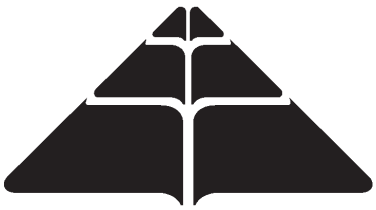
The 15-Day Challenge: Win Quick, Win Often!

Maria Nielsen



Solution Tree

Contents

marianielsenplc@gmail.com • **Twitter: @MariaNielsenPLC**

Guaranteed and Viable Curriculum

Rate your team on a scale from 1 to 5.

1 = lowest level of proficiency

5 = highest level of proficiency

Steps	1	2	3	4	5
Write short- and long-term SMART goals.					
Unpack standards. Identify concepts and skills embedded in each standard. This fosters a deep understanding of a standard before determining if it is essential.					
Identify power standards. These become the priority standards or essential standards.					
Create pacing guides. Determine when to teach each power standard.					
Design units of study based on standards and targets.					
Write common assessments aligned to the power standards.					
Provide intervention or extension based on student data.					

Next Steps

_____

_____

PLC Foundations

Source: DuFour, DuFour, Eaker, Many, & Mattos, *Learning by Doing: A Handbook for Professional Learning Communities*, 2016

Three Big Ideas of a PLC

1. Learning as our fundamental purpose
2. Collaborative culture
3. Focus on results

Four Critical Questions of a PLC

Question 1: What do we want students to know and be able to do?

- Unpack the standards into learning targets.
- Identify essential standards and targets.
- Determine what each student should know and be able to do at the end of each unit, grade level, or department course.

Question 2: How do we know if they have learned it?

- Create or agree upon common formative assessments.
- Align assessments with essential standards and targets.
- Analyze data to inform student and adult learning.
- Help students track their own progress toward mastery of essential standards.

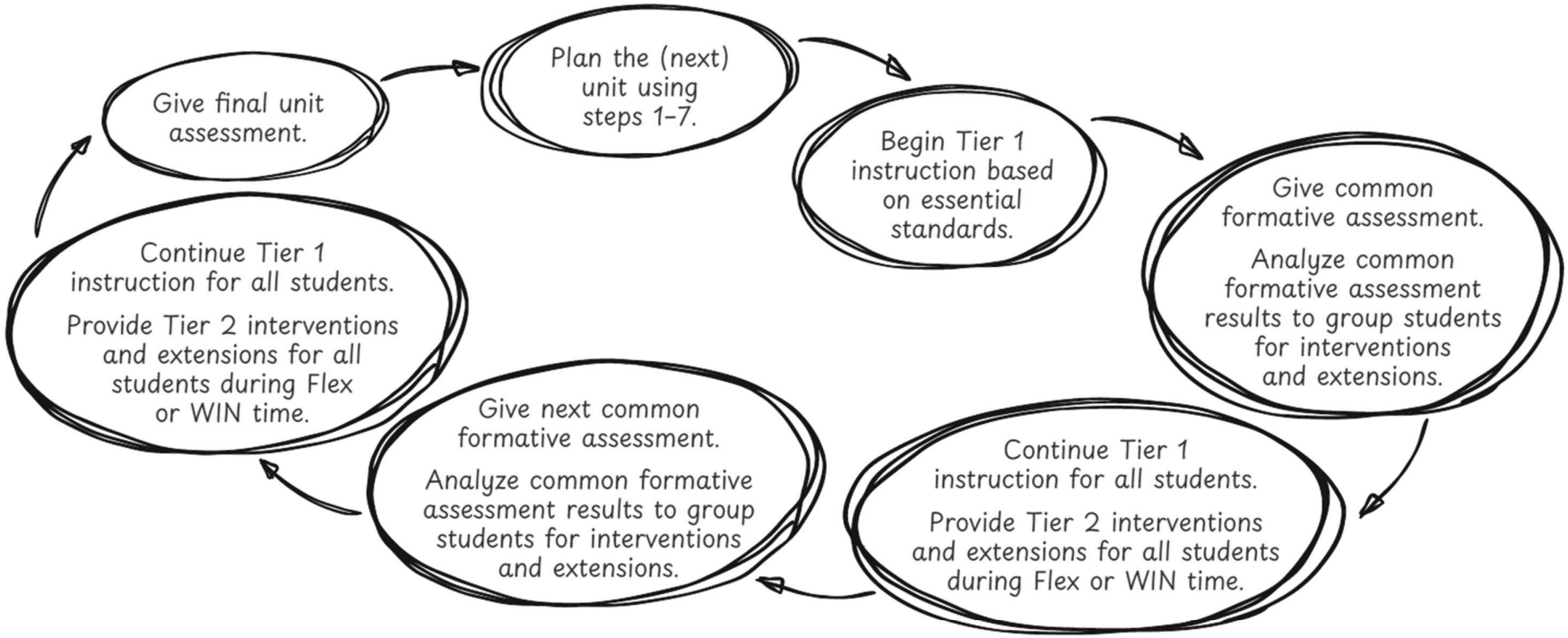
Question 3: How do we provide intervention when students have not reached mastery on the standard or target?

- Schedule time during the school day to provide skill-specific intervention.
- Give students multiple opportunities for success.
- Ensure no new instruction takes place during this time.

Question 4: How do we extend the curriculum when students have mastered the standard or target?

- Schedule time during the school day to provide skill-specific extension.
- Ensure no new instruction takes place during this time.

Learning-Assessment Cycle



The number of common formative assessments throughout the unit depends on the number of standards or learning targets in the unit.

FIGURE 1.1: The 15-Day Challenge process.

