

State Board of Education Meeting August 4, 2015

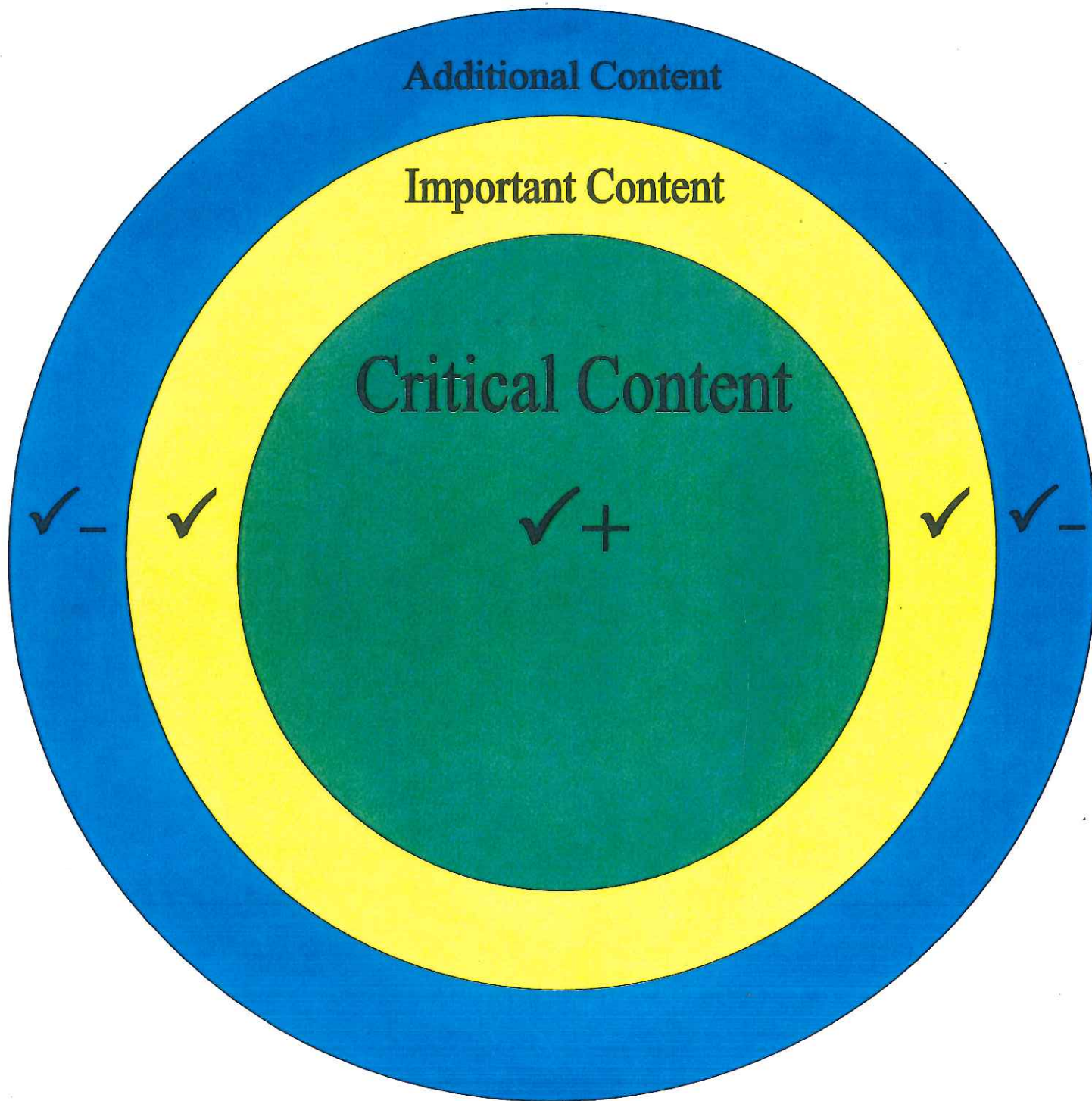
Assessment Update

- **ISTEP+ Return of Results**
 - Finalizing scoring parameters
 - Standard Setting (establishing cut scores)
 - Timeline revisions

- **Formative Assessment Update**
 - *Request to Participate* online form build
 - Streamlined entry / prepopulated areas
 - Window to submit request
 - Mid-August to mid-September
 - Support to include WebEx, directions, FAQs
 - Master contract with vendors
 - Meeting with vendors next week to discuss expectations

