Using Stemmed Questions – Preparing for GMAS

Features the Georgia Milestone Assessment System:

- open-ended (constructed-response) items in language arts and mathematics (all grades and courses)
- a writing component (in response to passages read by students) at every grade level and course within the language arts assessment
- norm-referenced items in all content areas and courses, to complement the criterion-referenced information and to provide a national comparison
- transition to online administration over time, with online administration considered the primary mode of administration and paper-pencil as back-up until the transition is complete.

What are stemmed questions?

Stemmed questions are a series of questions where the subsequent answer responses stem or depend on the previously answered question(s).
i.e. ~ **Question 1** is true/false. The answer to **Question 1** leads to how **Question 2** is answered, which could be multiple choice. **Question 3** is constructed response and also stems from how **Question 1** was answered.

Why are stemmed questions important?

Not only should the questions be rigorous in preparing students for the higher order thinking but should also do the following:

- Prepare for next generation assessments
- Scaffold questions to show depth of knowledge of subject matter
- Illustrate the rigor and complexity of new assessments
- Teach students to process and think through the enhanced multiple choice questions – going through the steps of thinking through stemmed and rigorous questions.

Response Types

- **Selected Stemmed Response Questions** prompt the student to select one or more responses for a set of options. These can be multiple choice or true/false.

- **Constructed Response Questions** prompt students to produce text or numerical responses in order to collect evidence about their knowledge or understanding of a given assessment target.

More Information & Assessment Samples:

- **http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Georgia-Milestones-Assessment-System.aspx**
- **http://www.smarterbalanced.org/smarter-balanced-assessments/**
- **https://www.engageny.org/resource/new-york-state-common-core-sample-questions**
- **http://education.ky.gov/AA/items/Pages/default.aspx**

Eliciting Evidence of Student Learning: videos featuring an overview of GMAS as well as individual grade bands – elementary, middle, and high.
http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Pages/Eliciting-Evidence-of-Student-Learning.aspx

GMAS Content Weights

http://www.gadoe.org/Curriculum-Instruction-and-Assessment/Assessment/Documents/Georgia_Milestones_Content_Weights_2014-15_FINAL.pdf

The next two pages will show examples from a Georgia Department of Education webinar on GMAS.

Look for specific videos featuring more information for grade bands and each content level on the Teaching and Learning Digital Library

Examples from Georgia Department of Education

Multiple Choice

Which fraction is largest?

A $\frac{1}{4}$

$\frac{1}{2}$

C $\frac{1}{6}$

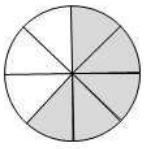
D $\frac{1}{3}$

The content and presentation of these items are for illustrative purposes only.

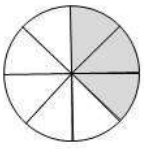
Constructed Response

George and Ana each had a 12-inch pizza. Both pizzas were split into 8 equal pieces. The shaded pieces are the portion of their pizzas that George and Ana ate.

George



Ana



Express in fractions how much pizza George and Ana ate. Use the symbol <, =, or > to show who ate more pizza.

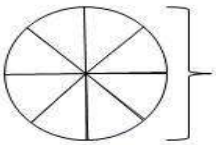
George $\frac{5}{8}$ > Ana $\frac{3}{8}$

The content and presentation of these items are for illustrative purposes only.

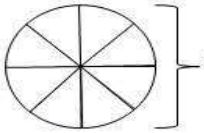
Constructed Response

George has a 12-inch pizza. Ana has a 9-inch pizza. George and Ana both ate $\frac{1}{2}$ of their pizza. George says he ate more than Ana. Is George right? Explain why or why not.

George

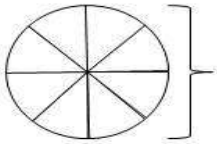


Ana

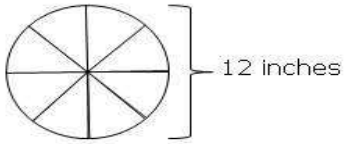


George is right. His pizza was bigger so $\frac{1}{2}$ of a bigger pizza is more than $\frac{1}{2}$ of a smaller pizza.

George



Carlos



Carlos has a 12-inch pizza. He ate $\frac{1}{4}$ of his pizza. Did George or Carlos eat more pizza? Explain your answer.

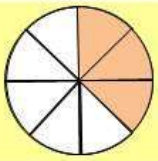
George ate more pizza. Their pizzas are the same size. $\frac{1}{2}$ of the pizza is more than $\frac{1}{4}$ of the pizza.

Technology Enhanced

George and Ana each had a 12-inch pizza. George ate $\frac{5}{8}$ of his pizza. Ana ate $\frac{3}{8}$ of her pizza. Shade in the amount of pizza George and Ana ate.

George

Ana



Use the symbol >, =, or < to show who ate more pizza.

George		Ana
$\frac{5}{8}$	>	$\frac{3}{8}$