15-Day Challenge Outline

Step 1: Identify standards for a 15-day unit of study. **(Form 1)**

A. First-time recommendation: Select a unit of study with succinct standards and targets such as:

- Measurement
- Perimeter and area
- Water cycle
- Plants
- Parts of the brain
- Multi-paragraph essay writing
- How characters evolve over the course of a text

- Form 1 — p. 9
- Form 2 — p. 18
- Form 3 — p. 23
- Form 4 — p. 25
- Form 5 — p. 26
- Form 6 — p. 27
- Form 7 — p. 31
- Form 8 — p. 33

Step 2: Unpack standards into learning targets for clarity and agreement within the unit. **(Form 2)**

Step 3: Prioritize standards into three categories.

- Essential **(Boulder):** Have to know
- Supporting **(Rock):** Nice to know
- Additional **(Butterfly):** Fun to know

Step 4: Create common assessments throughout the unit of study.

- Collect sample questions for team meetings. **(Form 3)**
- Tally the questions for each learning target on the assessment. **(Form 4)**

Teachers should develop assessments as follows:

1. Create the **end-of-unit assessment**. Begin with the end in mind.
2. Create **common formative assessments** to measure mastery of learning targets along the way. Log learning targets on the 15-Day Challenge Planning Chart. **(Form 5)**
3. Assess necessary skills for the unit through **pretesting**. (This is an optional step. However, avoid using the end-of-unit assessment as a pretest.)

Step 5: Dive deep into the 15-Day Challenge Planning Chart. **(Form 5)**

- Identify the number of days for the unit.
- Determine the number of teaching days for each learning target.
- Brainstorm strategies for students to practice daily learning targets. Add ideas to the sticky notes on the 15-Day Challenge Planning Chart.
- Add materials to teach the daily learning targets outlined on the sticky notes.
- **"Show Me!"** Model strategies for each other.

Step 6: Plan instruction for Tier 2 as your team plans Tier 1. **(Form 6)**

Step 7: Group students for intervention or extension based on common formative assessment data for Tier 2. **(Form 7)**

Designate a time during the school day for skill-specific interventions and extensions based on data from common assessments. If your school does not have Tier 2 time embedded in the day, consider the following ideas:

- Teachers can trade students among other teachers who teach the same course during the same class period.
- Teachers can provide Tier 2 interventions in their own classrooms.

Create a yearlong pacing guide of essential standards by course or grade level. **(Form 8)**

Golden Nugget!
Anticipate and plan for Tier 2 intervention and extension while you plan for Tier 1 interventions **(See Step 5.)**.

Standards	***Essential Standard* Boulder** Have to know	***Supporting Standard* Rock** Nice to know	***Additional Standard* Butterfly** Fun to know
Standard S5E1, learning target 1: Identify forms of precipitation.			
Standard S5E1, learning target 2: Identify cloud formations (such as cumulus, nimbus, and cirrus).			
Standard S5E3, learning target 6: Identify the relative amounts and kinds of water on Earth (such as saltwater, freshwater, and rivers).			
Standard S5E3, learning target 8: Explore careers related to weather.			
Standard S5E3, learning target 7: Identify weather tools used to determine weather patterns.			
Standard S5E1, learning target 3: Describe and explain the water cycle.			
Standard S5E2, learning target 4: Understand the three states of matter (solid, liquid, gas).			
Standard S5E2, learning target 5: Understand the effects of gravity on precipitation.			

Source for standards: NGSS Lead States, 2013.

FIGURE 2.1: Example of standards a team identified for a unit of study on the water cycle.

Identify and Prioritize Standard for a Unit Template: Step 1

Standards	**Essential Standard** **Boulder** Have to know	**Supporting Standard** **Rock** Nice to know	**Additional Standard** **Butterfly** Fun to know
1:			
2:			
3:			
4:			
5:			
6:			

Step 2: Unpack Standards Into Learning Targets for Clarity and Agreement

Use the Collaborative Process

When teachers examine the standards in isolation, each teacher is likely to interpret the intent and rigor differently. This results in a different level of student expectations and quality of instruction from class to class.

How to Unpack in Six!

1. Read the standard as a course or grade-level team.
2. Circle the skills (verbs), then underline the key concepts and criteria.
3. Determine the number of learning targets within the standard.
4. Come to consensus on the rigor (DOK) of each learning target.
5. Identify academic vocabulary embedded in the standard.
6. Discuss initial ideas for instruction and assessment.

—Nielsen, *The 15-Day Challenge* (2024), p. 37

*Keep the **core language** intact at all times.*

To Make a Target . . . or Not to Make a Target?

Targets: The less defined the target is, the less defined is the information received to determine mastery of the target.

Concepts: It is important not to separate concepts that should stay together.

Grade 6 Example:
Reading Standard for Literature—Common Core Standard 2

RL 6.2 Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

Learning target 1: Determine a theme or central idea of a text and how it is conveyed through particular details.

Learning target 2: Provide a summary of the text distinct from personal opinions or judgments.