- **Preparing for 2015-16**
 - Disseminating updates
 - Dedicated version of DOE Dialogue
 - Special CTC ListServ messages
 - Via statewide CCR-related workshops
 - Website updates
 - Recorded WebEx informational sessions
 - ISTEP+ Grade 10
 - English/Language Arts, Mathematics, Science
 - Blueprints
 - Instructional and Assessment Guidance
 - Q&A sessions specifically for high schools

- **TAC Details**
 - Technical Advisory Committee
 - Testing Advisory Committee



**Indiana Academic Standards (IAS):
Instructional and Assessment Guidance
ISTEP+: Mathematics – Grade 10**

Opportunity to Learn

From an assessment perspective, preparing students to be college and career ready necessitates a focus on “Opportunity to Learn.” Opportunity to Learn (OTL) refers to equitable conditions or circumstances within the school or classroom that promote learning for all students. OTL includes curricula, learning materials and instructional experiences. In short, OTL supports student success by ensuring student access to both content and instruction.

Opportunity to Learn is both a moral imperative and an ethical responsibility on the part of educators. Indiana teachers have a two-fold obligation with regard to OTL. First, teachers must provide students with OTL for Indiana Academic Standards that are assessed in the classroom and on ISTEP+. Second, and more importantly, teachers must provide OTL in terms of the content that students must learn in preparation for college and careers.

Prioritizing Instruction

In an effort to empower teachers and focus on instructional priorities, the Office of Student Assessment has created this Instructional and Assessment Guidance (“Guidance”) document for grade 10. The *Content Priority* of each Standard is delineated in the Guidance as one of three designations:

- 1) Critical – identified as “✓+”
- 2) Important – identified as “✓”
- 3) Additional – identified as “✓–”

This Guidance document identifies the knowledge, skills, and abilities that every student must have by the end of grade 10 to be on-track for college- and career-readiness by the time the student leaves high school. The Guidance document is designed to assist teachers in planning and prioritizing instructional time to ensure student success.

It is important to note that the Grade 10 ISTEP+ test is a domain-based test, rather than an end of course assessment. In other words, the Grade 10 ISTEP+ test includes the following mathematics-related topics: *Number Sense, Expressions, and Computation; Geometry and Measurement; Data Analysis, Statistics, and Probability; Linear Equations, Inequalities, and Functions; Systems of Equations and Inequalities; Quadratic & Exponential Equations and Functions; and Mathematical Processes.*

A Final Note

The Guidance document, as well as the Standards themselves, is not meant to be used as a “checklist.” Rather, when teachers take into consideration the instructional priorities and deliver rich, meaningful lessons, the Standards come to life in the classroom.

ISTEP+: Grade 10 Mathematics 2015-16 Blueprint

The grade 10 mathematics assessment is divided into seven categories for reporting student achievement. Age-appropriate concepts are assessed within each category.

Reporting Category	Description	Percent Range *
Number Sense, Expressions, and Computation	Questions may include understanding rational and irrational numbers and the similarities and differences between them, understanding exponents and square roots, simplifying expressions, and solving real-world problems with rational numbers using multiple operations.	11-21%
Geometry and Measurement	Questions may include defining and describing the attributes of three dimensional geometric objects, describing two-dimensional figures that result from slicing three dimensional figures, and applying the Pythagorean Theorem	4-14%
Data Analysis, Statistics, and Probability	Questions may include constructing and interpreting scatter plots to investigate patterns of data, using data to make predictions and interpret results, understanding different sampling methods, and understanding how and why bias may be introduced into a sample set.	9-19%
Linear Equations, Inequalities, and Functions	Questions may include understanding and graphing linear equations and inequalities, understanding the functional relationship between two quantities by analyzing graphs, understanding and translating among equivalent forms of equations for linear functions.	28-38%
Systems of Equations and Inequalities	Questions may include solving pairs of linear equations in two variables by graphing, substitution, and elimination, interpreting the reasonableness of solutions of two linear equations, and representing real world problems by using a system of two linear inequalities in two variables.	4-14%
Quadratic & Exponential Equations and Functions	Questions may include understanding and comparing the differences between linear, exponential, and quadratic equations and functions, solving and graphing quadratic equations and functions, and representing real-world problems by using quadratic equations.	5-15%
Mathematical Process	Questions may include making sense of problems and persevering in solving them, reasoning abstractly and quantitatively, constructing viable arguments and critiquing the reasoning of others, modeling, using appropriate tools strategically, attending to precision, and making use of structure.	4-14%

* This range represents the approximate emphasis for each reporting category on the assessment.

