solve real-world problems with a degree of difficulty appropriate to the grade/course by applying knowledge and skills articulated in the standards for the current grade/course, engaging particularly in the Modeling practice, and where helpful making sense of problems and persevering to solve them (Mathematical Practice 1), reasoning abstractly and quantitatively (MP.2), using appropriate tools strategically (MP.5), looking for and making use of structure (MP.7), and/or looking for and expressing regularity in repeated reasoning (MP.8).

When considering a student's score on the interim assessments, consider the achievement levels in the table. As an example, a student that scores 70% is likely meeting expectations.

Does Not Meet	Approaching	Meets	Exceeds
Below 30%	(30 – 55)%	(56 – 75)%	Above 75%

Of note: CenterPoint's interim assessments are designed to show students' progress toward meeting end-of-year expectations. Be cautious when reviewing student data at the standards level so as not to jump to immediate conclusions since most standards are assessed with a minimal number of questions. This design was intentional to keep testing time to a minimum, ensure assessment coverage of the standards, and provide a high-level view of progress towards meeting end-of-year expectations. Also, the sub-claim data provides a more complete picture of student proficiency when looking at all the data points from the three assessments completed within the year.

Strategies for Supporting Students in Mathematics

When students have not yet earned scores that indicate on-track performances, the following instructional supports may be provided:

- Use the applicable additional resources within the curriculum to support students in areas of need.
- Consider how the curriculum allows for embedding additional supports within upcoming lessons, thereby allowing for supports to be provided as part of daily core general instruction. Work with school leaders to

think creatively about structures that allow additional time for students to strengthen their math skills and understandings, especially for those needing intensive support.

- Have students describe their thinking as they solve math problems. This can be done using questions from the interim, released items from state summative assessments, or other open resources that are well-known for producing quality content. A list of resources at the end of this document may be of help. Since students may be unfamiliar with how to think aloud, teachers will likely want to model the process with a sample question. The act of listening to students as they think aloud is a great means to helping teachers and students uncover conceptual misunderstandings and provide insight into the nature of erroneous thinking.
- Review student's scratch paper from the interims to investigate misunderstandings and errors.
- Teachers in a professional learning community (whether formal or informal) may find it helpful to share ideas on how to support students who are struggling with mathematics at a given grade level.
- Model multiple techniques and approaches to demonstrate different pathways to solving problems.
- Use mathematics manipulatives to help students conceptualize abstract concepts.
- Have students work with others to solve problems.
- Create scaffolded problem sets to chunk learning.
- Create centers targeted to support areas of need.
- Use easier numbers in problem sets to uncover conceptual misunderstandings.
- Share sample math questions with resource teachers and those who teach content other than mathematics, but whose content areas apply mathematics (e.g., science, computer science, technology education, etc.), and share how they can support students who require additional instruction and practice for identified skill gaps.

Math Resources for Students Needing Support

First, consider utilizing the resources that come with the curriculum when considering how to provide support for students. Then, the list below may be of help.

- Illustrative Mathematics: free access to their library of mathematics curriculum, instructional tasks, and resources including math resources for families.
- Student Achievement Partners**:** high-quality open-source classroom resources, including math lessons and assessments.
- Kahn Academy: free standards-aligned lessons and practice in Math, Science & Engineering, Arts & Humanities, and the SAT.
- Citizen Math: search by standard or math topic to find math tasks related to real-world challenges. The Citizen Math mission is to make the world a better place by inspiring young people to develop the problem-solving skills they will need to analyze, discuss, and solve the important issues faced by society.