Grade 6 Example

Reading Standard for Literature—CCSS.ELA-Literacy.RL.6.2

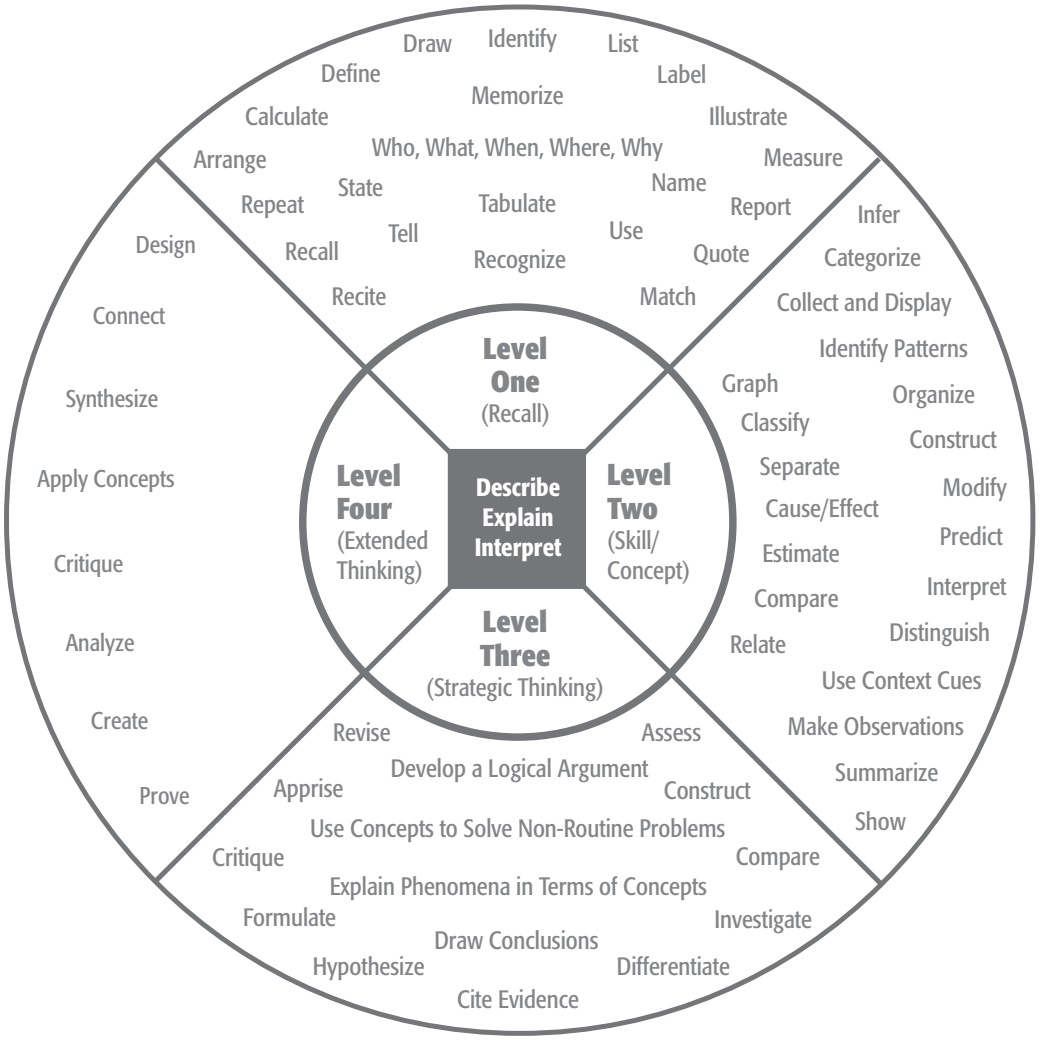
Determine a theme or central idea of a text and how it is conveyed through particular details; provide a summary of the text distinct from personal opinions or judgments.

Learning Target	DOK Level	Instruction	Assessment
Learning target 1: Determine a theme or central idea of a text and how it is conveyed through particular details.	2		
Learning target 2: Provide a summary of the text distinct from personal opinions or judgments.	2		
Academic vocabulary: *theme, central idea, text, conveyed, summary, personal opinion*			

Source for standard: NGA & CCSSO, 2010a.

FIGURE 3.1: Example of unpacked standard for grade 6 reading.

Depth of Knowledge (DOK) Levels



Level One Activities	Level Two Activities	Level Three Activities	Level Four Activities
Recall elements and details of story structure, such as sequence of events, character, plot and setting. Conduct basic mathematical calculations. Label locations on a map. Represent in words or diagrams a scientific concept or relationship. Perform routine procedures like measuring length or using punctuation marks correctly. Describe the features of a place or people.	Identify and summarize the major events in a narrative. Use context cues to identify the meaning of unfamiliar words. Solve routine multiple-step problems. Describe the cause/effect of a particular event. Identify patterns in events or behavior. Formulate a routine problem given data and conditions. Organize, represent and interpret data.	Support ideas with details and examples. Use voice appropriate to the purpose and audience. Identify research questions and design investigations for a scientific problem. Develop a scientific model for a complex situation. Determine the author's purpose and describe how it affects the interpretation of a reading selection. Apply a concept in other contexts.	Conduct a project that requires specifying a problem, designing and conducting an experiment, analyzing its data, and reporting results/ solutions. Apply mathematical model to illuminate a problem or situation. Analyze and synthesize information from multiple sources. Describe and illustrate how common themes are found across texts from different cultures. Design a mathematical model to inform and solve a practical or abstract situation.

Webb, Norman L. and others. "Web Alignment Tool" 24 July 2005. Wisconsin Center of Educational Research. University of Wisconsin-Madison. 2 Feb. 2006. <http://www.wcer.wisc.edu/WAT/index.aspx>.

Unpacking Practice—Elementary

Standard

CCSS.ELA-Literacy.RL.3.3: Describe characters in a story (their traits, motivations, or feelings) and explain how their actions contribute to the sequence of events.

Learning Target	DOK Level	Instruction	Assessment

Academic Vocabulary

Unpacking Practice—Secondary

Standard

CCSS.ELA-Literacy.RL.9-10.3: Analyze how complex characters (those with multiple or conflicting motivations) develop over the course of a text, interact with other characters, and advance the plot or develop the theme.

