

Writing High Quality Assessments

What It Means to be Assessment Literate

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Agenda

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- Define the characteristics of quality assessments
- Identify the elements of assessment design
- Review and use an assessment blueprint
- Analyze sample test items
- Attain some great resources!!

Learning Targets

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- Develop a trained eye to critically review existing assessments and design new assessments with regard to:
 - Foundations of assessment literacy (validity, reliability, and bias).
 - Quality assessment design (blueprints, alignment, rigor, and item design).

It's All About the Assessment

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- Informs instruction
- Evaluates & ensures student learning
- Measures progress
- Signals to students about what you think is important
- Creates a meaningful Student Growth Objective

Riddle Me This

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“Research shows that teachers spend from a quarter to a third of their professional time on assessment-related activities.

Almost all do so without the benefit of having learned the principles of sound assessment.”

Five Elements of Assessment Design

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1. Alignment
2. Rigor
3. Precision
4. Bias
5. Scoring

Validity & Reliability

1. **Content Validity:** Does the assessment measure what it intends to measure?(accuracy)
2. **Reliability:** Does the assessment provide trustworthy results that would be consistent if repeated in another place and time? (consistency)

The Assessment Blueprint

The blueprint includes 6 steps:

1. Determine the purpose.
2. Identify the standards you will assess.
3. Identify the skill/skills addressed in each standard.
4. Identify the level(s) of rigor of each skill.
5. Identify possible types of assessment items.
6. Write and/or select assessment items.

Determine the Purpose

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Column A: Assessment	Column B: Purpose
Summative	To gauge students' knowledge & skills before a unit of instruction
Interim	To monitor student learning and adjust ongoing instruction
Diagnostic	To measure student mastery of standards at the end of a unit of instruction
Formative	To measure student progress relative to an academic goal


Determine the Standards & Skills Addressed

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- Determine the instructional goals.
- Determine the standards normally taught.
- Prioritize those standards by importance:
 - identifying which will take more time to teach,
 - lead to enduring understanding,
 - are critical for college/career/life,

Determine the Importance of Standards


Determine the relative importance of the standard being taught

Standard Name	Rank	Assessment Design
		<i>More Questions/Points</i>
		
		<i>Fewer Questions/Points</i>

Rationale for Rank*

Identify Skills Addressed Within Each Standard

ASSESSMENT BLUEPRINT

1. Determine the Primary Purpose of the Assessment					
2. Standard(s) (one per row)			3. Skill(s) (one per row)	4. Level(s) of Rigor	5. Possible Type(s) of Items
6. Write and/or Select Assessment Items					
Item #	Standard(s) and/or Skill(s)	Type of Item	Level of Rigor	# of Points	% of Assessment
TOTAL					

ASSESSMENT

Identify Content Knowledge & How Students Must Demonstrate This Knowledge

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Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

- The nouns describe content necessary for mastery.
- The verbs describe the actions students must perform to demonstrate mastery of the standard.

Practice: Determine the Skills

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RI.6.1

Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.

- Create a list of skills students must attain using the list of nouns and verbs from the standard.
- Be sure to keep in mind possible misconceptions.
- Determine the skills necessary for students to fully demonstrate understanding of the standard.

Assessment Blueprint Example

Standard(s) (one per row)	Skill(s) (one per row)
RI.6.1 Cite textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text.	Identify the textual evidence as supporting details
	Cite textual evidence
	Analyze what the text is saying
	Make inferences
	Distinguish between a claim and the evidence that supports the claim
	Distinguish between explicit information and inferences

