GREAT SCHOOLS PARTNERSHIP

FCPS FREDERICK COUNTY PUBLIC SCHOOLS MARYLAND

Competency-Based Learning

Leadership Group Overview

March 2 +3, 2017

GREAT SCHOOLS PARTNERSHIP

Is a non-profit support organization based in Portland working nationally with schools, districts and state agencies, providing coaching, and developing tools.

We Believe

In equitable, personalized, rigorous learning for **all students** leading to readiness for college, careers, and citizenship

We Believe

That schools must simultaneously attend to **policy**, **practice**, and **community engagement**

We Believe

School improvement is **context-based**,

not one-size fits all

Outcomes

Become more familiar with the elements of a competency-based learning system

Outcomes

Identify areas of alignment, promising steps already underway, and determine the next set of high leverage strategies to implement

Outcomes

Begin to articulate draft graduation standards and performance indicators

Outcomes

Determine the set of questions and issues that will most quickly need our attention and craft explicit next steps to take between now and the beginning of the summer

Agenda - Thursday

Welcome, Context, Outcomes, Agenda, Norms

Connection - Dyads

CBL Simplified

District Self-Assessment

Identification of Standards + Indicators

Closing + Next Steps

greatschoolspartnership.org/fcps

Competencies at FCPS: Leaders Overview + Next Steps

March 2-3, 2017

Presenter

Mark Kostin, Associate Director | Great Schools Partnership

Materials

Agenda

Presentation Slides Day 1 – coming soon

Presentation Slides Day 2 – coming soon

- Ten Principles of Competency-Based Learning
- Competency-Based Learning Simplified Graphic
- From Standards to Practice Graphic
- Assessment Pathways Simplified
- Competency-Based Learning Readiness Self-Assessment
- Maine Proficiency-Based Learning Info Brief #1 – Steps
- ELA Maine Standards
- Graduation Standards: Design Guide
- Graduation Standards: Performance Indicators
- Competency-Based Learning Quotes
- Grain-Size Sorting Activity

Norms

- Respect differences
- Monitor airtime
- Listen well
- Foster good humor
- Support a culture of possibility
- Honor the time we have together
- Manage technology*

What else might you need to do your best work?

Dyad

- Read each quote
- Select the one that best represents how you think about competency-based learning
- Find one partner and explain why

COMPETENCY-BASED LEARNING

Is not a stand-alone intervention

COMPETENCY-BASED LEARNING

Is a suite of practices resulting from the thoughtful combination of best practices currently used by expert educators with solid support in the literature

COMPETENCY-BASED LEARNING

Requires thoughtful work in the areas of policy, school and classroom practice, and community engagement

COMPETENCY-BASED LEARNING

- Equity
- Transfer

10 Principles Of Competency-Based Learning

Learning Standards

1. All learning expectations are clearly and consistently communicated to students + families
2. Student achievement is evaluated against common learning standards and performance expectations that are consistently applied to all students

Assessment Practices

3. All forms of assessment are standards-based and criterion-referenced

4. Formative assessments measure learning progress during the instructional process

5. Summative assessments - which are integrated tasks requiring transfer of knowledge and skills, application, and performance in novel settings

Grading + Reporting

6. Academic progress and achievement are monitored and reported separately

7. Academic grades communicate learning progress and achievement

8. Students are given multiple opportunities to improve their work when they fail to meet expected standards.

Instructional Strategies

9. Students can demonstrate learning progress and achievement in multiple ways

10. Students are given opportunities to make important decisions about their learning

Turn and talk

Review the ten principles and identify:

- the principle that most resonates with you
- the principle that challenges you/your school(s) the most

Turn and talk with one or two others at your table

Competency

is a student's ability to transfer learning in and/or across content areas.

TRANSFER

"Transfer is affected by the degree to which people learn with understanding rather than merely memorize sets of facts or follow a fixed set of procedures;

the research also shows clearly that "usable knowledge" is not the same as a mere list of disconnected facts."

