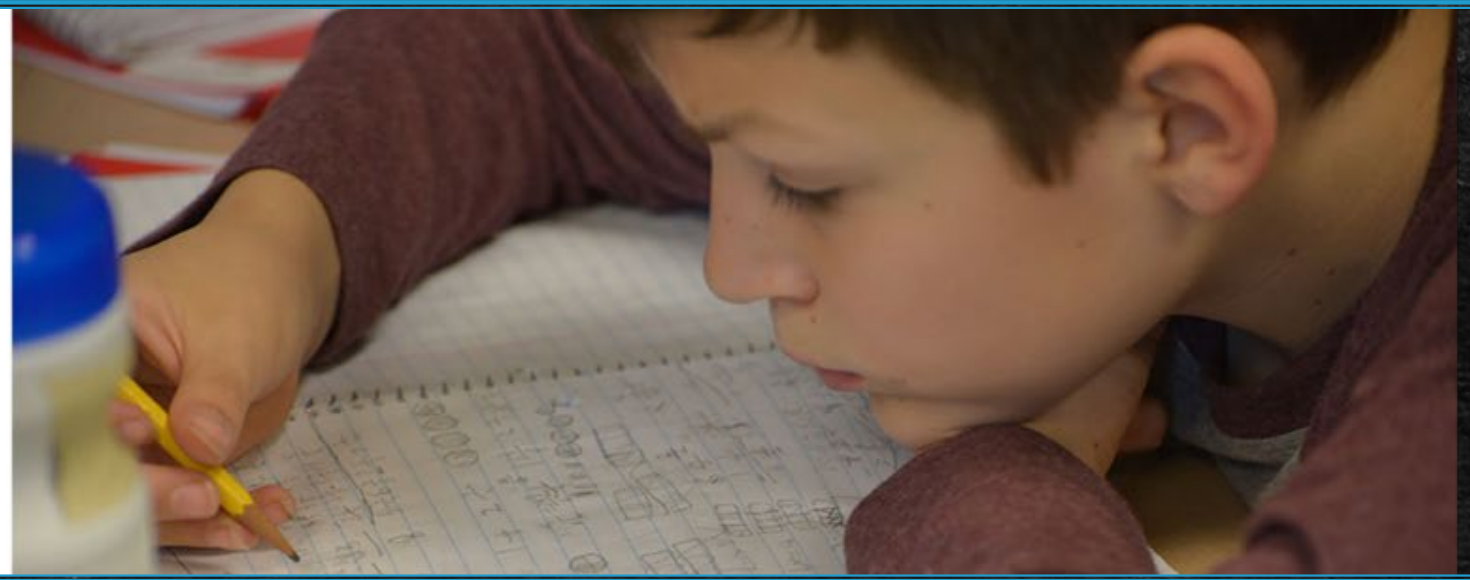
Project BUMP Up

Building Up Mathematics Proficiency Utilizing Push-in



Enhancing Collaboration between Gifted Education Specialists and Classroom Teachers

Confratute 2023–Day 3

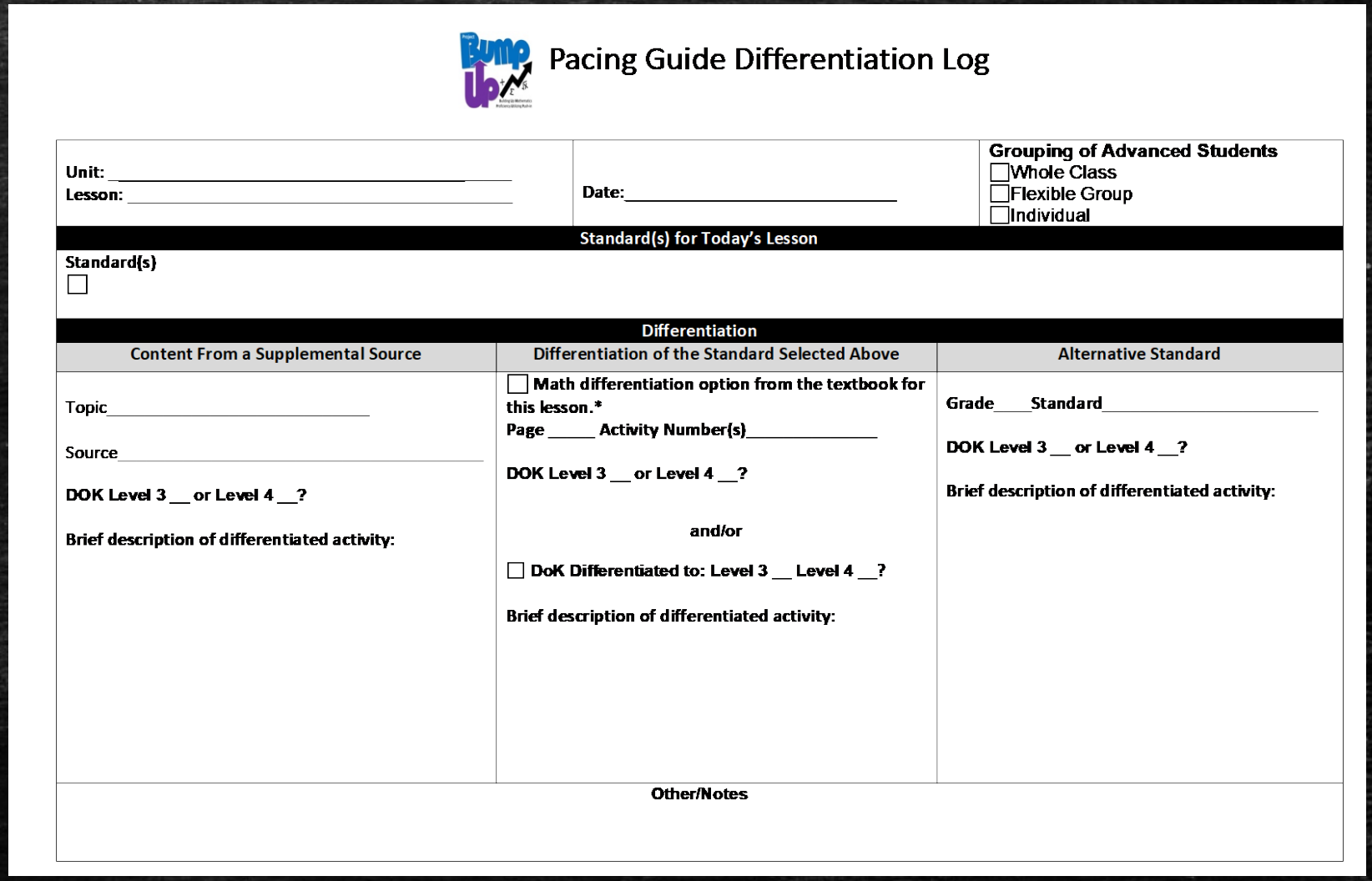
Today

- Exit Ticket Review
- Curriculum Compacting & Differentiation Log
- Advanced Resources
- Advanced Standards
- Vetting and Increasing Cognitive Complexity
- Putting it All Together
- Wrap Up and Exit Ticket

Exit Ticket Review

BUMP UP Differentiation

- Options
- Not prescribed



Pacing Guide Differentiation Log

Unit: _____ Lesson: _____	Date: _____	Grouping of Advanced Students ☐ Whole Class ☐ Flexible Group ☐ Individual

Standard(s) for Today's Lesson

Standard(s)
☐

Differentiation

Content From a Supplemental Source	Differentiation of the Standard Selected Above	Alternative Standard
Topic _____ Source _____ **DOK Level 3 __ or Level 4 __?** **Brief description of differentiated activity:**	☐ **Math differentiation option from the textbook for this lesson.*** **Page _____ Activity Number(s)_____** **DOK Level 3 __ or Level 4 __?** **and/or** ☐ **DoK Differentiated to: Level 3 __ Level 4 __?** **Brief description of differentiated activity:**	**Grade____Standard_____** **DOK Level 3 __ or Level 4 __?** **Brief description of differentiated activity:**

Other/Notes

Curriculum Compacting

STUDENT A

Instructor:	Carpenter	Total Possible:	21	Student Score:	13.0 - 61.9%
Exam Name:	Physical 1 pre generic	Highest Score:	21 - 100.0%	Class Average:	17.1 - 81.3%
Exam Date:	Monday, May 9, 2016	Lowest Score:	6 - 28.6%	Weighted Proficiency Level:	>= 80%