Learning Target	DOK Level	Instruction	Assessment

Academic Vocabulary

Unpacking Practice—Mathematics

Standard

CCSS.MATH.CONTENT.3.MD.D.8: Solve real-world and mathematical problems involving perimeters of polygons, including finding the perimeter given the side lengths, finding an unknown side length, and exhibiting rectangles with the same perimeter and different areas or with the same area and different perimeters.

Learning Target	DOK Level	Instruction	Assessment

Academic Vocabulary

Step 2: Unpack the Standards

Form 2

Standard			
Learning Target	**DOK Level**	**Instruction**	**Assessment**
Academic Vocabulary			

Step 2: Unpack the Standards

Form 2

Standard			
Learning Target	**DOK Level**	**Instruction**	**Assessment**
Academic Vocabulary			

Standards: Consider the Following

Will the length of the school year afford teachers the time needed to *adequately* teach, assess, reteach, and reassess students on *all* of the state standards?

Criteria for Essential and Priority Standards

Endurance: knowledge and skills valued beyond a single test date (point of view; place value)

Leverage: knowledge and skills valued in multiple disciplines (reading informational text in other subject areas; unit rate problems in math that are used for science)

Readiness: knowledge and skills necessary for success in the next grade level or unit of instruction (letter–sound recognition; logarithms)

Note: If you teach a state-tested subject, examine the testing blueprint for standards covered on tests at year's end.

It is important enough to:

- Spend time to teach with depth.
- Assess.
- Discuss results based on data.
- Intervene if students need extension or do not demonstrate mastery.

Step 3: Prioritize Standards Into Three Categories

Note: Begin with **boulders**, repeat the process for **butterflies**, then **rocks**. Teachers do this exercise in this order because **boulders** and **butterflies** are easiest to pick out, and the "nice to know" **rocks** will become evident in this process of elimination.

Three Categories

- Essential **(Boulder)**: Have to know
- Supporting **(Rock)**: Nice to know
- Additional **(Butterfly)**: Fun to know

Mark your decisions on Form 1A (page 8) next to each standard.

1. Individually decide and mark essential **(boulder)** standards. (2 to 3 minutes)
2. Conduct a table talk. Where do you agree or disagree? (5 minutes)
3. Come to team consensus. (5 minutes)
4. Repeat for additional **(butterfly)** standards.
5. Repeat for supporting **(rock)** standards.

Ways to Come to Consensus

- If everyone believes it is *essential* or *not essential*, the decision is easy!
- If one or more teachers have different opinions, listen to the reasons why or why not.
- Read the standard for the grade levels before and after yours.
- **Clarify *why* by using the criteria of endurance, leverage, and readiness.**
- Consider if other standards are similar.

Step 4: Create Common Assessments in Seven Stages

Note: Repeat 1 to 7 for each common assessment embedded throughout the unit of study.

1. Begin with the end-of-unit assessment.
2. Each team member brings sample test questions, based on essential **(boulder)** standards, to the team meeting. **(Form 3)**
3. Collectively design the assessment.
4. Tally the number of questions for each learning target on the assessment. **(Form 4)**
5. Give team members a copy of the assessment to complete during collaboration time. This process clears up misconceptions or tricky questions.
6. Agree on how to administer the assessment. Consider items such as:
    - Can students use a calculator?
    - Can students use a times-table chart?
    - Can students have access to vocabulary definitions?
    - Can teachers read a portion of the assessment to students?
7. Agree on how to score the assessment.

Step 4: Create Common Assessments in Seven Stages

Form 3

Directions: Each team member brings sample questions to the team meeting. The team selects the questions that best align with the essential **(boulder)** standards. Write questions or assessment tasks for each learning target. Copy form for additional learning targets.		
Learning Target:		
Learning Target:		

Quantify Assessment Questions
Example

Form 4

Standard	Number of Problems	Mastery
R.L.8.1	𝍸	4/5
R.L. 8.2	III	2/3
R.L. 8.3	𝍸 I	4/6
*Extra standards identified	𝍸 These questions were removed from the assessment.	
Notes		

*Extra standards often arise when using a test from a textbook or an assessment found online in a test bank website. Standards not practiced during the unit of study should not be part of assessments.

It is important to know how many questions students must answer correctly to constitute mastery of a learning target.

Quantify Assessment Questions

Form 4

Standard	Number of Problems	Mastery
Notes:		

Step 5: Dive Deep Into the 15-Day Challenge Chart

(See Form 5 on next page.)

- Identify the number of days for each unit.
- Determine the number of teaching days for each learning target.
- Brainstorm strategies for students to practice daily learning targets. Add ideas to the sticky notes on the 15-Day Challenge Planning Chart.
- Add materials to teach the daily learning targets outlined on the sticky notes.
- **"Show Me!"** Model strategies for each other.