Bransford et. al, *How People Learn,* 1999

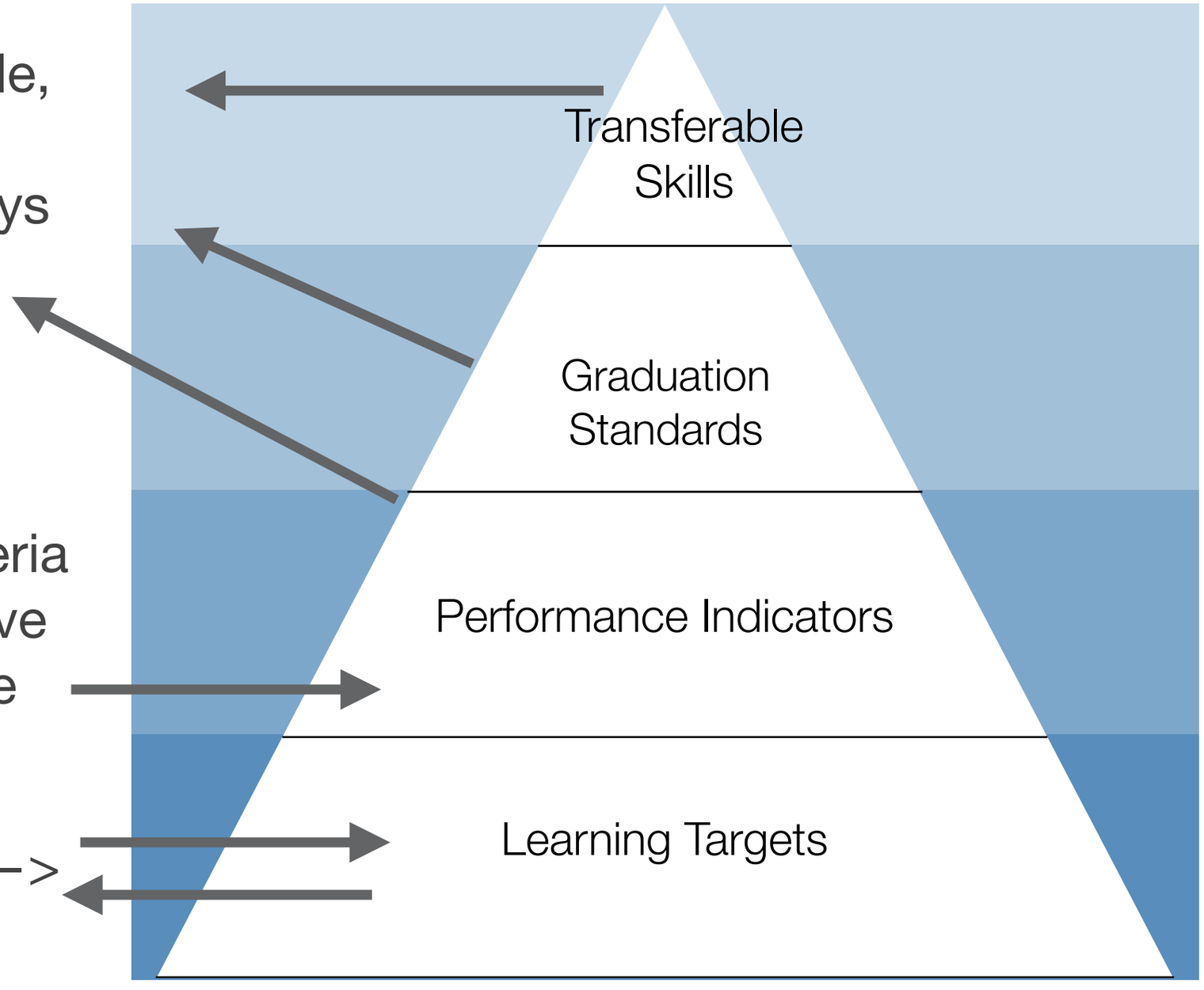
Competency-Based Learning Simplified

A Great Schools Partnership Learning Model

Graduation Requirement	Reporting Method		Assessment Method
YES	**Transcripts** and **Report Cards**	**Cross-Curricular** Graduation Standards 5–8 standards taught in all content areas	**Body of Evidence** Students demonstrate achievement of standards through a body of evidence evaluated using common rubrics
YES	**Transcripts** and **Report Cards**	**Content-Area** Graduation Standards 5–8 standards for each content area	**Verification of Proficiency** Students demonstrate achievement of content-area graduation standards through their aggregate performance on summative assessments over time
NO	**Progress Reports**	**Performance Indicators** 5–10 indicators for each cross-curricular and content-area standard that move students toward proficiency and the achievement of graduation standards	**Summative Assessment** Graded summative assessments are used to evaluate the achievement of performance indicators
NO	**Teacher Feedback**	**Learning Objectives** Learning objectives guide the design of curriculum units that move students toward proficiency and the achievement of performance indicators	**Formative Assessment** Ungraded formative assessments are used to evaluate student learning progress

What Makes It Competency-Based?

Limited number, transferrable, verified over time, equitable outcomes & flexible pathways



Feedback against clear criteria
Opportunity to revise/improve
Opportunity for choice/voice

Introduce, practice, apply —>
Learn, do, reflect

Graduation Standard

Performance Indicator

Learning Target

Competency-Based Learning

Graduation Competencies

Learning Targets

BROAD — **SPECIFIC**

Performance Indicators

The Envelope Please…

Order the statements in the envelope on your table from broad to specific

Competency-Based Learning Simplified

A Great Schools Partnership Learning Model

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INSTRUCTIONAL FOCUS

Graduation Standards

Performance Indicators

Learning Targets

INSTRUCTIONAL FOCUS

Graduation Standards

Performance Indicators

Learning Targets

EVIDENCE

Graduation Standards

Performance Indicators

Summative Assessment

Learning Targets

Formative Assessment

ASSESSMENT = EVIDENCE

A Graduation Standard Is…

A standard that focuses instruction on the most foundational, enduring, and leveraged concepts and skills within a discipline.

Foundational Lens:

To what extent is this statement at the heart of understanding the content area and to what extent does it align with national & state standards?

Endurance Lens:

To what extent does this statement provide students with knowledge & skills that will be of value beyond a particular point in time (ie, test, unit)?

Leverage Lens:

Will this provide knowledge and skills that will be of use in multiple disciplines?

A Performance Indicator

Describes or defines what students need to know and be able to do to demonstrate mastery of a graduation standard.

A Performance Indicator

Is measurable.

A Performance Indicator

Students can demonstrate their performance over time.

A Performance Indicator

The aggregation of proficiency on these performance indicators measures whether a student has met the graduation standard.

Learning Targets Are…

The component parts of a performance indicator - that is, the performance indicator has been broken down into a series of progressive steps and digestible chunks.