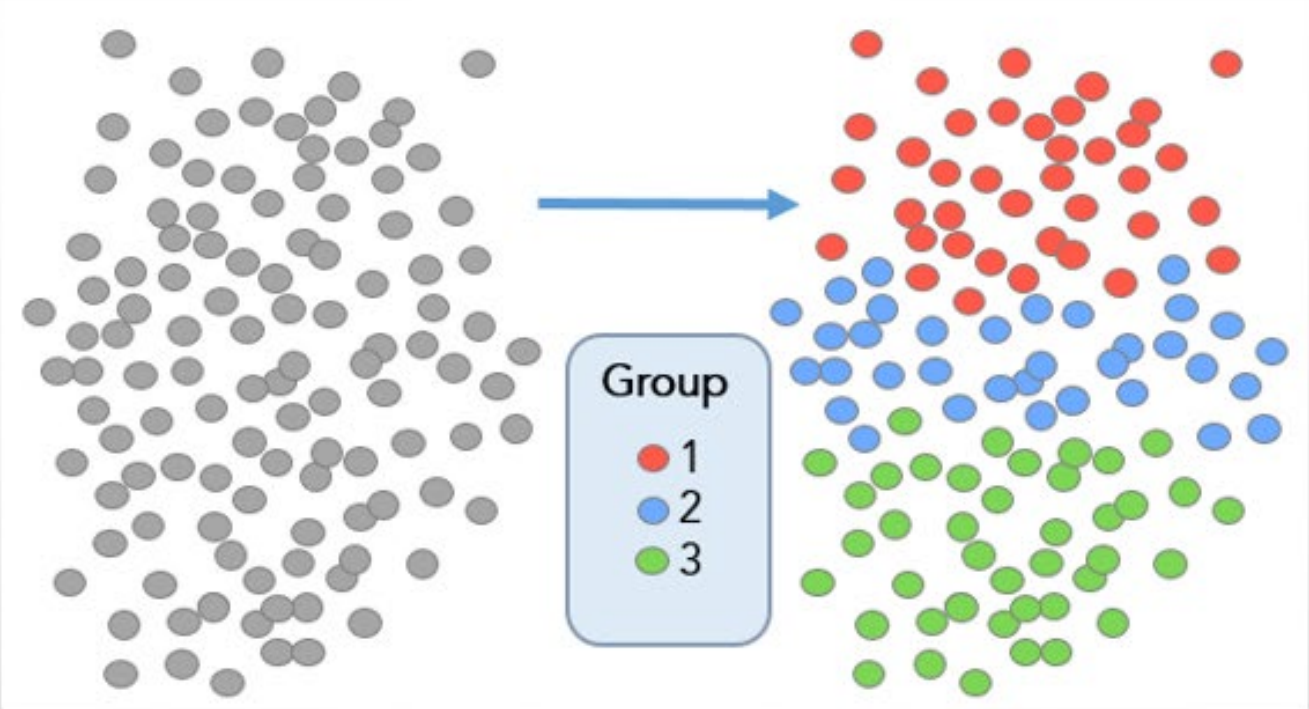
Standard	Description	Correct	Total	Proficiency: >= 80%
SC.7.P.11. Energy Transfer and Transformations - A. Waves involve a transfer of energy without a transfer of matter. B. Water and sound waves transfer energy through a material. C. Light waves can travel through a vacuum and through matter. D. The Law of Conservation of Energy: Energy is conserved as it transfers from one object to another and from one form to another.				
SC.7.P.11.1.	Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.	3	5	60.0%
SC.7.P.11.2.	Investigate and describe the transformation of energy from one form to another.	6	8	75.0%
SC.7.P.11.3.	Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.	1	3	33.3%
SC.7.P.11.4.	Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature.	3	5	60.0%
	Overall Proficiency	13	21	61.9%
	Proficiency Level	**13**	**21**	61.9%

STUDENT B

Instructor:	Carpenter	Total Possible:	21	Student Score:	19.0 - 90.5%
Exam Name:	Physical 1 pre generic	Highest Score:	21 - 100.0%	Class Average:	17.1 - 81.3%
Exam Date:	Monday, May 9, 2016	Lowest Score:	6 - 28.6%	Weighted Proficiency Level:	>= 80%

Standard	Description	Correct	Total	Proficiency: >= 80%
SC.7.P.11. Energy Transfer and Transformations - A. Waves involve a transfer of energy without a transfer of matter. B. Water and sound waves transfer energy through a material. C. Light waves can travel through a vacuum and through matter. D. The Law of Conservation of Energy: Energy is conserved as it transfers from one object to another and from one form to another.				
SC.7.P.11.1.	Recognize that adding heat to or removing heat from a system may result in a temperature change and possibly a change of state.	5	5	100.0%
SC.7.P.11.2.	Investigate and describe the transformation of energy from one form to another.	7	8	87.5%
SC.7.P.11.3.	Cite evidence to explain that energy cannot be created nor destroyed, only changed from one form to another.	3	3	100.0%
SC.7.P.11.4.	Observe and describe that heat flows in predictable ways, moving from warmer objects to cooler ones until they reach the same temperature.	4	5	80.0%
	Overall Proficiency	19	21	90.5%
	Proficiency Level	**19**	**21**	90.5%

GROUPING



ABILITY GROUPING IS BEST PRACTICE

INDIVIDUAL EDUCATIONAL PROGRAMMING GUIDE

The Compactor

Prepared by: Joseph S. Renzulli
Linda M. Smith

NAME_____ AGE_____ TEACHER(S)_____

SCHOOL _____ GRADE_____ PARENT(S) _____

Individual Conference Dates And Persons Participating in Planning Of IEP

_____ _____ _____ _____

CURRICULUM AREAS TO BE CONSIDERED FOR COMPACTING Provide a brief description of basic material to be covered during this marking period and the assessment information or evidence that suggests the need for compacting.	PROCEDURES FOR COMPACTING BASIC MATERIAL Describe activities that will be used to guarantee proficiency in basic curricular areas.	ACCELERATION AND/OR ENRICHMENT ACTIVITIES Describe activities that will be used to provide advanced level learning experiences in each area of the regular curriculum.
Name it	Prove it	Change it

☐ Check here if additional information is recorded on the reverse side.

Step 1: Name it

- What is in the unit?
- Deconstruct the standard(s)

