



# **MTTC Test Development and Standard Setting Processes**

**DARTEP Meeting**

**April 12, 2019**



## Overview

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- ✓ Which tests are being developed/updated?
- ✓ How are the tests developed?
- ✓ How are the passing standards set?
- ✓ How are stakeholders involved?



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## Which tests are being developed/updated?

Tests	Projected Release Dates	Tests	Projected Release Dates
<ul style="list-style-type: none"> <li>• Health and Physical Education</li> <li>• Learning Disabilities</li> </ul>	Winter 2019	<ul style="list-style-type: none"> <li>• Reading Specialist</li> <li>• Math Specialist</li> </ul>	Spring 2022
<ul style="list-style-type: none"> <li>• Cognitive Impairment</li> <li>• Emotional Impairment</li> <li>• Bilingual Education</li> <li>• English as a Second Language</li> </ul>	Summer 2020	<ul style="list-style-type: none"> <li>• History</li> <li>• Social Studies</li> <li>• Middle Grades Social Studies</li> <li>• Middle Grades Science</li> <li>• School Principal</li> <li>• Central School Administrator</li> </ul>	Summer/Fall 2022
<ul style="list-style-type: none"> <li>• Elementary Education PK-3</li> <li>• Elementary Education 3-6</li> <li>• Deaf and Hard of Hearing</li> <li>• Visually Impaired</li> <li>• Industrial Technology</li> </ul>	Summer 2021	<ul style="list-style-type: none"> <li>• Chemistry</li> <li>• Physics</li> </ul>	Spring 2023
<ul style="list-style-type: none"> <li>• Math</li> <li>• English Language Arts</li> <li>• Middle Grades Math</li> <li>• Middle Grades English Language Arts</li> </ul>	Fall 2021	<ul style="list-style-type: none"> <li>• Earth Space</li> <li>• Biology</li> </ul>	Summer 2023
		<ul style="list-style-type: none"> <li>• Integrated Science</li> <li>• Physical Science</li> </ul>	Fall 2023



## How are the tests developed?

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### Test Development Process

- 1. Initial Planning**
- 2. Test Framework Development**
- 3. Test Item Development**
- 4. Initial Test Form Creation**
- 5. Standard Setting**



# Test Development Process

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## Step 1: Initial Planning

- ◆ Alignment to Michigan Standards for the Preparation of Teachers
- ◆ Establishment of Advisory Committees



## Test Development Process

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### Step 2: Test Framework Development

- ✓ Defines test content to guide test development
- ✓ Provide candidates and preparation programs with information about what will be on the test



## Sample Test Framework

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Subarea → **READING**

Objective → **Understand the literal content of a variety of authentic materials.**

Descriptive Statement → Includes:

- ◆ Determining the stated main idea; summarizing; identifying character, setting, or events described in a selection; and determining the sequence of events.





## Test Development Process

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### Step 2: Test Framework Development