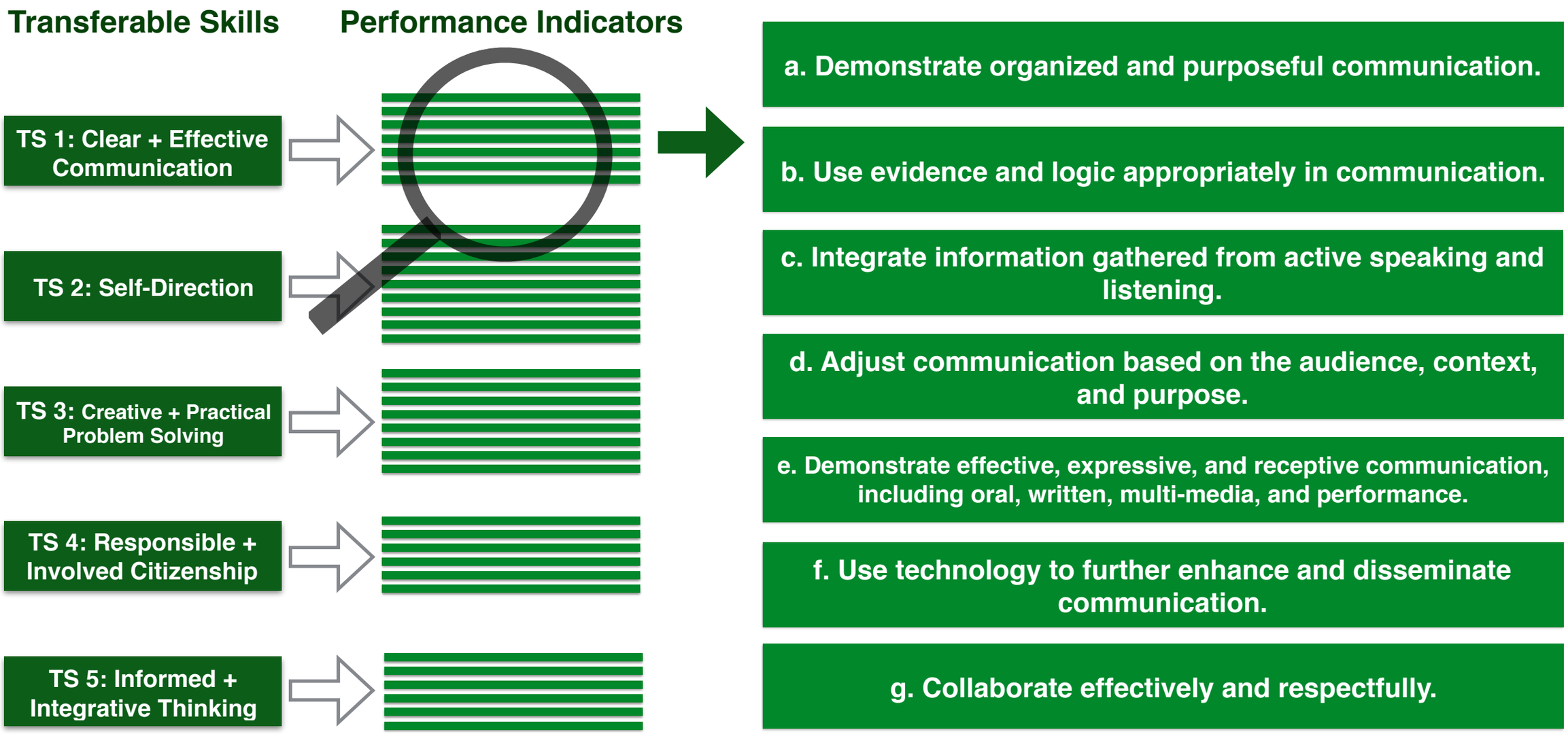
Graduation Standard	The student applies understanding of economic concepts and systems to analyze decision-making and the interactions between individuals, households, businesses, governments and societies.
Performance Indicators	
Learning Targets	

Graduation Standard	The student applies understanding of economic concepts and systems to analyze decision-making and the interactions between individuals, households, businesses, governments and societies.
Performance Indicators	The student describes and analyzes how planned and market economies shape the production, distribution, and consumption of goods, services, and resources. The student analyzes and evaluates how people across the world have addressed issues involved with the distribution of resources and sustainability. The student evaluates the costs and benefits of governmental fiscal and monetary policies.
Learning Targets	

Graduation Standard	The student applies understanding of economic concepts and systems to analyze decision-making and the interactions between individuals, households, businesses, governments and societies.
Performance Indicators	The student describes and analyzes how planned and market economies shape the production, distribution, and consumption of goods, services, and resources. The student analyzes and evaluates how people across the world have addressed issues involved with the distribution of resources and sustainability. The student evaluates the costs and benefits of governmental fiscal and monetary policies.
Learning Targets	The student can explain how scarcity impacts a market economy and a planned economy. The student can compare and contrast the allocation of goods in a market economy and planned economy.

Graduation Standard	The student **applies understanding** of economic concepts and systems to **analyze** decision-making and the interactions between individuals, households, businesses, governments and societies.
Performance Indicators	The student **describes and analyzes** how planned and market economies shape the production, distribution, and consumption of goods, services, and resources. The student analyzes and evaluates how people across the world have addressed issues involved with the distribution of resources and sustainability. The student evaluates the costs and benefits of governmental fiscal and monetary policies.
Learning Targets	The student can **explain** how scarcity impacts a market economy and a planned economy. The student can **compare and contrast** the allocation of goods in a market economy and planned economy.

Transferable Skills. What are they and where do they originate?The Transferable Skills were defined by the VT State Board of Education in 2014.



Social Studies Competency 1: History

Utilize a variety of sources to demonstrate and apply knowledge of, analyze, and evaluate major eras, enduring themes, turning points and historic influences to analyze the forces of continuity and change in the community, the state, the United States and the world.