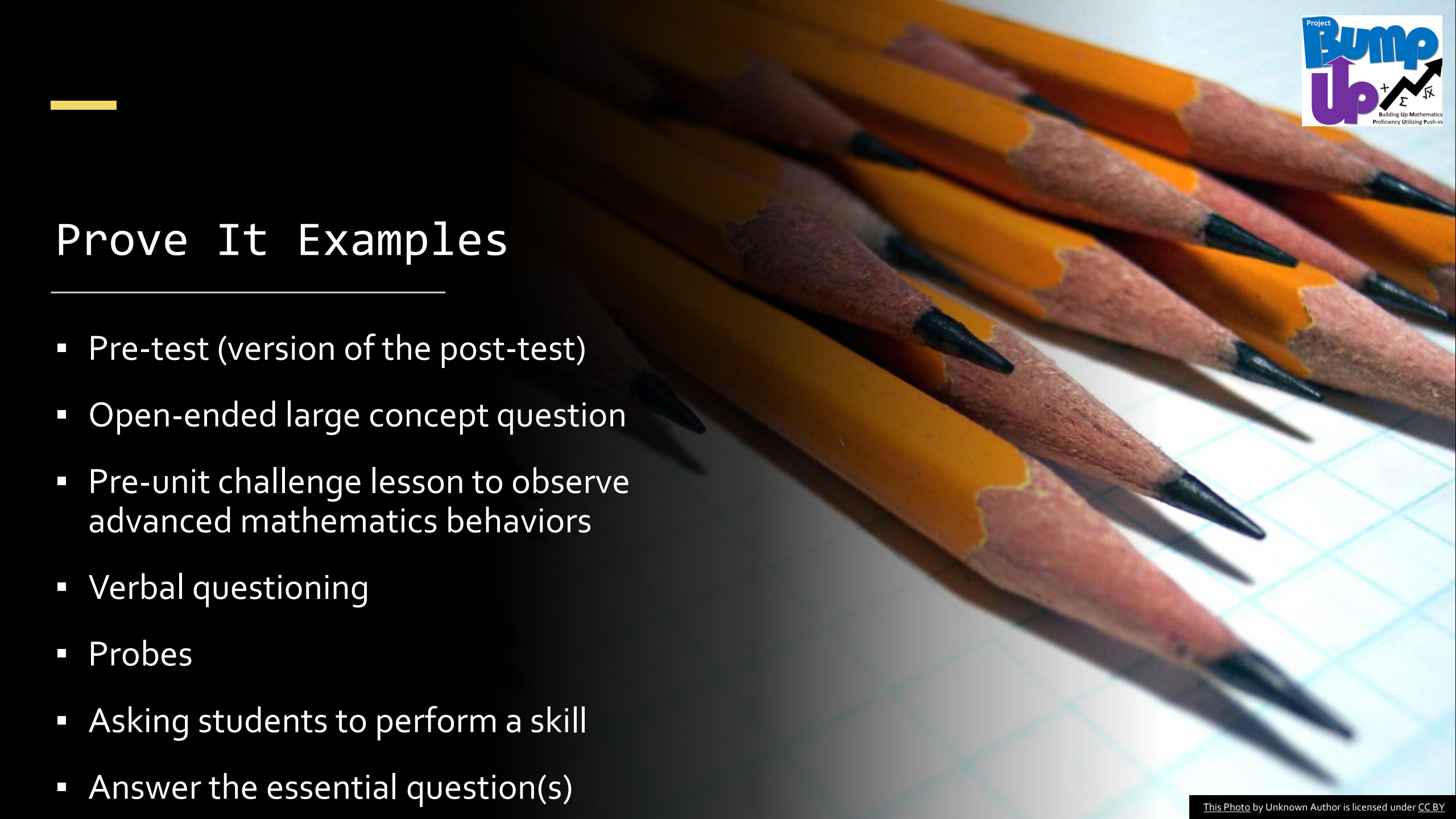
Step 2: Prove it

- Identify students
- Measure student mastery

Students Who Know:			
Are Students Who Need:			

Prove It Examples

- Pre-test (version of the post-test)
- Open-ended large concept question
- Pre-unit challenge lesson to observe advanced mathematics behaviors
- Verbal questioning
- Probes
- Asking students to perform a skill
- Answer the essential question(s)



Various ways the data could present

- 60% or above on all standards
- Over 60% or above on 3 out of 5 standards

Step 3 – Change it

Alter the regular curriculum for those students in various ways

- Type III's
- Accelerate to concepts or units you do not traditionally have time to cover
- Excuse students from sections mastered; streamline the rest
- Real-world, problem-based learning
- Alternative unit
- A higher grade's related standards

A choice of ways…

- Alternative lesson focusing on standards 1–3 while everyone else does lessons for 1–3, and then join the class for 4 and 5.

OR

- Accelerate to higher standards while everyone works on 1–3. Then, they can join the students who already compacted out of the unit.

Pacing Guide Differentiation Log

Unit: _____ **Lesson:** _____	**Date:**_____	**Grouping of Advanced Students** ☐ Whole Class ☐ Flexible Group ☐ Individual

Standard(s) for Today's Lesson

Standard(s)

☐

Differentiation

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Other/Notes

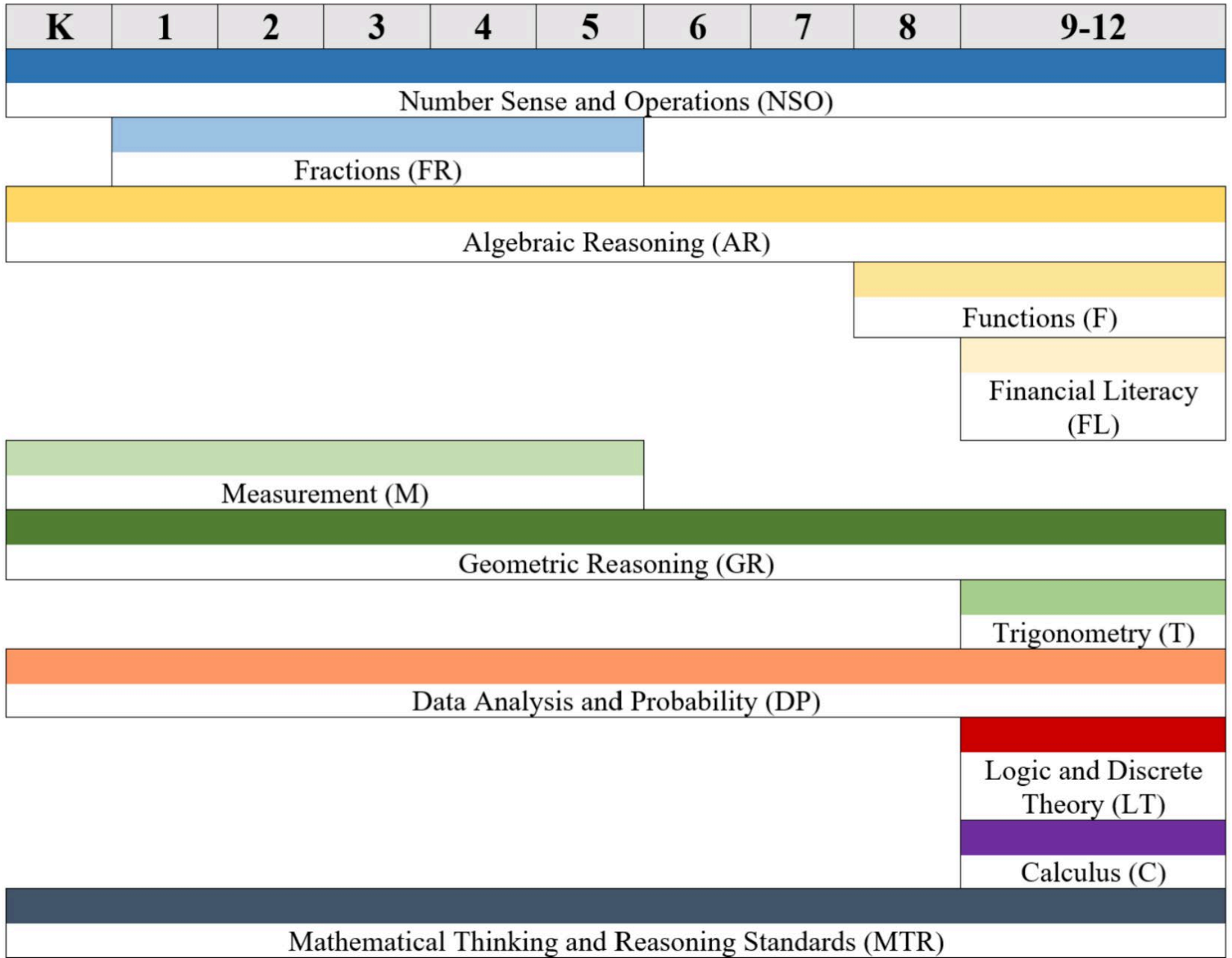
Advanced Standards

Selecting Advanced Standards

for Advanced Mathematics in the Elementary Classroom

Higher Standards or Those You Do Not Normally Reach

Progression of Strands



If your standards do not have a progression chart…

- Hints:
  - Similar letters and numbers
  - Similar key words and phrases

Selecting Standards You Do Not Normally Reach

- Sub-standards you do not have as much time to address throughout the unit
- Standards at the end of the year's scope and sequence

Activity

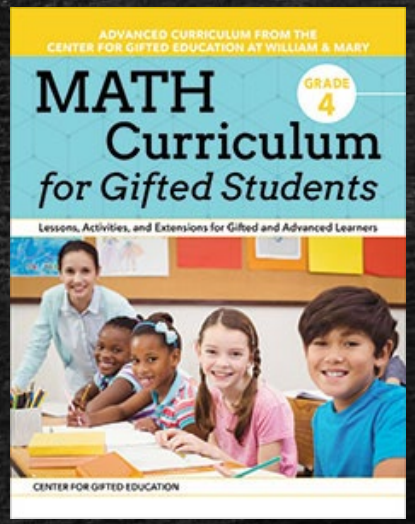
Advanced Standard Options

- A shared form
- Pre-populated standards
- Would/not recommend a higher grade standard
- Living document