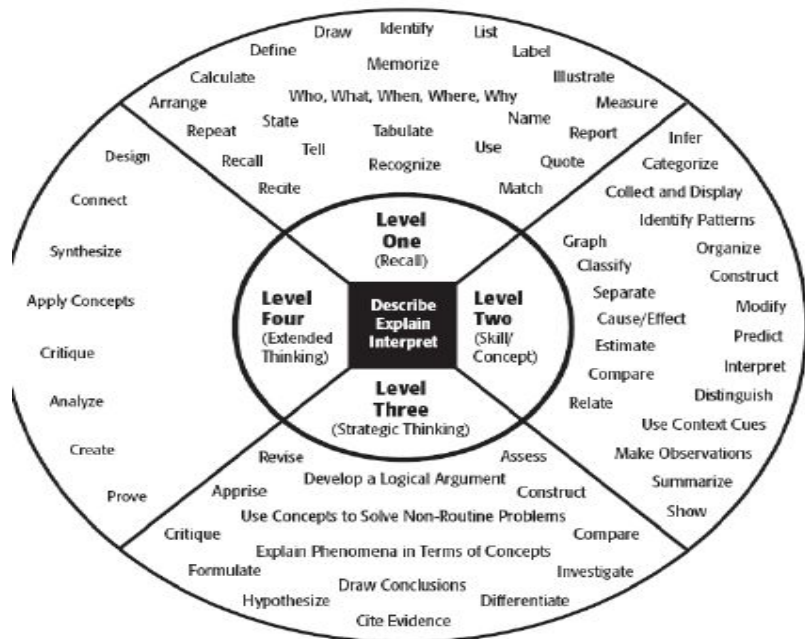
Identify Rigor & Types of Items

Once the appropriate level of rigor is identified, the types of assessment items can be chosen:

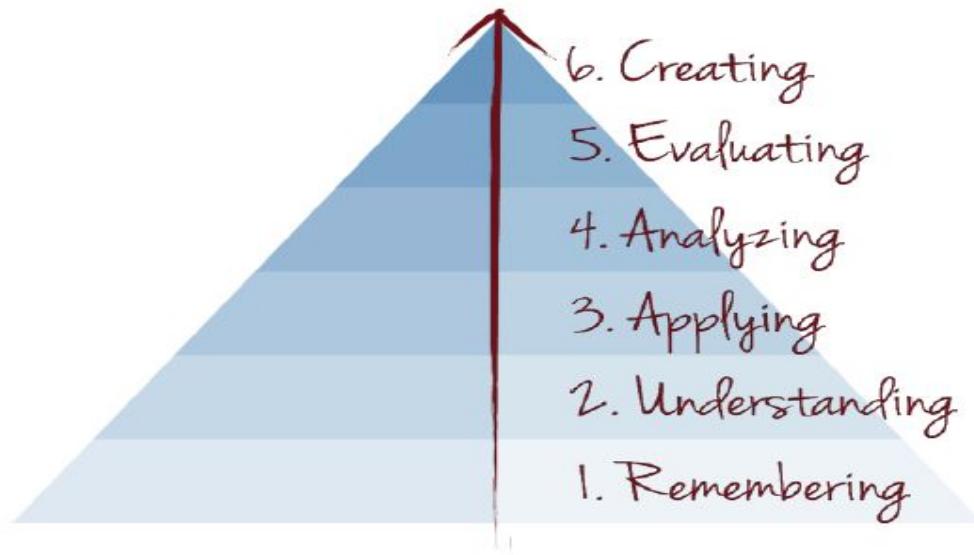
- selected response items
- constructed response items
- performance tasks

Understanding Rigor

Depth of Knowledge Wheel, DOK



Bloom's Taxonomy



Practice: Identify the Level of Rigor

2. Standard(s) (one per row)	3. Skill(s) (one per row)	4. Level(s) of Rigor	5. Possible Type(s) of Items
Reading Informational Text 1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	Quote accurately from the text (explicitly and when making inferences).		
Reading Informational Text 2: Determine two or more main ideas of a text, and explain how they are supported by key details; summarize the text.	Identify main ideas and how key details support them.		
Reading Informational Text 4: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.	Determine the meaning of new vocabulary words.		
Reading Informational Text 8: Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).	Explain how the author uses evidence to support his or her claims.		
Writing 1: Write opinion pieces on topics or texts, supporting a point of view with reasons and information.	Write an opinion piece on texts.		
	Support your point of view		

Practice

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True or False.

A high quality assessment has a range of rigor that provides a stretch at both ends of ability levels.

Types of Assessment Tasks

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Selected Response	Constructed Response	Performance
Multiple choice, matching, true false Benefits? Challenges?	Short answer, fill in the blanks, short essay Benefits? Challenges?	Long essay, experiment, speech, research paper Benefits? Challenges?