K-2	3-5	6-8	9-12
Compare and contrast life changes of over specific historical time periods to life today	Compare, contrast, and explain life changes in specific historical time periods to life today.	Evaluate effectiveness and impact of historical events and developments as examples of change and/or continuity.	Analyze change and continuity in historical eras.

Science Competency 2: Matter

Analyze structures, properties, and changes of matter.

K-2	3-5	6-8	9-12
Sort objects by observable properties .	Measure, compare and contrast the basic properties of solids, liquids and gases.	Develop models to describe the atomic composition of simple molecules and extended structures. .	Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.

Science
Sample Graduation Standards and Performance Indicators

Science Graduation Standard 1

PHYSICAL SCIENCES: STRUCTURE/PROPERTIES OF MATTER, FORCES, AND INTERACTIONS
Understand and analyze matter, reactions and physical systems as demonstrated through the integration of scientific and engineering practices and cross-cutting concepts (PS 1 + PS 2)

Fifth-Grade Performance Indicators

A. Make observations to construct an evidence-based account on how an object made of a small set of pieces can be disassembled and made into a new object. (2-PS1-3)

B. Develop a model to describe that matter is made of particles too small to be seen. (5-PS1-1)

C. Measure and graph quantities to provide evidence that regardless of the type of change that occurs when heating, cooling, or mixing substances, the total weight of matter is conserved. (5-PS1-2)

D. Plan and conduct investigations, make observations and measurements to identify materials based on their (observable) properties (2-PS1-1 AND 5-PS1-3)

E. Construct an argument with evidence that some changes caused by heating or cooling can be reversed and some cannot.(2-PS1-4)

F. Conduct an investigation to determine whether the mixing of two or more substances results in new substances. (5-PS1-4)

Eighth-Grade Performance Indicators

A. Develop models to describe the atomic composition of simple molecules and extended structures. (MS-PS1-1)

B. Analyze and interpret data on the properties of substances before and after the substances interact to determine if a chemical reaction has occurred. (MS-PS1-2)

C. Gather and make sense of information to describe that synthetic materials come from natural resources and impact society. (MS-PS1-3)

D. Develop a model that predicts and describes changes in particle motion, temperature, and state of a pure substance when thermal energy is added or removed. (MS-PS1-4)

E. Develop and use a model to describe how the total number of atoms does not change in a chemical reaction and thus mass is conserved. (MS-PS1-5)

F. Plan an investigation to provide evidence that the change in an object's motion depends on the sum of the forces on the object and the

High School Performance Indicators

A. Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms. (HS-PS1-1)

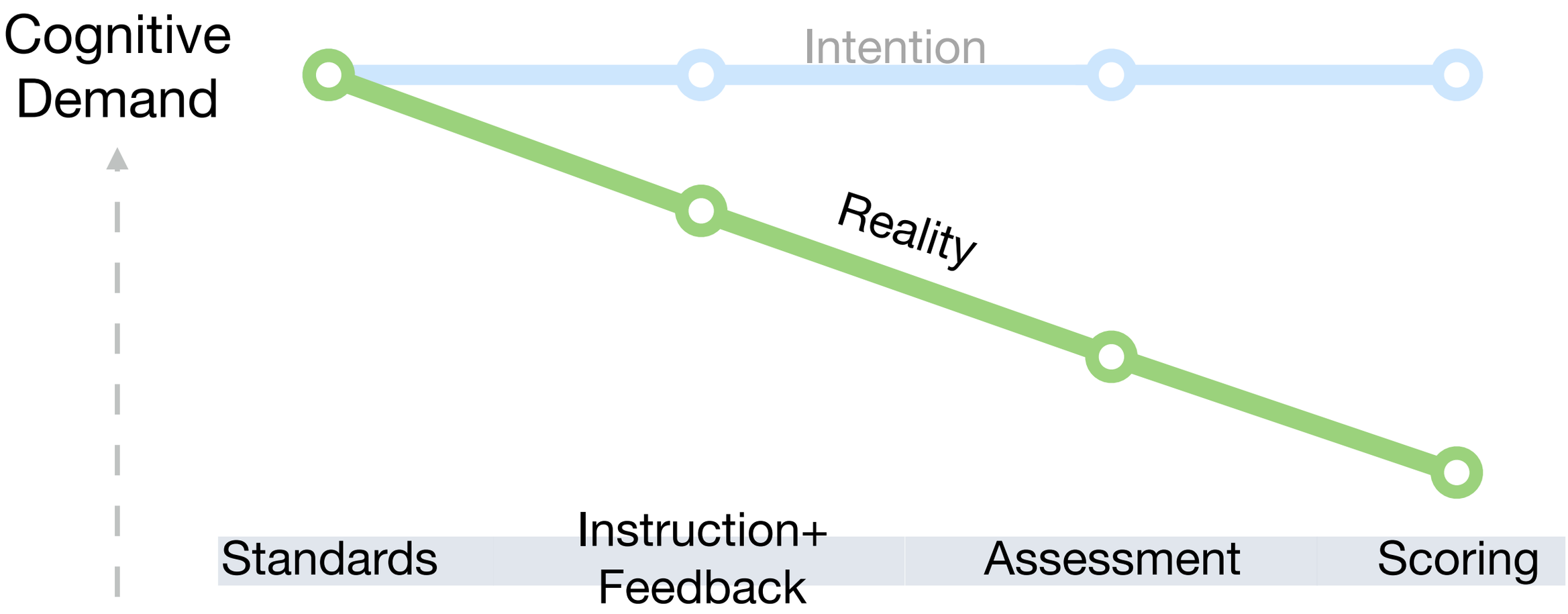
B. Construct and revise an explanation for the outcome of a simple chemical reaction based on the outermost electron states of atoms, trends in the periodic table, and knowledge of the patterns of chemical properties. (HS-PS1-2)