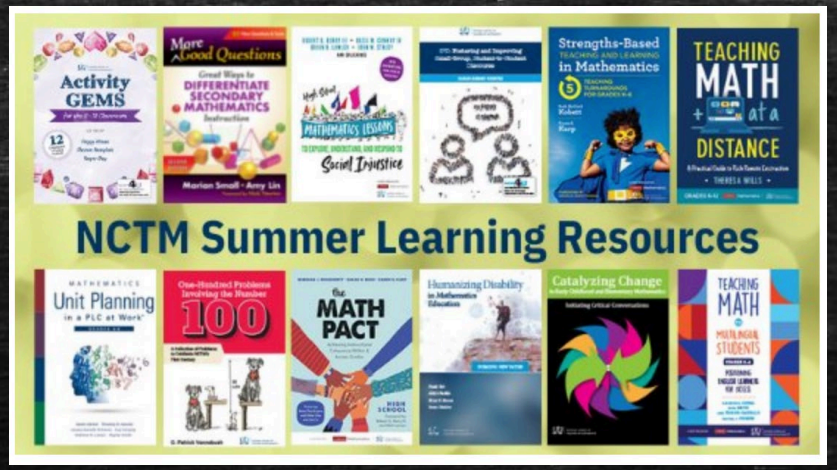
Cluster						
Standard	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	
MA.NSO.1.1	1.1: Read and write numbers from 0 to 10,000 using standard form, expanded form and word form.	1.1: Express how the value of a digit in a multi-digit whole number changes if the digit moves one place to the left or right.	1.1: Express the value of a digit in a multi-digit number with decimals to the thousandths changes if the digit moves one or more places to the left or right.	1.1: Extend previous undertsanding of numbers to define rational numbers. Plot, order, and compare rational numbers.	1.1: Know and apply the Laws of Exponents to evaluate numerical expressions and generate equivalent numerical expressions, limited to whole-number exponents and rational number bases.	SAMPLE: I would consider using the Gr. 5 and Gr. 6 standards as I think the Gr. 5 extension to decimals would not be enough, but going to Gr. 6's extension to rational numbers would be enough.
MA.NSO.1.2	1.2: Compose and decompose four-digit numbers in multiple ways using thousands, hundreds, tens and ones. Demonstrate each composition or decomposition using objects, drawings and expressions or equations.	1.2: Read and write multi-digit whole numbers from 0 to 1,000,000 using standard form, expanded form and word form.	1.2: Read and write multi-digit numbers with decimals to the thousandths using standard form, word form and expanded form.	1.2: Given a mathematical or real-world context, represent quantities that have opposite direction using rational numbers. Compare them on a number line and explain the meaning of zero within its context.	1.2: Rewrite rational numbers in different but equivalent forms including fractions, mixed numbers, repeating decimals and percentages to solve mathematical and real-world problems.	
	1.3: Plot, order and compare whole numbers up to 10,000.	1.3: Plot, order and compare multi-digit whole numbers up to 1,000,000.	1.3: Compose and decompose multi-digit numbers with decimals to the thousandths in multiple	1.3: Given a mathematical or real-world context, interpret the absolute value of a number as the distance		

Advanced Resources

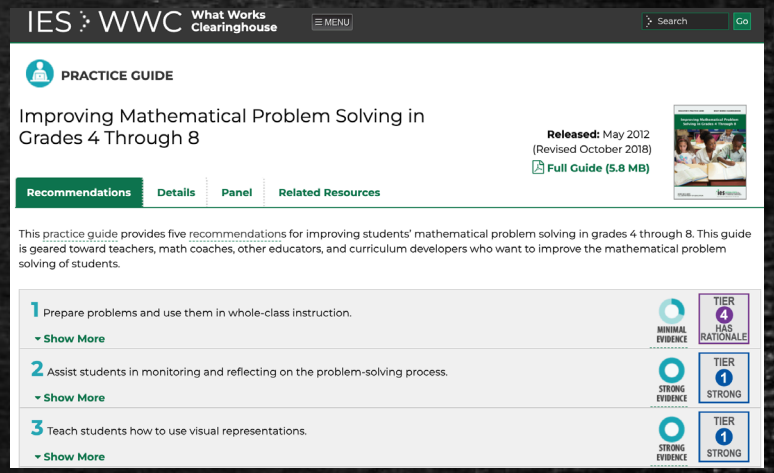
Vetting and Selecting Resources



Publishers



Associations



Researchers

Standards-Based

- Easy to match to pre-existing units.

TABLE OF CONTENTS

Example Lesson

LESSON 1.1

Factor Pairs and Multiples

Estimated Time

- 60–90 minutes

Key Terms

- Prime number
- Composite number
- Factor pair
- Multiple
- Square number (This term may not have been covered yet, so it may need to be explained.)

Materials

- Lesson 1.1 Activity: Factor Pairs and Multiples
- Lesson 1.1 Number Cards (one set per group)
- Lesson 1.1 Practice: Factor Pairs and Multiples
- Lesson 1.1 Assessment Practice
- Counters (100 per group)
- Graph or chart paper
- Hundreds chart (one per student; needs to be made in advance)
- Crayons or colored pencils

Objectives

In this lesson, students will:

- design arrays to find all factor pairs for a whole number in the range of 1–100.

Lesson 1.1 Activity: Factor Pairs and Multiples

In this activity, students will work in pairs and take turns randomly choosing a number card. Students will design all arrays using counters for the number on their card as they work as artists to design patterns for artwork (see examples below). Students will record all arrays, including length and width, on the graph or chart paper provided. Students will then list all factor pairs for their card numbers and work to find a specified multiple for their numbers. Students will determine generalized rules for when a number is a multiple of another number.

Teacher's Note. This lesson includes questions about prime numbers. You may have to explain that 0 and 1 are neither prime nor composite numbers and that 2 is the only even prime number.

2 x 10
Possible Arrays

3 x 11
Possible Arrays

Open-ended, Real-world Problem or Project-based Learning

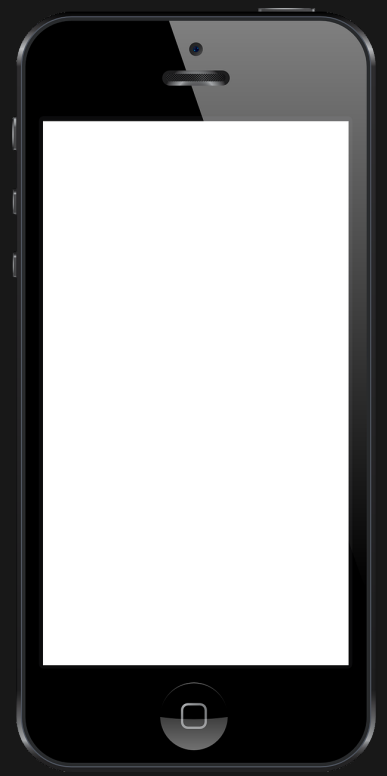
Project Bump Up
Building Up Mathematics Proficiency Utilizing Push-in

Open-ended Questions

- Require thinking and reflecting
- Foster an exchange of opinions or ideas
- Allow for higher level thinking skills
- Begin with why, how, what, describe, tell me about…, or what do you think about…

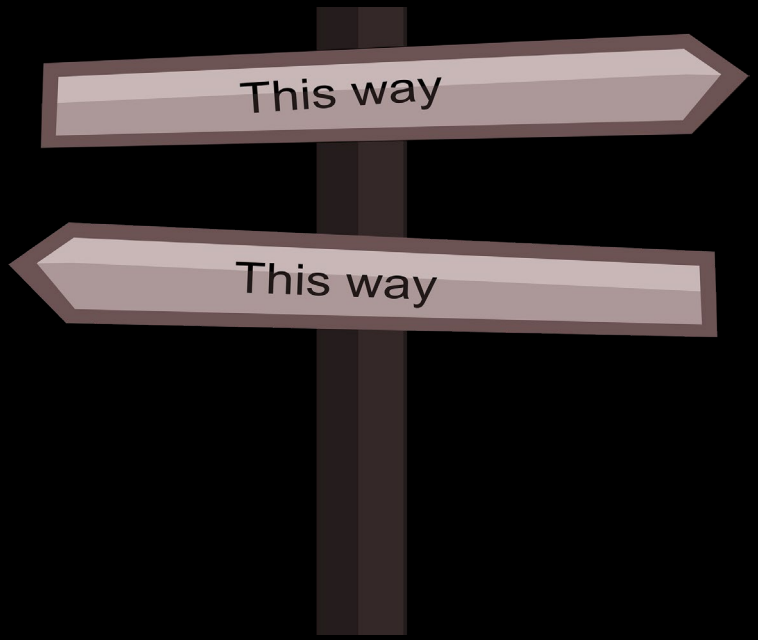
http://ttacwm.blogs.wm.edu/open-ended-math-questions-reveal-student-thinking/