Step 5: Create a General Unit Outline on the 15-Day Challenge Planning Chart

Form 5

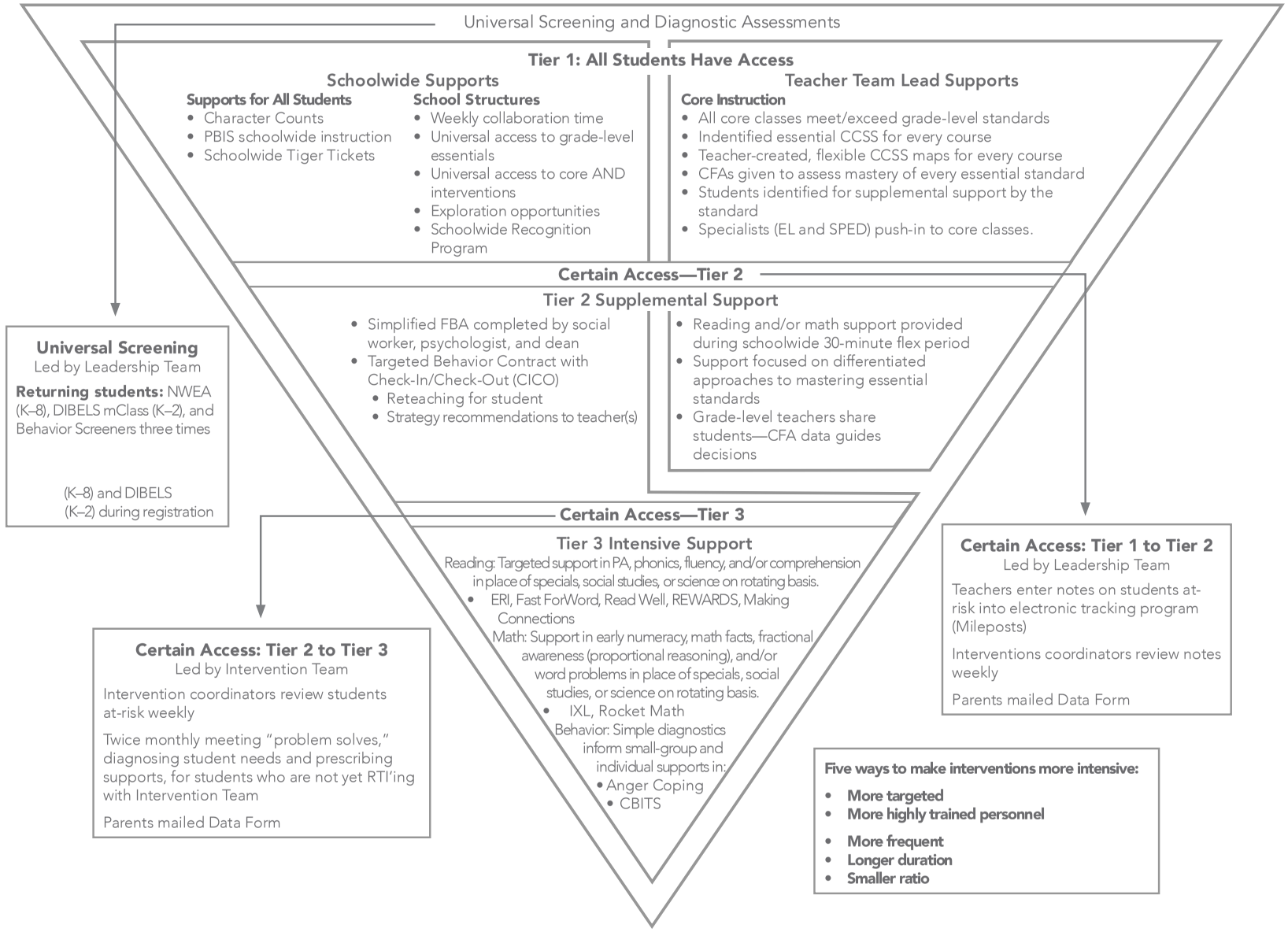
1	2	3
4	5	6
7	8	9
10	11	12
13	14	15

Step 6: Plan Instruction for Tier 2 as Your Team Plans Tier 1

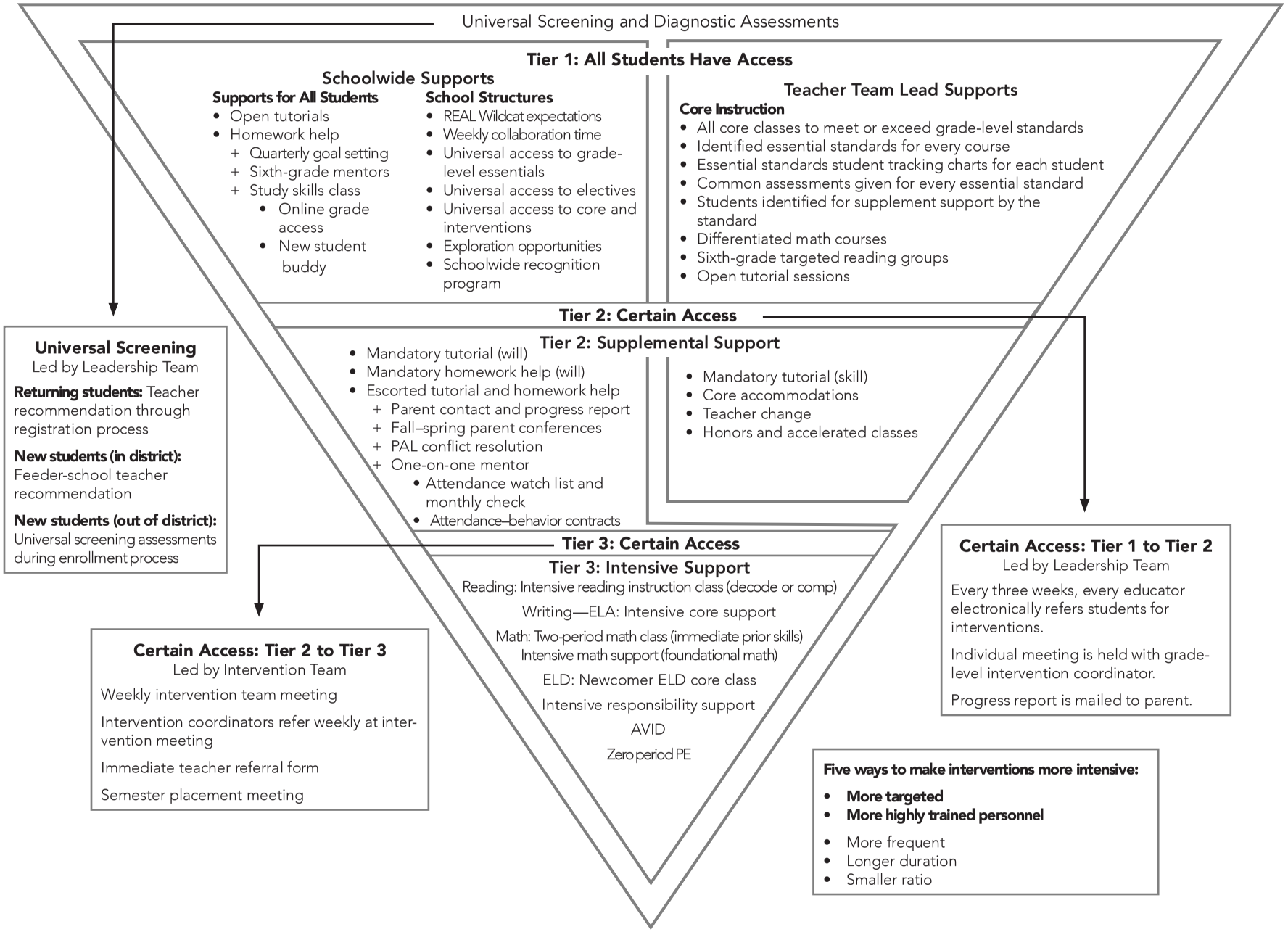
Form 6

Strategies and Materials We Can Use