**Instructional and Assessment Guidance
ISTEP+: Mathematics – Grade 10**

Symbol	Key
✓+	Critical Content
✓	Important Content
✓-	Additional Content

Number Sense, Expressions, and Computation	Geometry and Measurement	Data Analysis, Statistics, and Probability	Linear Equations, Inequalities, and Functions	Systems of Equations and Inequalities	Quadratic & Exponential Equations and Functions	Mathematical Process							
8.NS.1*	✓	8.GM.1	✓	8.DSP.1*	✓	8.AF.1	✓	AI.SEI.1	✓	AI.QE.1	✓	MP1*	✓+
8.NS.2	✓	8.GM.2	✓	8.DSP.2	✓-	8.AF.2*	✓	AI.SEI.2	✓	AI.QE.2	✓-	MP2*	✓+
8.NS.3	✓	8.GM.3	✓-	8.DSP.3*	✓+	8.AF.3	✓	AI.SEI.3*	✓+	AI.QE.3*	✓	MP3*	✓+
8.NS.4	✓	8.GM.4*	✓	8.DSP.4	✓-	8.AF.4*	✓	AI.SEI.4*	✓	AI.QE.4	✓	MP4*	✓+
8.C.1*	✓+	8.GM.5	✓-	8.DSP.5	✓	8.AF.5	✓			AI.QE.5*	✓	MP5*	✓+
8.C.2	✓-	8.GM.6*	✓	8.DSP.6	✓	8.AF.6*	✓			AI.QE.6	✓	MP6*	✓+
AI.RNE.1	✓-	8.GM.7	✓-	AI.DS.1	✓+	8.AF.7*	✓			AI.QE.7*	✓	MP7*	✓+
AI.RNE.2*	✓	8.GM.8	✓	AI.DS.2*	✓	8.AF.8*	✓					MP8*	✓+
AI.RNE.3	✓	8.GM.9*	✓	AI.DS.3	✓	AI.F.1	✓						
AI.RNE.4	✓			AI.DS.4*	✓-	AI.F.2*	✓+						
AI.RNE.5	✓			AI.DS.5	✓	AI.F.3	✓						
AI.RNE.6*	✓			AI.DS.6	✓	AI.F.4*	✓						
AI.RNE.7	✓					AI.L.1*	✓+						
						AI.L.2*	✓+						
						AI.L.3*	✓						
						AI.L.4	✓						
						AI.L.5*	✓+						
						AI.L.6*	✓						
						AI.L.7*	✓						
						AI.L.8	✓						
						AI.L.9	✓-						
						AI.L.10	✓-						
						AI.L.11	✓						

Please see notes on the following page for additional information

NOTES:

- Some concepts covered in the Algebra I standards will address, and many times will go beyond, concepts found in the Grade 8 standards. This is especially true in the Linear Equations, Inequalities, and Functions and Data Analysis, Statistics, and Probability reporting categories.
- Grade 8 content that does not overlap with Algebra I content should be taught and will be assessed at a high school level of rigor.
- Grade 8 content is included with the Grade 10 mathematics assessment to not only allow for content that goes beyond Algebra I, but to also ensure that all students in the state of Indiana have had access to the content that may be assessed.
- All standards denoted with an * are eligible to be assessed on Part 1 of the ISTEP+ assessment.

**ISTEP+: Grade 10 Science
2015-16 Blueprint**

The grade 10 science assessment is divided into four categories for reporting student achievement. Age-appropriate concepts are assessed within each category.