Real-world Problems



- Familiar or imaginable scenarios
  - Fanciful
  - **Practical**
- Engaging
- Cross-discipline

https://www.nctm.org/Publications/MTMS-Blog/Blog/Mathematics-and-the-Real-World/

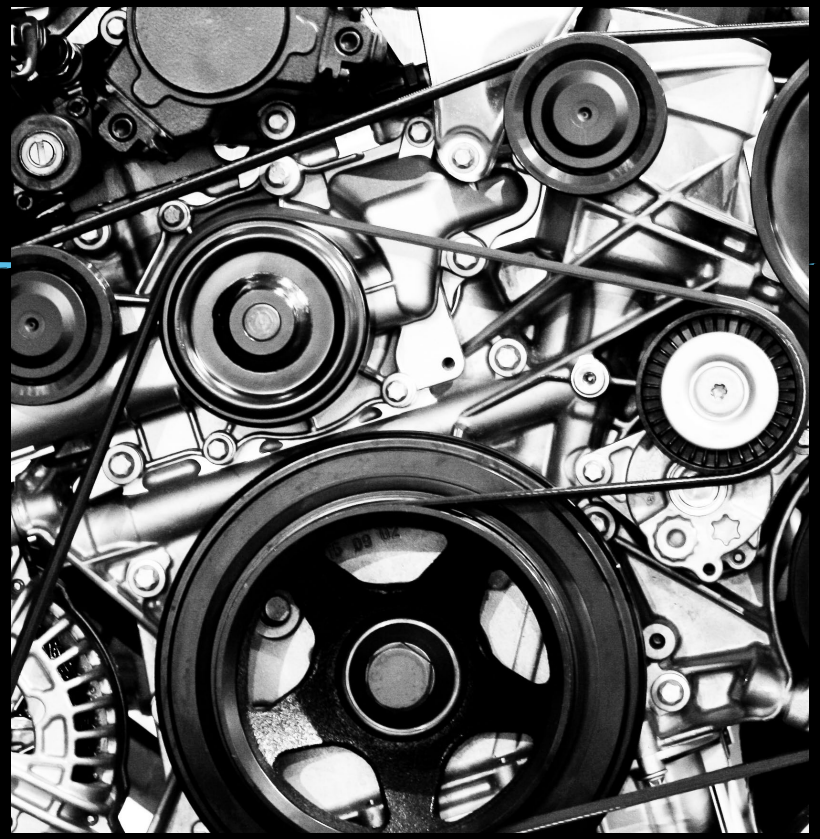


Project-Based

Problem-Based

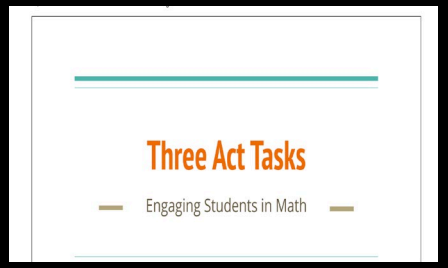
Depending on student needs…



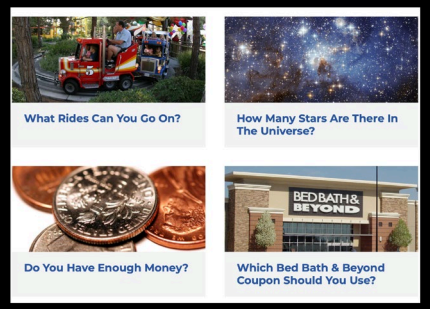


Not necessary to reinvent…

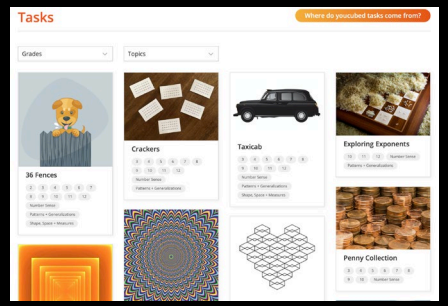
Vetted



https://hcpss.instructure.com/courses/107/pages/three-act-tasks/3-act-lessons/



https://robertkaplinsky.com/lessons/



https://www.youcubed.org/tasks/

Sharing of Vetted Sources by Discipline

Visit the different disciplines charts

Add a vetted source and the grade range (e.g., elementary; all grades)

- Math
- Science
- Social Studies
- The Arts
- Language Arts

Activity

Advanced Options by Standards

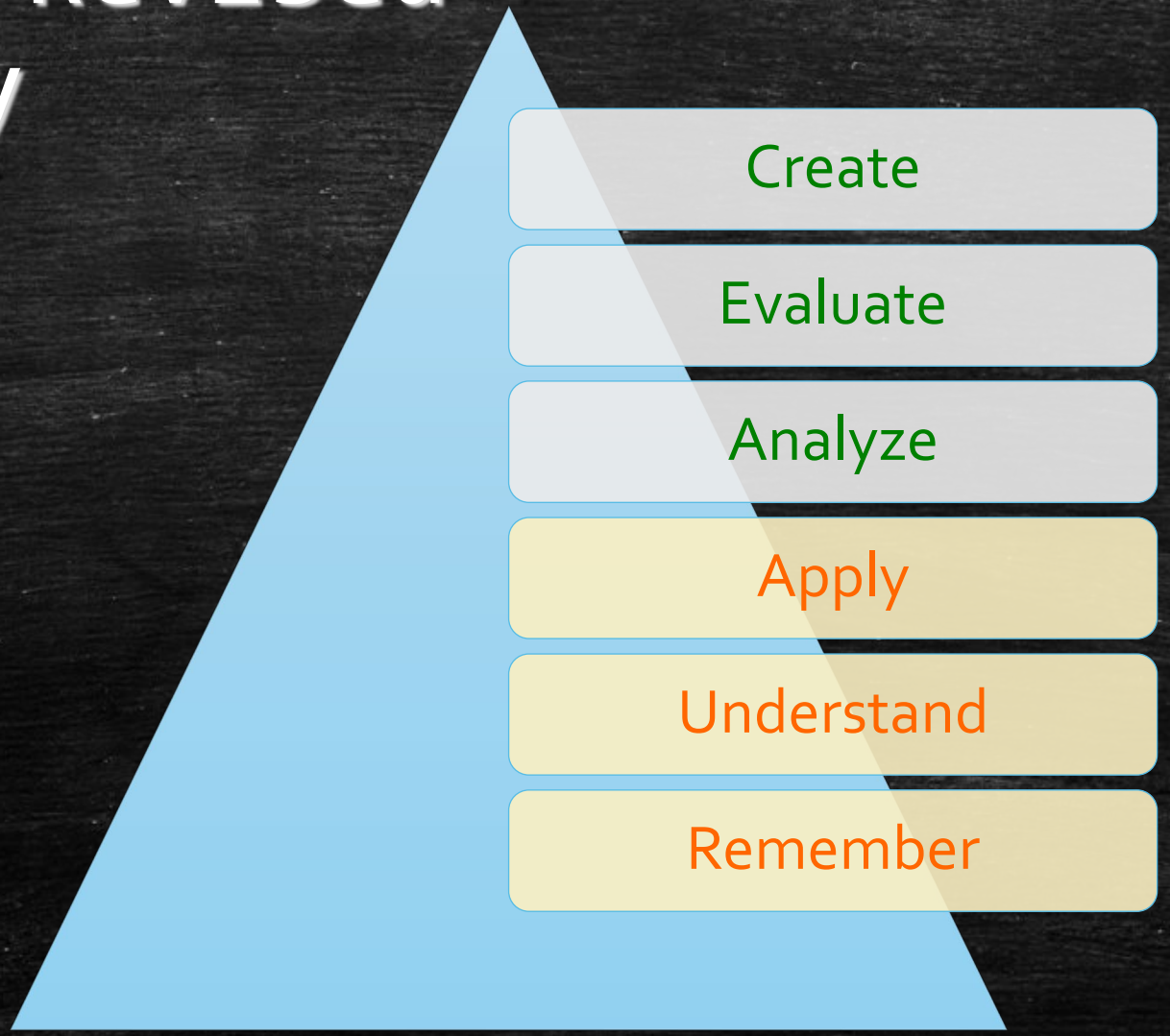
- Shared form
- Pre-populated standards
- Ideas for higher grade level standard or problem/ project-based learning option
- Living document