- ◆ Reviewed by committees
- ◆ Validated via a Content Validation Survey



## Test Development Process

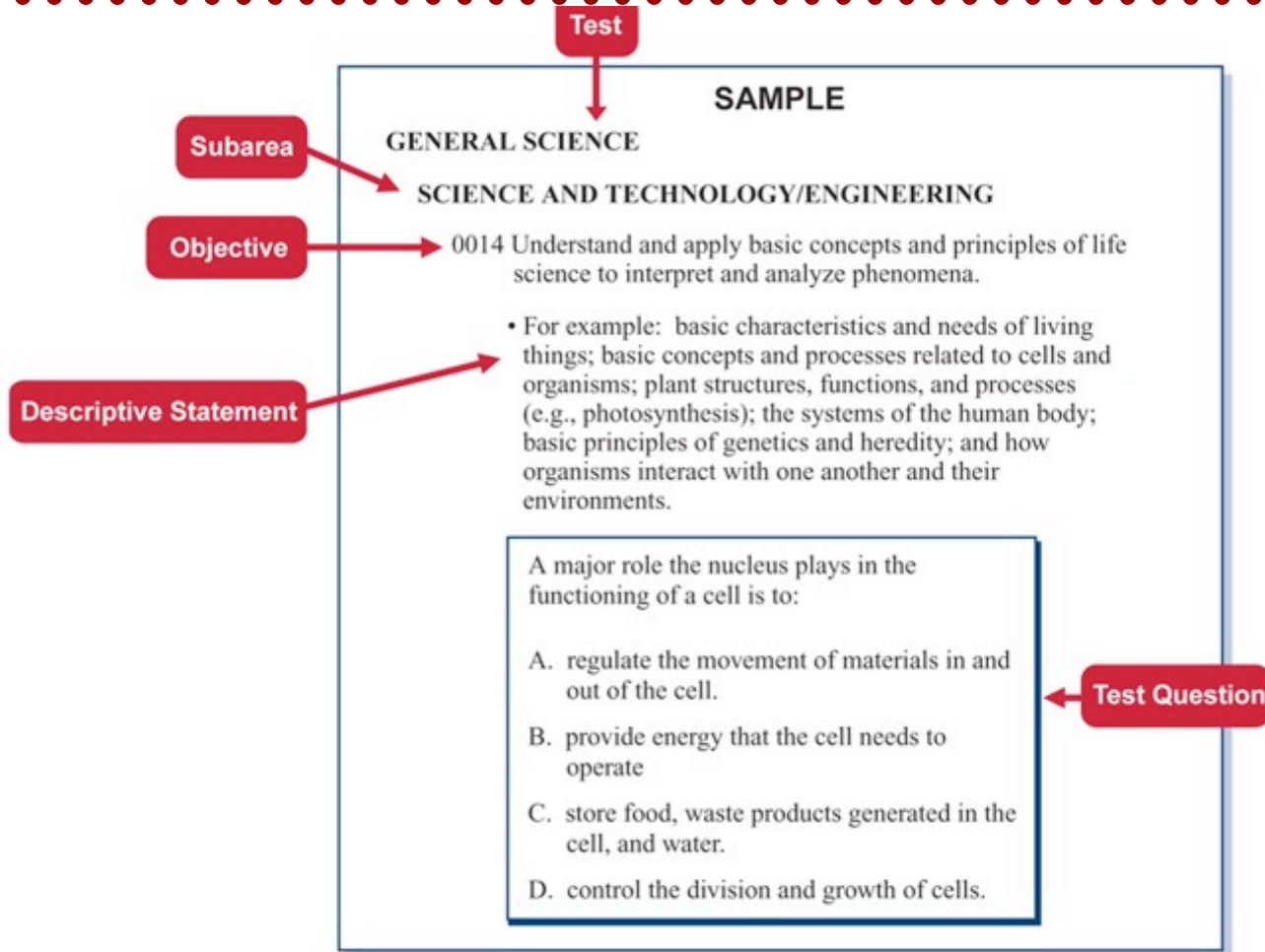
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### Step 3: Test Item Development

- ◆ Aligned to the test objectives contained within the test framework



## Alignment of Test Items to the Test Framework





## Test Development Process

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### Step 3: Test Item Development

- ◆ Aligned to the test objectives
- ◆ Reviewed by committees
- ◆ Field tested



# Test Development Process

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## Step 4: Initial Test Form Creation



# Test Development Process



## Step 5: Standard Setting



## Standard Setting: Goal

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The goal of standard setting is to identify a passing standard (passing score) that would be a fair and reasonable definition of a level of knowledge separating those certificate or endorsement candidates who have the content knowledge necessary to effectively perform the job of a qualified Michigan educator from those who do not.



## Standard Setting: Panel Members

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The process relies on professional judgments informed by input from Michigan educators who are:

- teachers and teacher preparation faculty
- content experts in the field
- members of a Content Advisory Committee during the development process
- recruited to be representative of the diversity of the teacher population





## Standard Setting: an Iterative Process

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- Step 1.** Simulated test administration
- Step 2.** Discussion/definition of the threshold of knowledge required of an effective educator qualified to teach in Michigan
- Step 3.** Round 1: Item-based passing score judgments
- Step 4.** Round 2: Revised item-based passing score judgments
- Step 5.** Round 3: Test-based passing score judgments



## Standard Setting Process: Step 1

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### Simulated test administration

Panel members participate in a simulated test-taking activity in order to experience the test items from the point of view of an examinee.