Reporting Category	Description	Percent Range*
1 – The Nature of Science	<p>Questions may include developing explanations based on observations and data from investigations, communicating results in multiple forms, evaluating the work of others for reasonableness, understanding basic data gathering techniques in an investigation, understanding the use and limitations of models, understanding how theories are developed and changed based on the results of multiple investigations, describing how scientific discoveries may lead to new technologies, and explaining how scientific knowledge can be used to solve environmental and social issues.</p> <p><i>Note: High school-level Biology content will NOT be used as context in any nature of science items on the grade 10 science ISTEP+ assessment.</i></p>	45-55%
2 – Cellular Structure, Chemistry, and Reproduction	<p>Questions may include understanding the major categories of organic compounds and how the shape of the molecules determines its role in cellular processes, understanding the role of various cell structures, understanding why different cells have different proportions of organelles, understanding the processes of mitosis and meiosis, and explaining how sexual reproduction leads to offspring genetically different from their parents.</p>	15-25%
3 – Matter Cycles, Energy Transfer, and Interdependence	<p>Questions may include understanding and describing the processes of photosynthesis, cellular respiration, and metabolism, describing the ways in which matter and energy flow through ecosystems, and describing how natural phenomena and human activities can impact the short-term and long-term stability of an ecosystem.</p>	5-15%
4 – Genetics, Molecular Basis of Heredity, and Evolution	<p>Questions may include understanding the structure and function of DNA and chromosomes, understanding how hereditary information is passed from parents to offspring, understanding the basis and types of traits, determining the likelihood of the appearance of a trait, understanding how DNA may be damaged and how that damage may affect the organism, understanding the evidence that can be used to show evolutionary relationships among species, understanding how mutations cause genetic variation, and describing how organisms with beneficial traits are more likely to survive and reproduce.</p>	15-25%

* This range represents the approximate emphasis for each reporting category on the assessment.

**Indiana Academic Standards (IAS):
Instructional and Assessment Guidance
ISTEP+: Science – Grade 10**

Opportunity to Learn

From an assessment perspective, preparing students necessitates a focus on “Opportunity to Learn.” Opportunity to Learn (OTL) refers to equitable conditions or circumstances within the school or classroom that promote learning for all students. OTL includes curricula, learning materials and instructional experiences. In short, OTL supports student success by ensuring student access to both content and instruction.

Opportunity to Learn is both a moral imperative and an ethical responsibility on the part of educators. Indiana teachers have a two-fold obligation with regard to OTL. First, teachers must provide students with OTL for Indiana Academic Standards that are assessed in the classroom and on ISTEP+. Second, and more importantly, teachers must provide OTL in terms of the content that students must learn in preparation for the next level of learning.

Prioritizing Instruction

In an effort to empower teachers and focus on instructional priorities, the Office of Student Assessment has created this Instructional and Assessment Guidance (“Guidance”) document for grade 10. The *Content Priority* of each Standard is delineated in the Guidance as one of three designations:

- 1) Critical – identified as “√+”
- 2) Important – identified as “√”
- 3) Additional – identified as “√–”

The Guidance document is designed to assist teachers in planning and prioritizing instructional time to ensure student success.

It is important to note that the Grade 10 ISTEP+ test is a domain-based test, rather than an end of course assessment. In other words, the Grade 10 ISTEP+ test will be administered during specified testing windows (Part 1, Part 2) and includes the following science-related topics: *The Nature of Science; Cellular Chemistry & Cellular Structure; Matter Cycles and Energy Transfer & Inter-dependence; Molecular Basis of Heredity & Cellular Reproduction; and Genetics and Evolution.*

A Final Note

The Guidance document, as well as the Standards themselves, is not meant to be used as a “checklist.” Rather, when teachers take into consideration the instructional priorities and deliver rich, meaningful lessons, the Standards come to life in the classroom.

Instructional and Assessment Guidance
ISTEP+: Science – Grade 10

Symbol	Key
✓+	Critical Content
✓	Important Content
✓-	Additional Content

* Represents standards that may be assessed on ISTEP+ Part 1 and ISTEP+ Part 2. All standards may be assessed on ISTEP+ Part 2.