Grade 4	Related Higher Grade Level Standard	Problem or Project Based Learning Option (Link)
1.1: Express how the value of a digit in a multi-digit whole number changes if the digit moves one place to the left or right.	SAMPLE: Gr. 5 1.1: Express the value of a digit in a multi-digit number with decimals to the thousandths changes if the digit moves one or more places to the left or right.	SAMPLE: How Much Money Were Those Pennies? https://robertkaplinsky.com/work/much-money-pennies/
1.2: Read and write multi-digit whole numbers from 0 to 1,000,000 using standard form, expanded form and word form.		
1.3: Plot, order and compare multi-digit whole numbers up to 1,000,000.		
1.4: Round whole numbers from 0 to 10,000 to		

Increasing Cognitive Complexity

Bloom's Revised Taxonomy

Anderson & Krathwohl, 2001



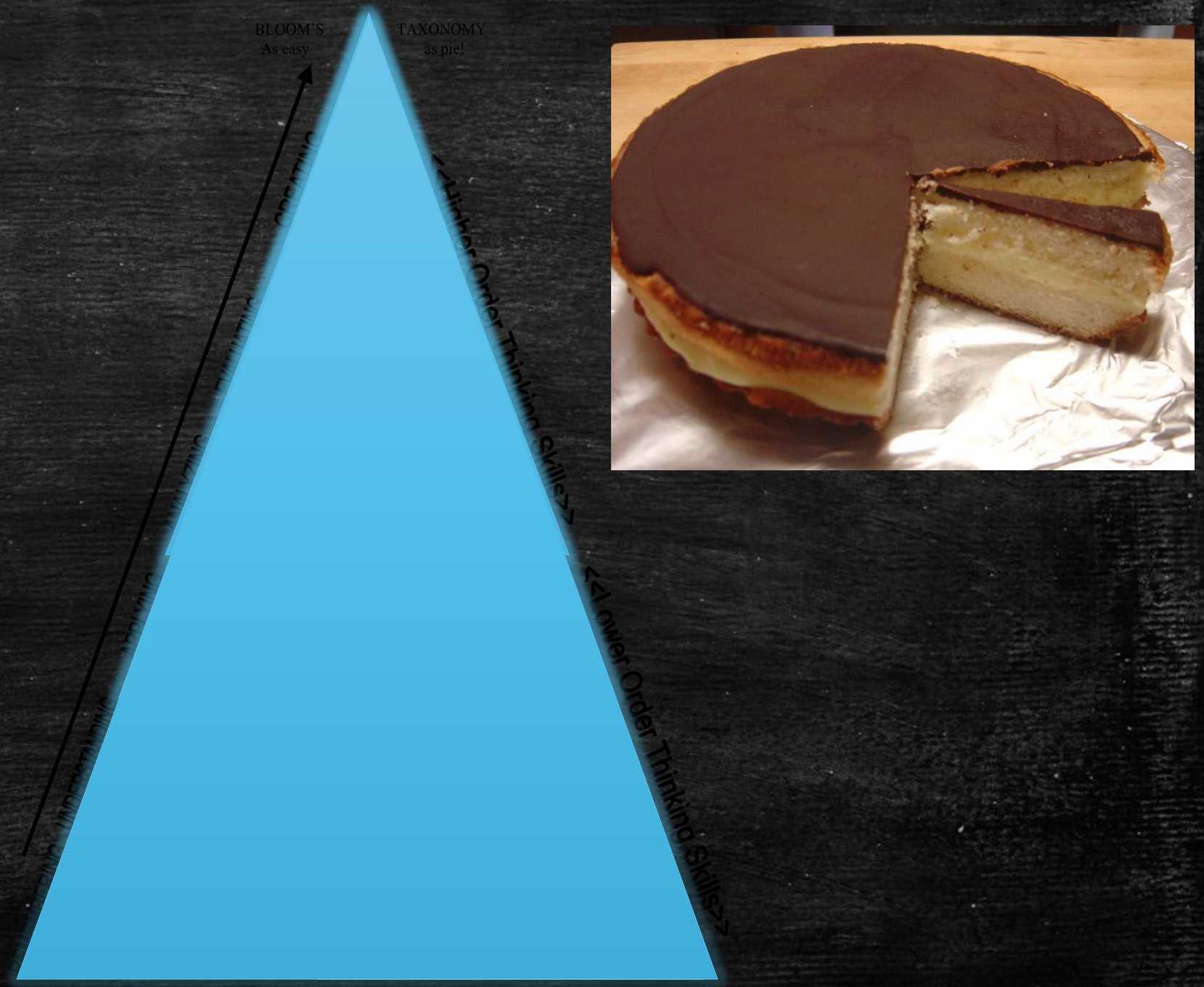
HIGHER Order Thinking Skills

LOWER Order Thinking Skills

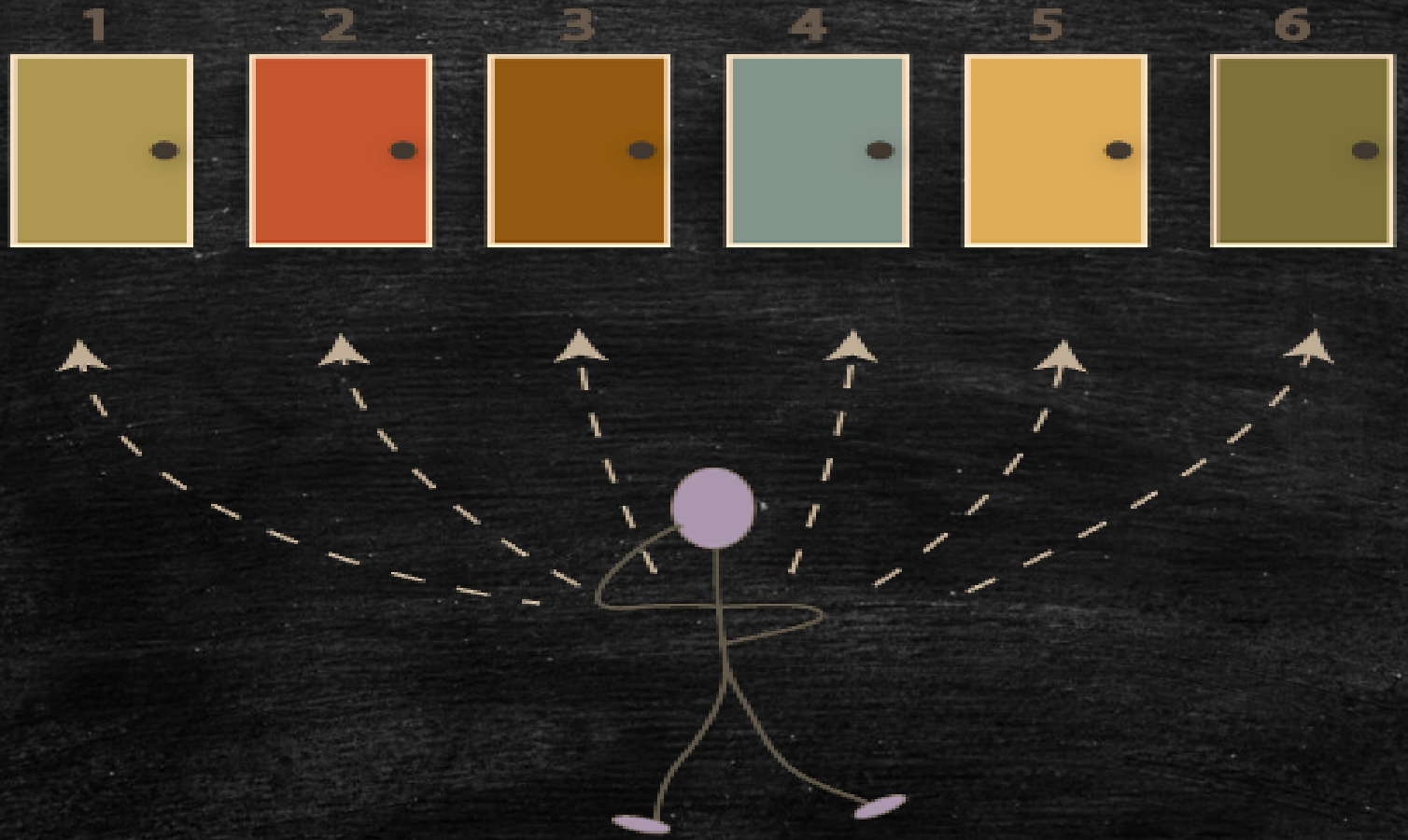
Bloom's Taxonomy as Easy as Pie

- Clarity of how the Taxonomy levels build
- Visual to aid in understanding
- Analogy to something that almost everyone can relate to*