Below Proficiency **Firm Knowledge to Mastery of Essential Standards**
Slightly Below Proficiency **Firm Knowledge to Mastery of Essential Standards**
Above Proficiency **Extend the Standard**

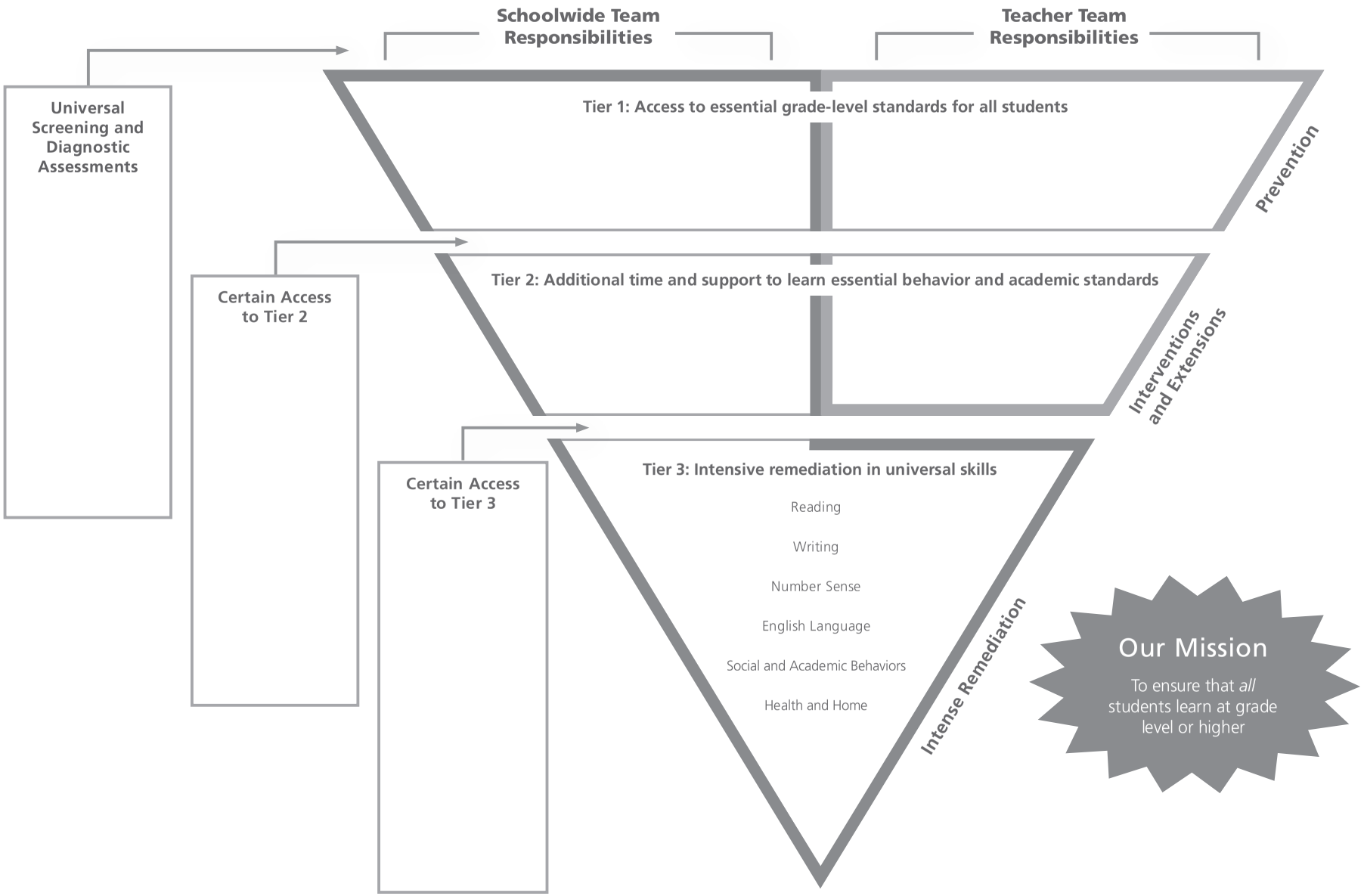
West Belden Elementary (K–8) School's Pyramid of Interventions