C. Plan and conduct an investigation to gather evidence to compare the structure of substances at the bulk scale to infer the strength of electrical forces between particles. (HS-PS1-3)

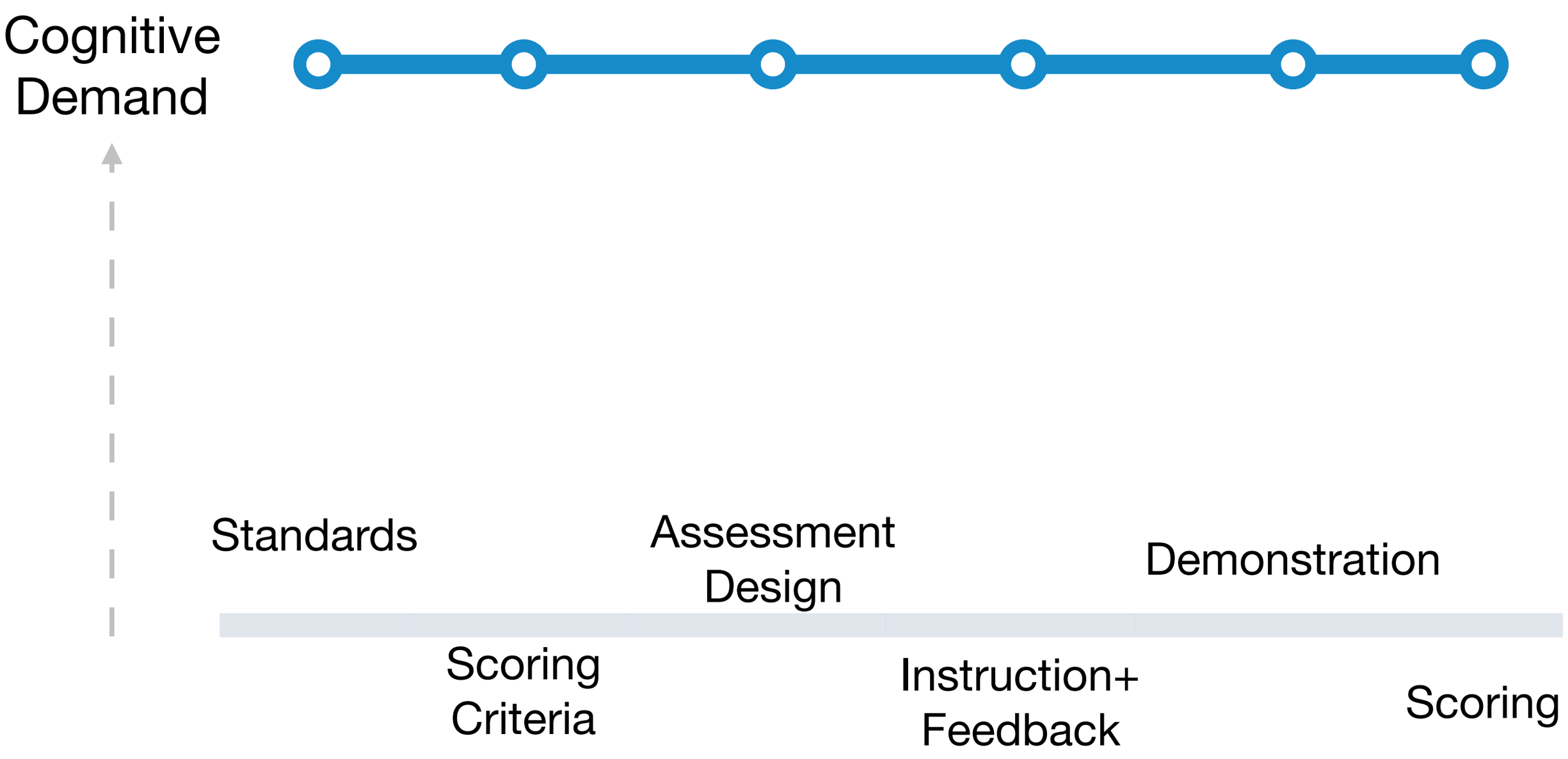
D. Develop a model to illustrate that the release or absorption of energy from a chemical reaction system depends upon the changes in total bond energy. (HS-PS1-4)

E. Apply scientific principles and evidence to provide an explanation about the effects of changing the temperature or concentration of the reacting particles on the rate at which a reaction occurs. (HS-PS1-5)