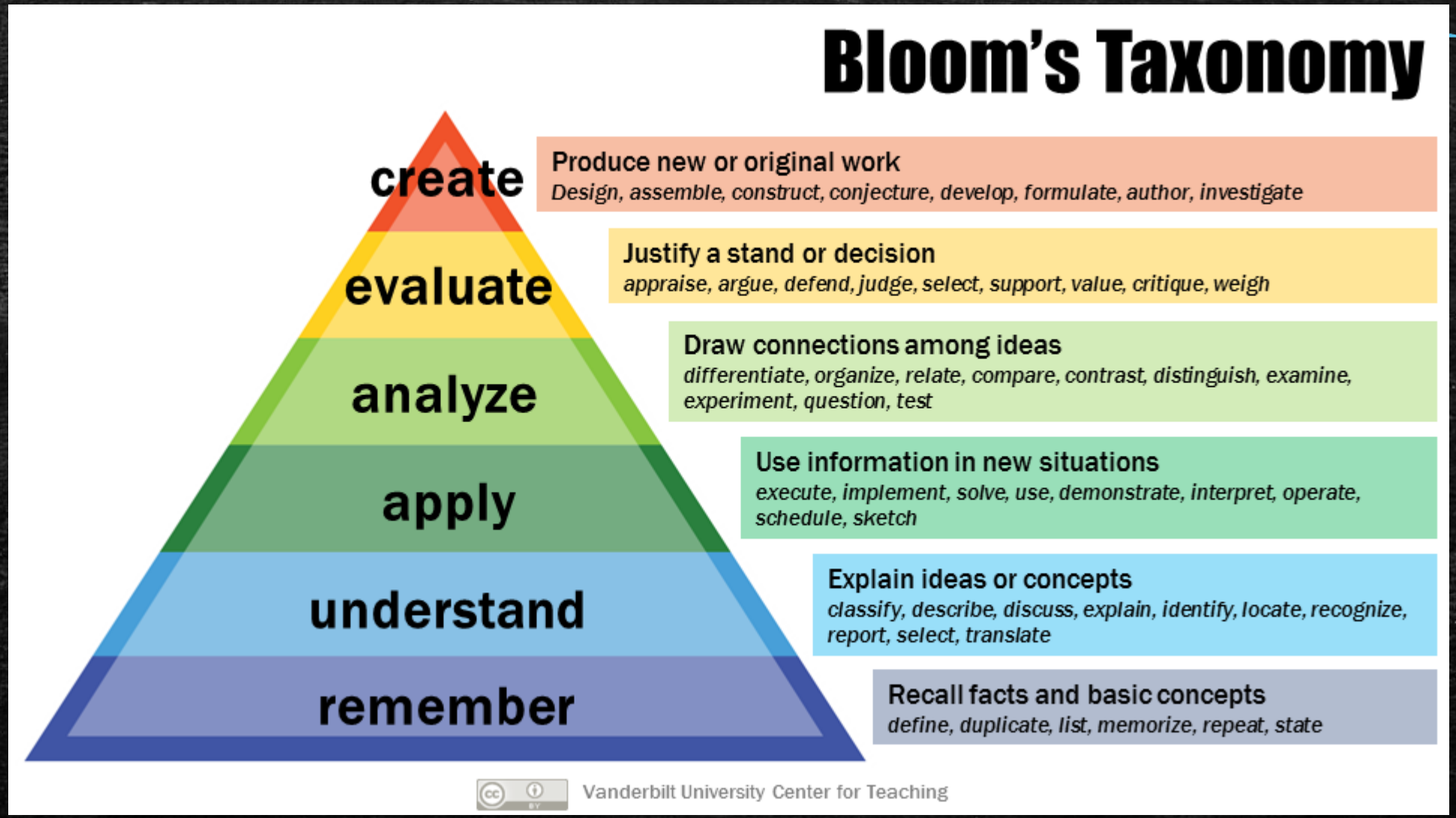
*Bloom's Taxonomy – As Easy as Riding a Bike



Multiple Points of Entry to Bloom's Levels



Verbs – That's what's happening.



Overlap

REVISED Bloom's Taxonomy Action Verbs

Definitions	I. Remembering	II. Understanding	III. Applying	IV. Analyzing	V. Evaluating	VI. Creating
Bloom's Definition	Exhibit memory of previously learned material by recalling facts, terms, basic concepts, and answers.	Demonstrate understanding of facts and ideas by organizing, comparing, translating, interpreting, giving descriptions, and stating main ideas.	Solve problems to new situations by applying acquired knowledge, facts, techniques and rules in a different way.	Examine and break information into parts by identifying motives or causes. Make inferences and find evidence to support generalizations.	Present and defend opinions by making judgments about information, validity of ideas, or quality of work based on a set of criteria.	Compile information together in a different way by combining elements in a new pattern or proposing alternative solutions.
Verbs	• Choose • Define • Find • How • Label • List • Match • Name • Omit • Recall • Relate • Select • Show • Spell • Tell • What • When • Where • Which • Who • Why	• Classify • Compare • Contrast • Demonstrate • Explain • Extend • Illustrate • Infer • Interpret • Outline • Relate • Rephrase • Show • Summarize • Translate	• Apply • Build • Choose • Construct • Develop • Experiment with • Identify • Interview • Make use of • Model • Organize • Plan • Select • Solve • Utilize	• Analyze • Assume • Categorize • Classify • Compare • Conclusion • Contrast • Discover • Dissect • Distinguish • Divide • Examine • Function • Inference • Inspect • List • Motive • Relationships • Simplify • Survey • Take part in • Test for • Theme	• Agree • Appraise • Assess • Award • Choose • Compare • Conclude • Criteria • Criticize • Decide • Deduct • Defend • Determine • Disprove • Estimate • Evaluate • Explain • Importance • Influence • Interpret • Judge • Justify • Mark • Measure • Opinion • Perceive • Prioritize • Prove • Rate • Recommend • Rule on • Select • Support • Value	• Adapt • Build • Change • Choose • Combine • Compile • Compose • Construct • Create • Delete • Design • Develop • Discuss • Elaborate • Estimate • Formulate • Happen • Imagine • Improve • Invent • Make up • Maximize • Minimize • Modify • Original • Originate • Plan • Predict • Propose • Solution • Solve • Suppose • Test • Theory

Anderson, L. W., & Krathwohl, D. R. (2001). A taxonomy for learning, teaching, and assessing, Abridged Edition. Boston, MA: Allyn and Bacon.

Activity

Analyzing Bloom's in Standards

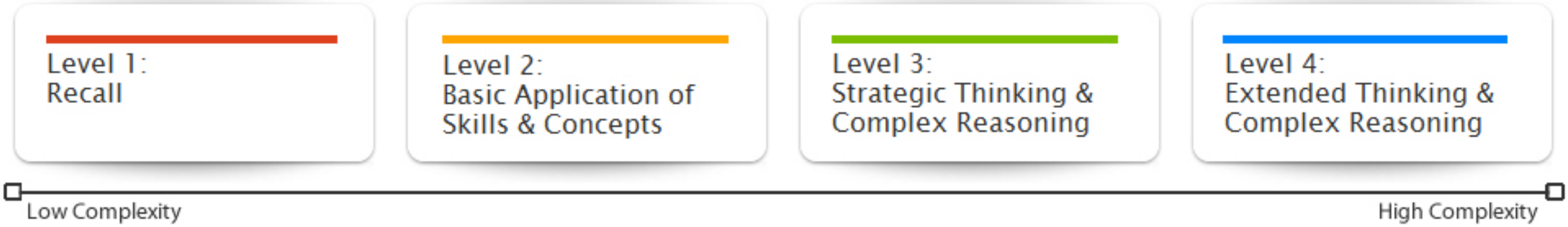
- Shared form
- Pre-populated standards
- Analyzing Bloom's levels
- Living document