Pioneer Middle School's Pyramid of Interventions



RTI AT WORK PYRAMID



REPRODUCIBLE

Step 7: Group Students for Intervention or Extension Based on Common Assessment Data for Tier 2

Form 7

Names of Students Needing Intervention or Extension
Below Proficiency **Firm Knowledge to Mastery of Essential Standards**
Slightly Below Proficiency **Firm Knowledge to Mastery of Essential Standards**
Above Proficiency **Extend the Standard**

Create a Yearlong Pacing Guide on Essential Standards by Course or Grade Level

Integrated Mathematics 1 Example

Form 8

Essential Standards	Pacing	Materials	Supplement
Quantities and Relationships (N-Q, A-CED)	Through Sept 8 (3 weeks)	1	
Graphs, Equations, and Inequalities (A-REI, F-IF)	Through Sept. 29 (3 weeks)	2	
Linear Functions and Sequences (F-LE, F-BF)	Through Nov. 17 (6 weeks)	3, 4	
Exponential Equations, Systems of Linear Equations, and Systems of Linear Inequalities (A-REI, F-IF)	Through March 9 (9 weeks)	5, 6, 7	
Geometry on the Coordinate Plane and Three Congruence Transformations (G-CO, G-GPE)	Through May 4 (4 weeks)	12, 13.1–13.3	
Additional IM2 Prerequirements	Through May 25 (3 weeks)		

Step 7: Create a Yearlong Pacing Guide on Essential Standards by Course or Grade Level

Form 8

Year:	Course or grade level:		
Standards	**Pacing**	**Materials**	**Supplement**

15-Day Challenge Example—Elementary

Source: Shared by Kristi Monk and Team, Bryant Elementary. Used with permission.

CCSS.ELA-LITERACY.W.4.1
Write opinion pieces on topics or texts, supporting a point of view with reasons and information.

Day 1	Day 2	Day 3
Fact Versus Opinion • Lead agree–disagree, whole-group activity (remove cards *b*, *f*, *j*, *l*). • Have students make fact-versus-opinion posters. • Lead farm animal small-group sort activity. • Lead fact-or-opinion card sort and discussion with whole group. • Have students create anchor chart. **CFA:** fact versus opinion	**Generating Meaningful Topics** • Have students create a Pinterest page. • Model text mapping using mentor text (fourth-grade sample). • Have them create opinion posters.	**Generating Meaningful Topics** • Distribute text-mapping article. • Have students record opinions from texts, curriculum, or life in their writing notebooks.
Day 4	**Day 5**	**Day 6**
Stating an Opinion • Continue with text-mapping article. • Continue with writing notebooks. • Review Kagan structure for sharing. **CFA:** generating idea or opinion	**Outlining Reasons and Evidence for Opinions** • Continue with writing notebooks. • Distribute article and mentor text, modeling finding reasons for opinion. • Review text-mapping student sample.	**Outlining Reasons and Evidence for Opinions** • Continue with writing notebooks. • Have students brainstorm opinions on article. • Group students based on similar opinions. • Have them form and outline reasons for opinion using graphic organizer.

Day 7	Day 8	Day 9
Organizational Structure and Linking Words • Distribute mentor text: fifth-grade homework sample. • Continue with graphic organizer. • Distribute "Terrific Transitions and Linking Phrases" handout. **CFA:** Organizing reasons for an opinion	**Crafting a Strong Introduction** • Distribute "How to Hook Your Reader and Opening an Opinion Statement" handout (Kristi's book). • Model writing lead using ideas from handout and opinions from students' writing notebooks.	**Crafting a Strong Introduction** • Continue with handout. • Have students write three different leads using one idea from their writing notebooks. • Choose best lead.
Day 10	**Day 11**	**Day 12**
Crafting a Strong Conclusion • Distribute "How to End your Essay and Techniques for Closure" handout (Kristi's book). • Lead group activity with examples of conclusions. • Have students identify which type of conclusion the text demonstrates.	**Crafting a Strong Conclusion** • Continue with handout. • Show model conclusion. • Have students use same idea from writing notebook and draft three conclusions. • Have them choose the best conclusion. **CFA:** Introduction and conclusion	**Prompt Practice: Prewriting** • Have students focus on generating idea or opinion and reasons and evidence. *"Choose one opinion from your writing notebook about which you have strong feelings. Write an opinion paper."* • Review the rubric for end-of-quarter prompt before prewriting.
Day 13	**Day 14**	**Day 15**
Prompt Practice: Draft, Revise, Edit	**Second Quarter Prompt: Prewrite** • Make sure students choose a topic **different** from anything they have done so far. • Review end-of-the-quarter prompt rubric **before** beginning.	**Second Quarter Prompt: Draft, Revise, Edit**

End-of-quarter prompt: Think of a topic or issue you know and care about, an issue about which you have strong feelings. Write an opinion paper about it.

- Spring, summer, winter, fall: Which is the best season of them all?
- Should students be required to wear school uniforms?
- Should boys and girls be in separate classes?
- Should there be allowances?

(page 2 of 2)

15-Day Challenge Example—Middle School

Grade 8: CCSS.ELA–Literacy.RL.8.2

(Shared by Jessica Richardson and Gizelle Wells, Fox Lake District 114, Spring Grove, Illinois)

Determine a theme or central idea of a text and analyze its development over the course of the text, including its relationship to the characters, setting, and plot; provide an objective summary of the text.