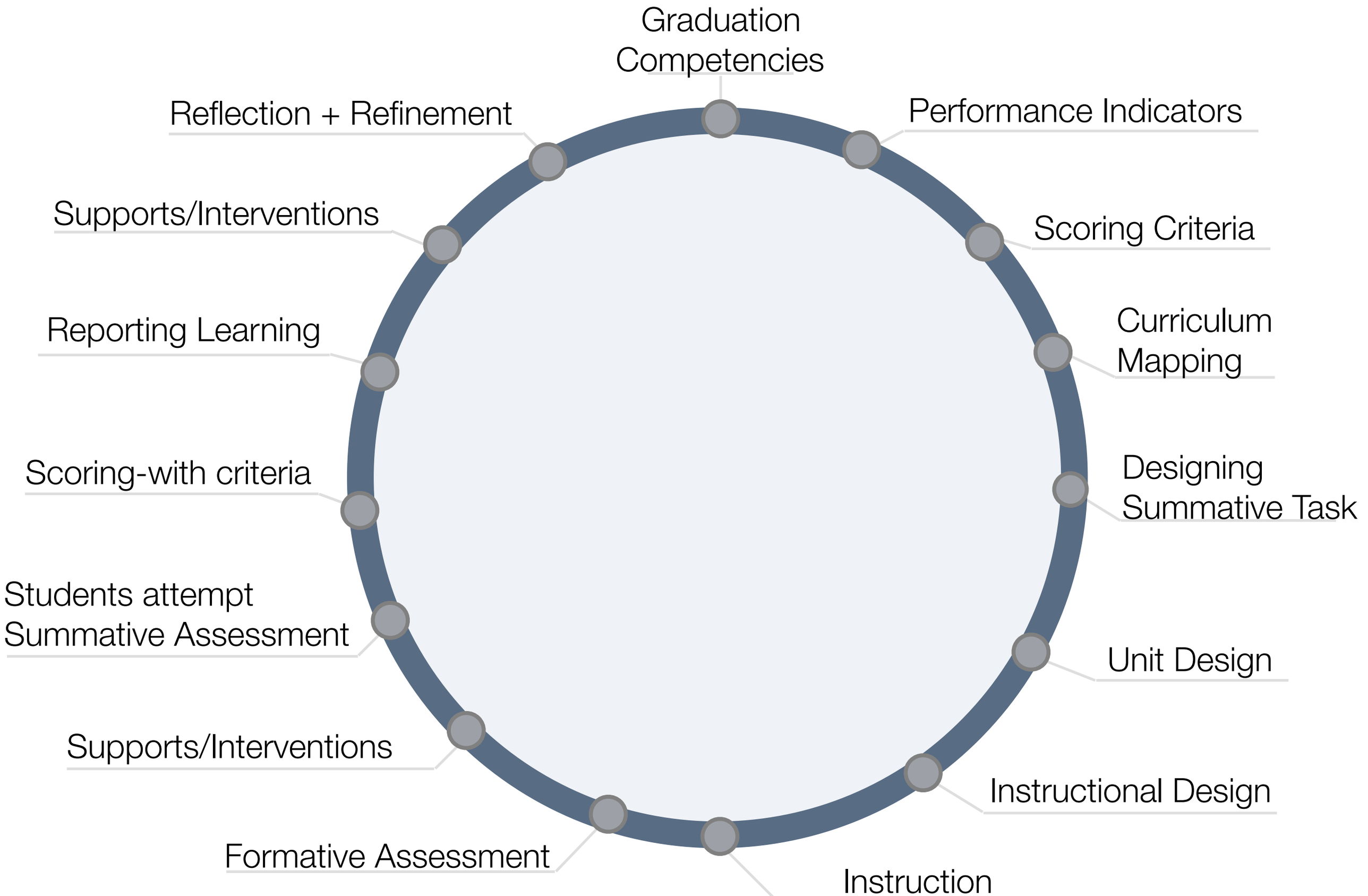
Alignment in a Traditional Model



Alignment in a Competency-Based Model



From Standards to Units



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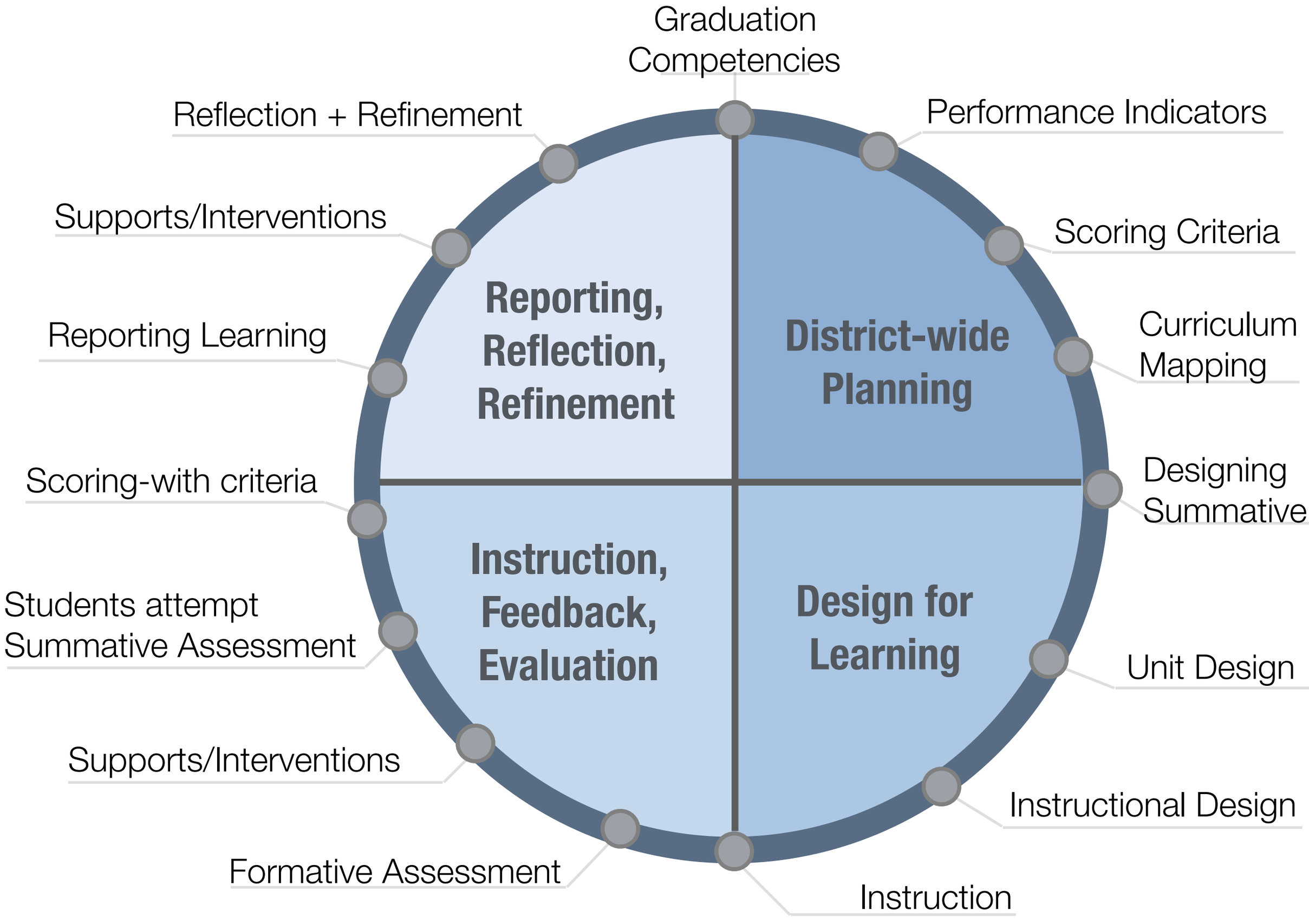