The Nature of Science	Cellular Chemistry & Cellular Structure		Matter Cycles and Energy Transfer & Inter-dependence		Molecular Basis of Heredity & Cellular Reproduction		Genetics & Evolution		
1*	✓+	B.1.1	✓	B.3.1	✓	B.5.1	✓+	B.7.1	✓+
2*	✓	B.1.2	✓	B.3.2	✓+	B.5.2	✓+	B.7.2	✓
3*	✓+	B.1.3	✓	B.3.3	✓	B.5.3	✓	B.7.3	✓
4*	✓	B.2.1	✓	B.3.4	✓+	B.5.4	✓-	B.7.4	✓+
5*	✓	B.2.2	✓	B.3.5	✓	B.5.5	✓	B.7.5	✓
6*	✓	B.2.3	✓	B.4.1	✓	B.5.6	✓	B.8.1	✓
7*	✓-	B.2.4	✓	B.4.2	✓+	B.6.1	✓+	B.8.2	✓-
8*	✓+	B.2.5	✓	B.4.3	✓	B.6.2	✓	B.8.3	✓
9*	✓+	B.2.6	✓	B.4.4	✓	B.6.3	✓	B.8.4	✓
10*	✓					B.6.4	✓+	B.8.5	✓+
11*	✓					B.6.5	✓	B.8.6	✓
								B.8.7	✓

Note: The Nature of Science standards can be found at the front of the standards documents. The number designations of each are included below for clarification.

- 1: Develop explanations based on reproducible data and observations gathered during laboratory investigations.
- 2: Recognize that their explanations must be based both on their data and other known information from investigations of others.
- 3: Clearly communicate their ideas and results of investigations verbally and in written form using tables, graphs, diagrams, and photographs.
- 4: Regularly evaluate the work of their peers and in turn have their work evaluated by their peers.
- 5: Apply standard techniques in laboratory investigations to measure physical quantities in appropriate units and convert quantities to other units as necessary.
- 6: Use analogies and models (mathematical and physical) to simplify and represent systems that are difficult to understand or directly experience due to their size, time scale, or complexity. Recognize the limitations of analogies and models.
- 7: Focus on the development of explanatory models based on their observations during laboratory investigations.
- 8: Explain that the body of scientific knowledge is organized into major theories, which are derived from and supported by the results of many experiments and allow us to make testable predictions.
- 9: Recognize that new scientific discoveries often lead to a re-evaluation of previously accepted scientific knowledge and of commonly held ideas.
- 10: Describe how scientific discoveries lead to the development of new technologies and conversely how technological advances can lead to scientific discoveries through new experimental methods and equipment.
- 11: Explain how scientific knowledge can be used to guide decisions on environmental and social issues.

**ISTEP+: Grade 10 English/Language Arts
2015-16 Blueprint**

There are eight strands for English/Language Arts divided into four categories. Speaking and Listening is assessed in the classroom.

Strands Assessed	Description	Percent Range*
<p>Reading: Literature and Vocabulary</p>	<p>Questions are based on a range of grade-level literature and may include analyzing the use and development of literary elements and two or more themes or central ideas; analyzing the development, interaction, and impact of dynamic characters; analyzing and evaluating structures of literary texts and the effects those structures create; analyzing how works of literary or cultural significance draw on and transform earlier texts; supporting analysis of texts with explicit and inferential textual support; determining and clarifying the meanings of words and understanding their relationships; analyzing nuances in words with similar meanings; and determining and analyzing the literal and nonliteral meanings of words and phrases and their impact on meaning and tone in literature.</p>	30-40%
<p>Reading: Nonfiction, Vocabulary and Media Literacy</p>	<p>Questions are based on a range of grade-level nonfiction and may include analyzing how two or more central ideas are developed over the course of a text and interact while building on one another, analyzing how the author unfolds a series of ideas or events, providing analysis of claims and ideas and how they are refined by the text, determining author's perspective or purpose and analyzing an author's rhetoric, delineating and evaluating argument and claims, analyzing seminal U.S. and world documents of historical and literary significance, supporting analysis of texts with explicit and inferential textual support, analyzing how media include or exclude information from visual messages to achieve a desired result, determining and clarifying the meanings of words and understanding their relationships, analyzing nuances in words with similar meanings, and determining and analyzing the literal and nonliteral meanings of words and phrases and their impact on meaning and tone in nonfiction texts.</p>	30-40%
<p>Writing: Genres, Writing Process, Research Process</p>	<p>Questions may include argument, informative, or narrative writing in response to literature and nonfiction texts; rewriting; editing to produce and strengthen writing that is clear and coherent; locating information in authoritative sources; and assessing the usefulness of sources.</p>	10-20%
<p>Writing: Conventions of Standard English</p>	<p>Questions may include using/and or identifying grade-level appropriate Standard English conventions (e.g., usage of parts of speech, capitalization, punctuation, and spelling).</p>	10-20%

* This range represents the approximate emphasis for each reporting category on the assessment.

