

M-STEP 2016 Mathematics



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Mathematics



- Measures concepts and procedures, problem solving, modeling and data analysis, and communicating reasoning
- Includes multiple choice (selected response), technology enhanced (TE) items, short answer and extended response **constructed response (CR)** items
 - Gridded response for paper/pencil testing in lieu of TE items

Mathematics Spring 2015 in Review



- **Transition to assessment aligned to state standards**
 - Increased rigor
 - Focused on college and career ready
 - Provided students with opportunity to show a deeper understanding of what they are learning
 - Established new baseline on which to improve

Mathematics – Spring 2016 What's new



- M-STEP plan - computer adaptive
- MME College Entrance Test – SAT
- Workkeys
- PSAT – Grades 9 and 10 offered (not an accountability measure)
- K-2 Field Test - optional

Mathematics Update (Grade 11)



- SAT-College Entrance Exam
 - Well-aligned to Michigan Mathematics standards
 - Sole M-STEP mathematics score (no separate M-STEP in mathematics)
- Work Skills Exam
 - ACT WorkKeys
 - Does not contribute to mathematics score

Claims and Assessment Targets



Claims and Targets

Broad evidence-based statements about what students know and can do

Claims

Map the standards onto assessment evidence

Assessment targets

Assessment targets

Standard

Standard

Standard

National Council Teachers of Mathematics (NCTM)



“...the best preparation for the [mathematics] assessments, with their commitment to assessing all the standards, including the Standards for Mathematical Practice, is high-quality instruction...”

NCTM President Diane J. Briars

Claim 2, 3, and 4 Relevant Verbs

Claim 2 Problem Solving	Claim 3 Communicating Reasoning	Claim 4 Modeling & Data Analysis
Understand	Understand	Model
Solve	Explain	Construct
Apply	Justify	Compare
Describe	Prove	Investigate
Illustrate	Derive	Build
Interpret	Assess	Interpret
Analyze	Illustrate	Estimate
	Analyze	Analyze
		Summarize
		Represent
		Solve
		Evaluate
		Extend
		Apply

Classroom Connections



- Aligned instruction to content standards, including depth of knowledge, academic vocabulary, and performance tasks
- Familiarity with testing devices, item types/interactions, online delivery engine tools, navigation, and functionality (look and feel)
- Sample item sets – Technology Enhanced (TE) item types, online navigation, and tool functionality – *classroom led for younger students*

Be Prepared!



Spring 2015 Preview (Click Here)
 Sample Item Sets (Click Here)
 Grade 3
 Grade 4
 Grade 5
 Grade 6
 Grade 7
 Grade 8
 Grade 11
 Calculator Practice
 Supports and Accommodations (TSM Required)



SAMPLE ITEM SETS

- ALL GRADE LEVELS, 3-8 & 11
- COMPUTER ADAPTIVE TEST (CAT) ITEMS AND PERFORMANCE TASKS

[HTTPS://WBTE.DRCEDIRECT.COM/MI/PORTALS/MI/OTT1](https://wbte.drcedirect.com/mi/portals/mi/ott1)

Sample TE Item Type - Multi-Select



Question 20

Select two fractions that can be rewritten with a denominator of 24.

$\frac{1}{6}$

$\frac{1}{5}$

$\frac{5}{7}$

$\frac{8}{10}$

$\frac{1}{8}$

$\frac{7}{8}$

Multiple Answer



Mathematics Grade 3 Sample Items

Question 2

Does replacing the unknown number with 7 make each equation true? Select Yes or No for each equation.

	Yes	No
$6 \times \square = 36$	<input type="checkbox"/>	<input type="checkbox"/>
$8 \times \square = 64$	<input type="checkbox"/>	<input type="checkbox"/>
$49 + \square = 7$	<input type="checkbox"/>	<input type="checkbox"/>
$54 + \square = 6$	<input type="checkbox"/>	<input type="checkbox"/>

Hot Spot

Mathematics Grade 3 Sample Items Training Studer

Question 4

Click all of the shapes that are quadrilaterals.

Graphing

Mathematics Grade 3 Sample Items Training Studer

Question 6

Maya says that a rhombus cannot also be a rectangle.
Show Maya that her statement is not true.
Draw a rhombus that is also a rectangle.

Drag and Drop

Question 14

Drag each fraction to the correct location on the number line.

Spring 2016 Equation Builder



- The student will no longer have to open a separate window to use an equation builder.
- The student will be limited in the keyboard by what they see in the buttons.
- The buttons will be organized by functionality (e.g., operators).
- There will be specific variable buttons on the keypad.
- Practice with tool in fall 2015

M-STEP Online



- 80% of Schools – Online
- 83% of Student Population was Covered
- 3.8 million Test Sessions
- 190,731 Sessions in a Single Day
- 97% Participation Rate Overall

Instructional Resources



- Illustrative Mathematics
 - <http://www.illustrativemathematics.org/>
- MARS
 - <http://map.mathshell.org/materials/index.php>
- EduCore
 - <http://educore.ascd.org/>
- NCTM's Illuminations
 - <http://illuminations.nctm.org/>
- Michigan e-Library
 - <http://mel.org>

Get Involved!



Please encourage the teachers in your district to participate on **DAS Committees**.

www.michigan.gov/baa

“Assessment Committee Participation Application”

- Item Writing
- Item Review
- Data Review
- Context Review
- Standard Setting

Stay Informed!



Sign up for weekly distribution of the *Spotlight*.

www.michigan.gov/baa

“Communications and Spotlight...”

Reach Out!



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Thank you!