Table Activity

- Think of the practices you believe are in place that are aligned with each of the 4 quadrants
- Share these with your table mates
- List each one on a separate sticky note and post on the appropriate posted in the room

Assessment Pathways Simplified

A Great Schools Partnership Learning Model

LESS
Student Choice
in Learning

PATHWAY **1**	**COMMON** Learning Experiences	**COMMON** Demonstration Tasks	**COMMON** Scoring Guides
PATHWAY **2**	**COMMON** Learning Experiences	**UNIQUE** Demonstration Tasks	**COMMON** Scoring Guides
PATHWAY **3**	**UNIQUE** Learning Experiences	**COMMON** Demonstration Tasks	**COMMON** Scoring Guides
PATHWAY **4**	**UNIQUE** Learning Experiences	**UNIQUE** Demonstration Tasks	**COMMON** Scoring Guides
PATHWAY **5**	**COMMON** or **UNIQUE** Learning Experiences	**COMMON** or **UNIQUE** Demonstration Tasks	**UNIQUE** Scoring Guides

MORE
Student Choice
in Learning

RELIABLE and COMPARABLE results across STUDENTS, COURSES, SCHOOLS, DISTRICTS, or STATES

RELIABLE results

How can we ensure that while we **personalize** learning, we continue to define **consistent and equitable** standards for all students?

Social Studies Competency 1: History

Utilize a variety of sources to demonstrate and apply knowledge of, analyze, and evaluate major eras, enduring themes, turning points and historic influences to analyze the forces of continuity and change in the community, the state, the United States and the world.

K-2	3-5	6-8	9-12
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Math Competency 1: Number & Quantity

Describe, analyze, and reason quantitatively using units and number systems in a variety of contexts.

K-2	3-5	6-8	9-12
Use place value understanding and properties of operations to add and subtract.	Perform operations with multi-digit whole numbers and with decimals to hundredths using strategies based on place value, properties of operations, and the standard algorithm	Apply and extend previous understandings of operations with fractions to add, subtract, multiply and divide rational numbers.	Use properties of rational and irrational numbers.

Science Competency 2: Matter

Analyze structures, properties, and changes of matter.

K-2	3-5	6-8	9-12
Sort objects by observable properties .	Measure, compare and contrast the basic properties of solids, liquids and gases.	Develop models to describe the atomic composition of simple molecules and extended structures. .	Use the periodic table as a model to predict the relative properties of elements based on the patterns of electrons in the outermost energy level of atoms.

ELA Competency 1: Reading: Key Ideas and Details

Determine the meaning of text

K-2	3-5	6-8	9-12
Identify the main topic of a multiparagraph text as well as the focus of specific paragraphs	Determine two or more main ideas of a text and explain how they are supported by key details; summarize the text.	Determine a central idea of a text and analyze its development over the course of the text, including its relationship to supporting ideas; provide an objective summary of the text.	Determine two or more central ideas of a text and analyze their development over the course of the text, including how they interact and build on one another to provide a complex analysis; provide an objective summary of the text.

What it looks like…

… Casco Bay HS

Self-Assessment

Read through the document on your own

Score - from your perspective: I, D, P

Place a dot representing your school on the poster

Return to your table: Share + discuss your scores

What do we notice?

LUNCH

Developing Graduation Competencies

Design Criteria

Design Guide for Content-Area Graduation Standards

DRAFT SEPTEMBER 2015

Districts should define 5-8 standards per content area, which together will allow a district to determine students' proficiency in that content area. Standards should be broad enough that they apply to all grade levels, PK-12. Each standard will be defined by approximately 5-10 Performance Indicators.