## Standard Setting Process: Step 2

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Discussion/definition of the threshold of knowledge required of an effective educator qualified to teach in Michigan

An effective educator in Michigan is expected to:

1. know and effectively teach the content defined by the test objectives;
2. effectively teach all students at a level in keeping with the high standards set for Michigan K-12 students to graduate career and college ready;
3. effectively teach all possible courses governed by the standards for the content area(s) for this certificate or endorsement; and
4. effectively teach academically advanced students as well as those who are less academically proficient within the grade levels specified by the certificate or endorsement.



## Standard Setting Process: Step 3

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### Round 1: Item-based passing score judgments

Each panel member rates every test item on the first test form to indicate how well an "effective Michigan educator" would perform by answering the question:

**Imagine a hypothetical group of individuals who have the level of content knowledge required to perform effectively the job of a qualified Michigan educator in this certificate/endorsement area.**

**What percent of this group would answer this item correctly?**



## Standard Setting Process: Step 4

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Round 2: Revised item-based passing score judgments

Panel members are given additional information and data and repeat the Round 1 process.

Panel members may choose to make revisions to their initial judgments.



## Standard Setting Process: Step 5

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### Round 3: Test-based passing score judgments

For each panel member, a calculated passing score is produced, based on their previous item-based judgments.

Each panel member refers to this and other additional information to recommend the number of items needed to be answered correctly to pass the test by answering the question:

**Imagine a hypothetical individual who has the level of content knowledge required to perform effectively the job of a qualified Michigan educator in this certificate/endorsement area.**

**What is the number of items on the test that would be answered correctly by this individual?**



# QUESTIONS?



## Changes Effective October 2012

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- ◆ update to the standard setting question
- ◆ enhanced description of the hypothetical candidate





## Update to the Standard Setting Question

### PRIOR TO OCTOBER 2012

Imagine a hypothetical group of individuals who have the **minimum amount of content knowledge to perform the role of a Michigan entry-level educator** in this endorsement area.

What percent of this group would answer this item correctly?

### EFFECTIVE OCTOBER 2012

Imagine a hypothetical group of individuals who have **the level of content knowledge required to perform effectively the job of a qualified Michigan educator** in this certificate/endorsement area.

What percent of this group would answer this item correctly?



## Enhanced Description of the Hypothetical Candidate

### PRIOR TO OCTOBER 2012

The individuals you use as a hypothetical reference group for your ratings should be “acceptably qualified individuals” who are just at the level of knowledge and skills required to perform the job of an entry-level educator receiving a Michigan teaching certificate with an endorsement in this field.

### EFFECTIVE OCTOBER 2012

The individuals you use as a hypothetical reference group for your ratings should, at a minimum, meet the threshold of knowledge required to be an effective educator, and those individuals must possess the characteristics listed below.

An effective educator in Michigan is expected to:

1. know and effectively teach the content defined by the test objectives;
2. effectively teach all students at a level in keeping with the high standards set for Michigan K-12 students to graduate career and college ready;
3. effectively teach all possible courses governed by the standards for the content area(s) for this certificate or endorsement; and
4. effectively teach academically advanced students as well as those who are less academically proficient within the grade levels specified by the certificate or endorsement.



## Standard Settings since October 2012

October 2012	Early Childhood Education (General and Special Education) Earth/Space Science
October 2013	Professional Readiness Examination Elementary Education Economics Geography History Political Science School Counselor Social Studies (Elementary) Social Studies (Secondary)
February 2015	Autism Spectrum Disorder Cognitive Impairment Emotional Impairment Learning Disabilities
August 2017	Library Media



# QUESTIONS?



# MTTC Test Development Information

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**Beginning August 2019**

**a technical manual will be added**

**to the website**

**[www.mttc.nesinc.com](http://www.mttc.nesinc.com)**



**THANK YOU!**