Benefits & Challenges of Item Types

Item Type	Benefits	Challenges
Selected Response Items	<ul style="list-style-type: none">• Efficient• Assess a range of students' knowledge and skills• Faster to score	<ul style="list-style-type: none">• Harder to measure higher order thinking skills• Students can guess
Constructed Response Items	<ul style="list-style-type: none">• Less guessing• Easier to assess higher order thinking skills	<ul style="list-style-type: none">• Take longer to score
Performance Task Items	<ul style="list-style-type: none">• Real world application of complex skills• Allow students to demonstrate their learning/skills• Measure abilities beyond academic skills• Engaging	<ul style="list-style-type: none">• Take longer to score• Time consuming• Need to develop clear parameters and standards for evaluation

Practice: Identify the Possible Type(s) of Items

2. Standard(s) (one per row)	3. Skill(s) (one per row)	4. Level(s) of Rigor	5. Possible Type(s) of Items
Reading Informational Text 1: Quote accurately from a text when explaining what the text says explicitly and when drawing inferences from the text.	Quote accurately from the text (explicitly and when making inferences).		
Reading Informational Text 2: Determine two or more main ideas of a text, and explain how they are supported by key details; summarize the text.	Identify main ideas and how key details support them.		
Reading Informational Text 4: Determine the meaning of general academic and domain-specific words and phrases in a text relevant to a grade 5 topic or subject area.	Determine the meaning of new vocabulary words.		
Reading Informational Text 8: Explain how an author uses reasons and evidence to support particular points in a text, identifying which reasons and evidence support which point(s).	Explain how the author uses evidence to support his or her claims.		
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Preparing to Write Items

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1. Create test items while you prepare your class lessons.
2. Make note of questions that students ask frequently during class.
3. Make note of common misconceptions students make during class or in homework.
4. Invite students to submit items at the end of class or at other times.

Writing the Test

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During Test Design

Question numbers/point values	Indicate the question number(s) and the point value(s) for them. Is the individual item's point value weighted appropriately for the demands of the question?
Total Point Value/Percentage of Test	What is the total point value of the questions set for the standard? Is the total point value available for each standard weighted proportionally to the importance of the standard?

Writing the Test: Selected Response (MC) Items

The Anatomy of a Multiple-Choice Test Item

Mr. Murphy uses his car to get to work 3 days a week.



← 30 miles →



How many total miles does Mr. Murphy drive to and from his job each week?

- a. 60 miles ← **Distractor**
- b. 90 miles ← **Distractor**
- c. 100 miles ← **Distractor**
- d. 180 miles ← **Key (correct response)**

Stimulus

Stem

Response
Options

Can Multiple Choice Questions Assess Higher-Level Thinking?!

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By discharging electric sparks into a laboratory chamber atmosphere that consisted of water vapor, hydrogen gas, methane, and ammonia, Stanley Miller obtained data that showed that a number of organic molecules, including many amino acids, could be synthesized. Miller was attempting to model early Earth conditions as understood in the 1950s. The results of Miller's experiments best support which of the following hypotheses?

- A. The molecules essential to life today did not exist at the time Earth was first formed.
- B. The molecules essential to life today could not have been carried to the primordial Earth by a comet or meteorite.
- C. The molecules essential to life today could have formed under early Earth conditions.
- D. The molecules essential to life today were initially self-replicating proteins that were synthesized approximately four billion years ago.

Recall

In operant conditioning when you remove something aversive, which type of conditioning has occurred?

- A. Aversive Reinforcement
- B. Negative Reinforcement
- C. Punishment
- D. Classical Conditioning

Some Tips for Writing Selected Response Items

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1. Reduce redundancy.
2. Use clear, precise simple language.
3. Avoid “all of the above” or “none of the above”.
4. Write items in the third person.
5. Ensure distractors are plausible and equally attractive.
6. Keep distractors grammatically consistent with the question.
7. If blanks are necessary, keep them at the end of the statement.
8. Create all distractors equivalent in length, style & structure.
9. Make sure any graphics are essential for answering the item.

A Closer Look: Turn & Talk

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Take a look at each weak item and determine the construction issue from the list.

Determine the construction guideline. (What's the do or don't?)

Additional Resources & Free Amazing Apps

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[Assessment Design Toolkit](#)

[Blueprint for Item Writing](#)

[Teach. Learn. Grow – Northwest Evaluation Association](#)

[Writing Good Multiple Choice Questions – Vanderbilt University](#)

[Writing Good Multiple Choice Exams– University of Texas at Austin](#)

[How To Design and Select Quality Assessments – Ohio Dept of Education](#)

[EduLastic](#) (Create your own online assessments or create one from their bank)

[EdPuzzle](#) (Create your own video lessons or upload one from their repository)