Criteria	Weaker Statements	Stronger Statements
Alignment To what extent does the statement align with national and state standards? Is the statement central to understanding the content area?	• Do not align with national, state, and/or local standards and frameworks; • Are so narrow, specific, or vague that they are not central to understanding the content area as a whole.	• Align with national, state, and/or local standards and frameworks; • Use precise, descriptive language that clearly communicates what is essential to building proficiency in the content area.
Transfer Does the statement describe knowledge, and skills that can be applied across multiple disciplines and that will be of value beyond a particular point in time?	• Describe topics that are only relevant to or applicable within a unit, textbook, resource, course, or program; • Focus on factual content without connecting the statements to enduring cross-curricular and content-specific skills.	• Require students to develop an understanding of relationships among principles, theories, and/or concepts; • Require students to develop and demonstrate skills and knowledge that will endure throughout their education, careers, and civic lives.
Cognitive Demand Does the statement imply higher order thinking, deep conceptual understanding and transferable skill acquisition?	• Require only basic recall and lower-level cognitive skills, such as identifying, defining, summarizing, or listing; • Do not require the application of knowledge to diverse or novel problems, texts, or situations.	• Require students to demonstrate higher-order cognitive skills such as reasoning, analyzing, planning, interpreting, hypothesizing, investigating, or creating; • Require the application of knowledge to diverse or novel problems, texts, or situations.

Developing Graduation Competencies

Protocol

1. Review sample sets of competencies. Determine which statements from the documents are the most enduring understandings or largest umbrella concepts in your content area. (15 mins)

2. In rounds, each person shares out a competency (it can be exactly as stated or re-worded to your liking) they think should be included in your content area graduation competencies. Continue until all ideas are on chart paper. (15)

3. As a group, suggest combinations or overlaps that can be grouped together as one competency. (30)

4. Use the design guide to revise, add, or eliminate graduation competencies until you reach ~5-8 for your content area. (15)

Developing Performance Indicators

Protocol

Protocol
Developing Performance Indicators

PURPOSE	To identify 5–10 performance indicators for each content area graduation standard
TIME	3–4 hours
ROLES	Facilitator, timekeeper, notetaker

MATERIALS

A. Proficiency-Based Learning Simplified graphic

B. Locally developed content-area graduation standards

C. National- and state-level standards documents

D. Sample graduation standards and performance indicators for the content area

E. Cognitive taxonomies (e.g., Revised Bloom's Taxonomy, Marzano's New Taxonomy, or Webb's Depth of Knowledge)

F. Design Criteria Chart

G. Chart paper and markers or projector and laptop(s)

PROCESS:

A. Review your locally developed content-area graduation standards to confirm agreement on the content and language. Review the Proficiency-Based Learning Simplified graphic to clarify for the group that the focus of this session is at the Performance Indicator level. Then, determine how this phase of the process will be conducted. It can be done in small groups whereby each group works on one content-area graduation standard and aligns the supporting performance indicators to that graduation standard. It can also be done collectively. (15 min.)

B. Review the Design Criteria Chart independently and then discuss as a group. (15 min.)

C. Using national and/or state standards documents in a specific content area, reviewers should mark performance indicators

Developing Performance Indicators

Protocol

1. Review draft competencies and make any needed changes.

2. Determine a graduation competency to begin with. Individually, review sample performance indicators provided from other state and district documents. Select indicators you feel are important to include under this competency.

3. In rounds, each person shares out an indicator (it can be exactly as stated or re-worded) they think should be included in your list of performance indicators for this competency. Continue until all ideas are on chart paper.

4. As a group, suggest eliminations, combinations or overlaps that can be grouped together as one indicator.

5. Use the design guide to revise, add, or eliminate graduation competencies until you reach ~5-10 for that competency.

6. Continue the process for each graduation competency.

Performance Indicator Design Guide

Define 5-10 indicators per standard, which together will allow a school/district to determine students' proficiency on that standard. Indicators should be specific enough to be measurable at a grade span or course level, while as a set, allow multiple pathways for students to demonstrate proficiency.

Criteria	Weaker Statements	Stronger Statements
Alignment *To what extent do the statements align with and describe the essential skills within the relevant graduation standard?*	• Individually, define knowledge and skills which are not essential to the graduation standard; • Taken together, the indicators fail to define the essential skills and knowledge within the graduation standard.	• Use precise, descriptive language to define the essential skills and knowledge that demonstrate proficiency in the graduation standard; • Taken together, the indicators define all of the essential skills and knowledge within the graduation standard.
Transfer *Do the statements describe knowledge, and skills that can be applied across multiple disciplines and that will be of value beyond a particular point in time?*	• Describe topics that are only relevant to or applicable within a unit, textbook, resource, course, or program; • Focus on factual content without connecting the statements to enduring cross-curricular and content-specific skills. • Are "nice to know" but not essential for students to learn if they are going to succeed in the next unit, course, or grade level.	• Require students to develop an understanding of relationships among principles, theories, and/or concepts; • Require students to develop and demonstrate skills and knowledge that will endure throughout their education, professional careers, and civic lives. • Answers the question: "What do we want students to remember, understand, and be able to do several years from now, perhaps long after they have forgotten the details?"
Cognitive Demand *Does the statement encourage higher order thinking, deep conceptual understanding and transferable skill acquisition?*	• Require only basic recall and lower-level cognitive skills, such as identifying, defining, summarizing, or listing; • Do not require the application of knowledge to diverse or novel problems, texts, or situations.	• Require students to demonstrate higher-order cognitive skills such as reasoning, analyzing, planning, interpreting, hypothesizing, investigating, or creating; • Require the application of knowledge to diverse or novel problems, texts, or situations.

Questions?

Feedback & Debrief

1. What worked for you today?

2. What is one thing you learned?

3. What is one question you have?

GREAT SCHOOLS PARTNERSHIP

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THANK YOU

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