![measured progress logo]

Technology-Enhanced Items

Technology-enhanced items from Measured Progress engage your students with rigorous content and provide practice with item types they will encounter on next-generation summative assessments.

- Technology-enhanced items (TEIs) from Measured Progress offer advantages over traditional assessment item types. They assess a range of depth-of-knowledge (DOK) levels through a variety of computer-based interactions. They help teachers pinpoint knowledge gaps and misconceptions.

- Measured Progress TEIs allow students to engage with assessment content and demonstrate their understanding in new ways. They also expand the range of item types that can be auto-scored.

- Well-designed TEIs can replace several multiple-choice questions, which can potentially reduce the time students spend taking tests.

- There are 563 ELA and math TEIs for grades 1–12 in the *Formative Content Bank*. They have been built on six interaction types that follow IMS Global® Learning Consortium specifications.

Example TEI for grade 7 in mathematics

Derek and his two friends made play dough. A list of the materials they used is shown below.

Materials

1 cup flour

$\frac{3}{4}$ tablespoon vegetable oil

$\frac{1}{2}$ cup salt

2 tablespoons cream of tartar

Derek divided the dough materials equally among his friends and himself. He wrote down on a piece of paper the materials each friend would have, but he made a mistake on his list. Drag the arrow to the fraction of material that shows the mistake. Create a correct equation to correct the mistake.

Each person will have:

$\frac{1}{3}$ cup flour

$\frac{1}{4}$ tablespoon vegetable oil

$\frac{3}{2}$ cup salt

$\frac{2}{3}$ tablespoons cream of tartar

Correct Equation: ☐ ÷ ☐ = ☐

→ | 1 | 2 | 3 | 4 | 5 | 6 | $\frac{3}{4}$ | $\frac{1}{2}$ | $\frac{1}{3}$

$\frac{1}{4}$ | $\frac{3}{2}$ | $\frac{2}{3}$ | $\frac{1}{6}$ | $\frac{1}{5}$

> **This composite item consists of two interactions: a hotspot and a graphic gap match. Students are asked to identify an error in another student's work, and solve a numeric equation to fix the error.**

> **This TEI pinpoints common misconceptions about dividing fractions, to provide teacher insight into student understanding.**

How to get TEIs from Measured Progress

Measured Progress partners with several platform providers that provide access to TEIs in the *Formative Content Bank.* Measured Progress follows IMS Global® Learning Consortium specifications and offers Question and Test Interoperability™ v.2.1 (QTI) packages to deploy on assessment or learning management platforms. By using QTI, you can expect consistency in terms of the content and the functionality of the item interactions.*

TEI Interaction Types

INLINE TEXT: Consists of both inline choice (drop-down) and text entry options. Presents a run of text with missing content. Students must choose from a drop-down list of options or manually enter text to submit their answers. This interaction can require students to evaluate and compare multiple options to determine the best answer, revealing better understanding of content.

HOT TEXT (highlightable text): Structured content (text, graphics, and media elements) that presents a set of choices as selectable runs of text embedded within a surrounding context. A student selects from one or more choices. These items are time-efficient and easy to score, and allow students to show both text-based evidence of understanding and their ability to discriminate among answer choices.

GAP MATCH (drag and drop): A graphical interaction that presents a set of defined gaps (hotspots) within a chart or graphic. Students must select and drag the correct answer choices to fill the gaps. This type of interaction can replace several multiple-choice items.

MATCH: Presents two sets of words, numbers, or phrases to be associated with each other. These items offer an opportunity for students to demonstrate their ability to associate information, for example, by matching equivalent fractions or words and meanings. This interaction allows for multiple demonstrations of this skill within a single item.

ORDER: Presents a list of choices that must be correctly reordered by the student. These choices may consist of text or images, and may be presented horizontally or vertically. This interaction can be used to test understanding of relationships between elements or the correct sequence of events. Order interactions reduce the possibility that a student can correctly guess an answer.

HOTSPOT: A graphical interaction with a set of choices defined as areas of a graphic image. The student's task is to select one or more of the areas (hotspots).

COMPOSITE: An item that combines two or more of the same or different interactions. The combinations can increase the rigor of TEIs.

Using TEIs in the *Formative Content Bank* from Measured Progress, teachers can create assessments that are engaging and prepare students for next-generation testing experiences.

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*Measured Progress provides an expanding variety of TEI interactions, but not all items function on all platforms. Consult your assessment or learning management platform provider to determine which TEI types will successfully render on their platform.