1. (M) Pretest with "The Necklace" **Wiki response:** Review how to respond in complete thoughts; don't just answer questions and write a Bigger-Than-Me post. (Oct. 2)	2. (T) Resource and review topic versus theme using "Little Red Riding Hood" • Review sheet. • Share common themes they think they know. • Preview. • Reinforce that identifying is different than analyzing. • **Introduce perspective:** Show letters in nature and show paragraphs to introduce assignment (rubric with paragraph).	3. (W) Topic versus theme using "The Sniper" graphic organizer Vocabulary "wordner"
4. (Th) CFA • CFA link • **Wiki:** "Two Truths and a Lie"	5. (T) Grammar review: capitalization • **Resource review:** Do the why and what of mini grammar lessons. • Cut out and match themes. Go through themes and write down the capitalization rules you see. • Take kids around for pictures. Free read. (Oct. 10)	6. (W) 5–7 Minilesson on grammar • Find capitalization rules in AR book (besides first letter in name). • **Deconstruct examples:** Make a list together of the necessary components letter paragraph.

7. (Th) 5–7 Mini grammar subject review: capitalization • Letter perspective drafts 1—not done until you like it and it is complete. • Analyze "The Sniper" using graphic organizer (whole class).	(Fr) 5–7 Mini grammar: action verbs Analyze "Sniper Reviewed" using graphic organizer. 1. Whole class breaks into groups of three or four. 2. Identify problems within your group. 3. Grade rotate with teacher; kids who are done can free read or touch base with buddy.	(M) Analyze theme in "The Necklace" with partners. • Revise letter perspective paragraph.
(T) • Read "Stolen Party" alone and do margin notes, pic notes, and graphic organizer. • Do final edit of letter project.	(W) • Free read • Finish project if needed. • Do Bananagrams. • Unprepared students finish final draft. • Lie–three strikes.	(Th) • Given the theme for "Stolen Party," complete the graphic organizer alone. • Make class slideshow for letter project; show how.
(F) "Thank You, Ma'am" • Chunk notes. • Develop theme of graphic organizer independently.		

• Finish assessment post. • Write to buddy about letter project.		Boo-Grams	• SLO 2, part 1 (8.3) • Bananagrams	1. Reteach and extend theme.	1. Reteach and extend theme.
• Create Boo Blob slideshow. • Wiki Halloween post (SLO 1, part 2)		End of theme 1 unit			

15-Day Challenge Example—High School (Integrated Math 3)

(Shared by Sadie Nielsen and Jeff Rawlins, Box Elder High School Brigham City, Utah)

Day 1	Day 2	Day 3	Day 4	Day 5
Introduction to Math 3 • Class disclosure • Canvas • Opening-day activity	**1.1 Types of samples** • Students give examples of statistical questions. • Class discusses and analyzes the following: population, parameter, sample, and statistic. • Class discusses different types of variables.	**1.1 Random sampling and bias** • Students are presented with different ways to collect data. • Students review "fair versus unfair." • Students discuss ways bias can be presented.	**1.1 Histograms** • With data from the students, the class makes a histogram. • Class discusses left endpoint rule. • Class interprets histograms and analyzes the data given.	**1.1 Normal curve and standard deviation** • Class discusses standard deviation. • Students learn the algorithm to find the standard deviation by hand or calculator. • Students analyze true-and-false statements. **CFA:** Reviewing types of sampling, bias, and density histograms
Day 6	**Day 7**	**Day 8**	**Day 9**	**Day 10**
1.4 Normal curve and standard deviation **1.5 Z-scores** • Students learn about the purpose of the normal curve. • Students review formula for a Z-score. • Students answer in context of the data set.	**1.1 Z-scores**	**2.2 Rearranging equations** Students review examples to solve for different variables within one equation. Students use equations from chemistry and physics. **CFA:** 1.4 reviewing normal curve and standard deviation; 1.5 reviewing Z-score	**2.3 Density** • Students work activity packet at their own pace. • Teacher works through the first page with students and explains some things on pages 2 and 3. **CFA:** Rearranging equations	**2.4 Creating equations and inequalities** • Teacher goes over different word meanings, e.g., difference, sum. • Teacher breaks down a mathematical sentence for class. • Teacher explains what each part means. • Teacher show two, and they try two.

Day 11	Day 12	Day 13	Day 14	Day 15
3.1 Grouping (PEMDAS), simplifying and solving linear equations • Teacher describes PEMDAS using grouping of numbers. • Teacher reviews substitution principle. • Students try distribution and combining like terms; check with a partner. • Students solve a problem and describe how they did it. **CFA:** Density; creating equations and inequalities	**3.2 Terms and definitions (half-day)** **3.3 Add, subtract, and multiply polynomials** • Teacher describes terms and definitions. Students write example. • Teacher reviews distribution and FOIL (first, outer, inner, last) methods. Students try some problems.	**3.3 Add, subtract, and multiply polynomials (finish)** • Teacher reviews distribution and FOIL methods. Students try some. **CFA:** Grouping; simplifying; solving linear equations; understanding terms and definitions	**3.4 Factoring GCF, factoring (UNFOIL; a = 1), grouping** • Teacher has students determine the LCM of different terms. • Teacher reviews FOIL with class. • Teacher shows them how to unFOIL and then have them try. • Teacher shows students how to group. They then try some problems.	**3.5 Complex operations and complex graphing** • Students relate adding, subtracting, and multiplying complex numbers to a variable. • Students graph points on a XY plane. • Students graph points on the complex plane. **CFA:** Adding, subtracting, and multiplying polynomials; factoring GCF; UNFOIL; grouping