Indiana Academic Standards (IAS): Instructional and Assessment Guidance ISTEP+: English/Language Arts – Grade 10

Opportunity to Learn

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A Final Note







The Guidance document, as well as the Standards themselves, is not meant to be used as a “checklist.” Rather, when teachers take into consideration the instructional priorities and deliver rich, meaningful lessons, the Standards come to life in the classroom.

Instructional and Assessment Guidance
ISTEP+: English/Language Arts – Grade 10

Symbol	Content Priority	Approximate Instructional Time
✓+	Critical	50 – 75%
✓	Important	25 – 50%
✓-	Additional	5 – 10%

* Represents standards that may be assessed during ISTEP+ Part 1 (Applied Skills; March) and ISTEP+ Part 2 (Multiple-Choice and Technology-Enhanced; April/May). All other standards, with the exception of Speaking and Listening, may be assessed during ISTEP+ Part 2. Speaking and Listening should be assessed locally.

 These standards are Learning Outcomes that serve as an umbrella standard for all others within that strand.

Reading: Literature		Reading: Nonfiction		Reading: Vocabulary		Writing		Speaking and Listening		Media Literacy	
 9-10.RL.1		 9-10.RN.1		 9-10.RV.1		 9-10.W.1		 9-10.SL.1		 9-10.ML.1	
*9-10.RL.2.1	✓+	*9-10.RN.2.1	✓+	9-10.RV.2.1	✓+	*9-10.W.3.1	✓+	9-10.SL.2.1	✓-	*9-10.ML.2.1	✓-
*9-10.RI.2.2	✓+	*9-10.RN.2.2	✓+	9-10.RV.2.3	✓-	*9-10.W.3.2	✓+	9-10.SL.2.2	✓-	9-10.ML.2.2	✓-
*9-10.RL.2.3	✓+	*9-10.RN.2.3	✓+	9-10.RV.2.4	✓-	*9-10.W.3.3	✓	9-10.SL.2.3	✓-		
*9-10.RL.3.1	✓+	*9-10.RN.3.2	✓+	9-10.RV.2.5	✓-	*9-10.W.4	✓+	9-10.SL.2.4	✓-		
*9-10.RL.3.2	✓	*9-10.RN.3.3	✓+	*9-10.RV.3.1	✓+	9-10.W.5	✓	9-10.SL.2.5	✓-		
9-10.RL.4.1	✓-	*9-10.RN.4.1	✓+	*9-10.RV.3.2	✓+	*9-10.W.6.1	✓	9-10.SL.3.1	✓-		
*9-10.RL.4.2	✓-	9-10.RN.4.2	✓-	9-10.RV.3.3	✓-	*9-10.W.6.2	✓	9-10.SL.3.2	✓-		
		*9-10.RN.4.3	✓					9-10.SL.4.1	✓-		
								9-10.SL.4.2	✓-		

Indiana Department of Education
Office of Student Assessment

TAC Information

- **Technical Advisory Committee**

- Purpose

- Serve as neutral, objective party
- Provide expertise regarding assessments, particularly from a psychometric perspective
- Create documentation for submission to U.S. Department of Education (e.g., summary of standards setting, including verification of best practices and use of appropriate process)

- Participant Qualifications

- Nationally-recognized experts in the field of measurement
- Hold doctorate degree in the area of educational measurement
- Typically employed by a college/university or a national assessment center or related organization

- **Testing Advisory Committee**

- Purpose

- Provide practitioner perspective regarding assessment implementation
- Provide suggestions on future assessment programs

- Participant Qualifications

- Current practicing Indiana educators
 - Includes teachers, school- and corporation-level administrators, test coordinators
 - Represent multiple school configurations (e.g., elementary, middle school, high school)
 - Represent multiple content areas and student populations
- Approved for participation by principal or superintendent

Standard Setting (Cut Score Setting) Technical Advisory Committee Representatives

ECAs

Dr. Bill Auty
Dr. Karla Egan
Dr. Nancy Hahn

NCSC

Dr. Karla Egan
Dr. Nancy Hahn
Dr. Meagan Karvonen

ISTEP+

Dr. Karen Barton
Dr. Karla Egan
Dr. Huynh Huynh
Dr. Ed Roeber