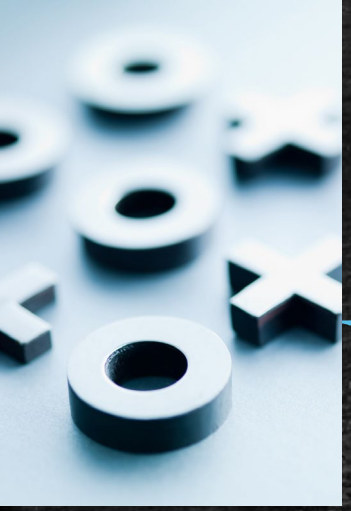
	Step 1: Identify the verb(s) from the standard	Step 2: Analyze the verb(s) level of Bloom's Taxonomy
1.1: Express how the value of a digit in a multi-digit whole number changes if the digit moves one place to the left or right.	SAMPLE: Express how	SAMPLE: Understanding
1.2: Read and write multi-digit whole numbers from 0 to 1,000,000 using standard form, expanded form and word form.		
1.3: Plot, order and compare multi-digit whole numbers up to 1,000,000		

Webb's Depth of Knowledge

Webb's Depth of Knowledge (Webb, 1997)

- Related to number of connections of concepts and ideas a student needs to make
- Other factors that influence the cognitive demands of performance





Clarifying Webb's DOK

Misconception

- More steps or longer tasks relate to higher DOK levels.
- Not all students can reach all levels.

Truth

- Number of steps or length of tasks does not relate to DOK level.
- All students can reach all levels with scaffolds.

Hess, n. d.

Context: What are students expected to do? (Francis, 2017)

Are students expected to

- Acquire knowledge (**DOK-1**)?
- Apply knowledge (**DOK-2**)?
- Analyze knowledge (**DOK-3**)?
- Augment knowledge (**DOK-4**)?

Bloom and Webb

Math Content Standards & Math Practices

Depth + Thinking	Level 1 Recall & Reproduction	Level 2 Skills & Concepts (routine applications)	Level 3 Strategic Thinking (support with data, equations, models, etc.)	Level 4 Extended Thinking (across domains)
Remember	Know math facts, terms			
Understand	Attend to precision Evaluate expressions, plot point	Model with mathematics Estimate, predict, observe, explain relationships	Construct viable arguments Geometry proof	Integrate concepts across domains
Apply	Calculate, measure, make conversions	Make sense of routine problems	Make sense of non-routine problems	Design & conduct a project
Analyze	Identify a pattern Locate information in table	Use tools strategically Classify, organize data, extend a pattern	Reason abstractly Generalize a pattern	Analyze multiple sources of evidence
Evaluate			Critique the reasoning of others	
Create				Design a complex model

RENAISSANCE LEARNING

Hess, n. d. 6

Identifying and Adjusting Depth of Knowledge of Levels

Standards: Webb's DOK

- Grade 4
- 28 Standards
  - DOK 1 — 9
  - DOK 2 — 18
  - DOK 3 — 1
  - DOK 4 — 0
- Grade 5
  - 26 Standards
    - DOK 1 — 8
    - DOK 2 — 17
    - DOK 3 — 1
    - DOK 4 — 0

DOK 1

- Recall
- A simple algorithm or a formula
- Key words "identify," "recall," "recognize," "use," and "measure." (Webb, 2002, p. 3)

EXAMPLE:
DOK Level 1: **Recognize** that 700 ÷ 70 = 10 by applying concepts of place value and division

DOK 2

- Beyond a habitual response
- Decisions on solving
- More than one step AND concept

EXAMPLE:

DOK Level 2: Jess uses powers of 10 and exponents to find the product of the following terms.

What are the products?

$0.5 \times 10^5 =$_____ $0.05 \times 10^5 =$_____

DOK 3

- Reasoning, planning, using evidence, and a higher level of thinking
- Justifying the response
- Drawing conclusions; citing evidence and developing a logical argument; explaining phenomena

EXAMPLE:

DOK Level 3: **Explain why 700 ÷ 70 = 10,** including the role of place value in doing the division.

DOK 4

- Complex reasoning, planning, developing, and thinking
- Extended period of time
- Requires several connections

EXAMPLE:

DOK Level 4: For our annual food drive, we must figure out how to ship over 400 cans. **Decide the best shipping method (crates, cases, or individual boxes) to use as few packages as possible**. **Write a letter to the principal projecting** the amount of money the school will spend shipping the packages. **Justify the most efficient packaging and shipping methods**. (DeKalb County School District, n.d.)

Type III's

Turn and Talk:

Which DOK is a SEM Type III?

Activity

Identifying Webb's Depth of Knowledge

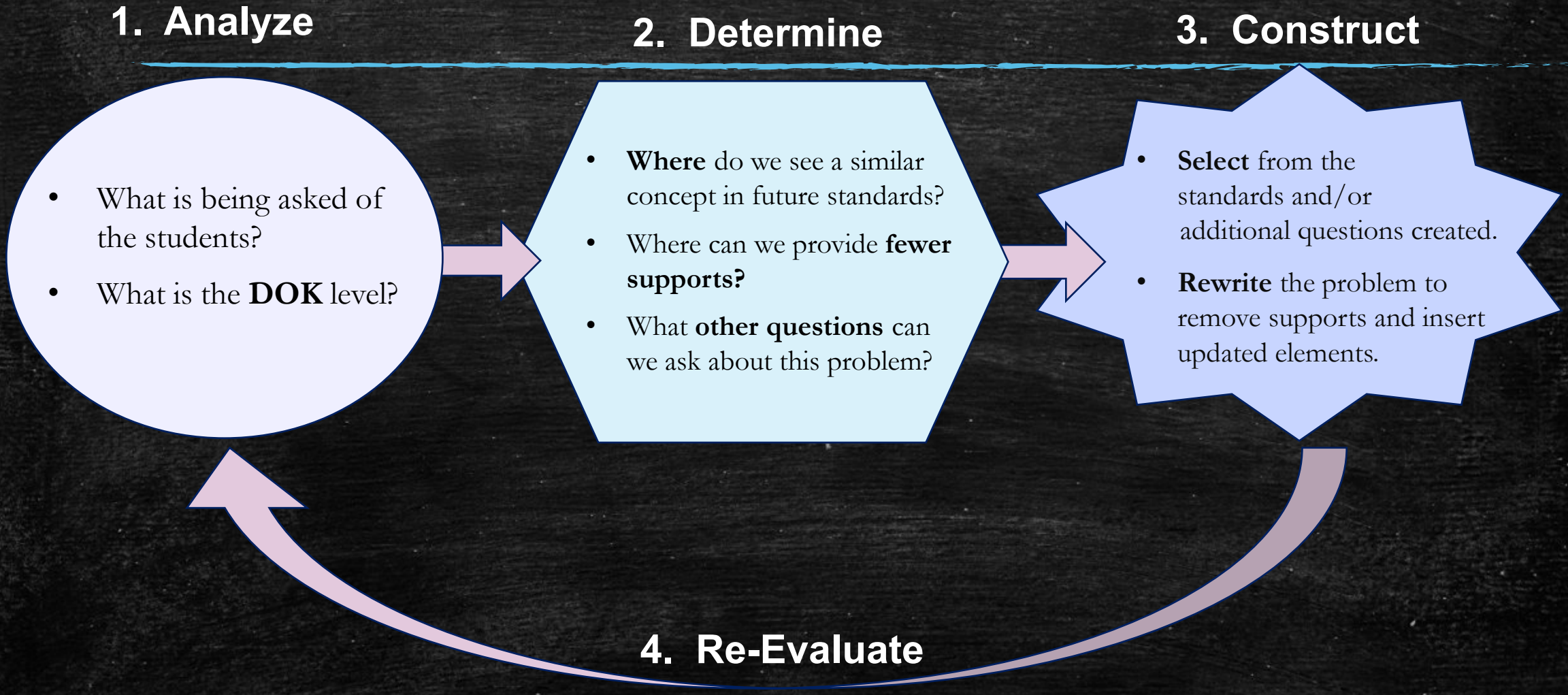
- Shared form
- Pre-populated standards
- Identifying Webb's DOK
- Living document

	Step 1: Identify the Depth of Knowledge Level (1, 2, 3, or 4)	Step 2: Explain the context that makes it that level of Depth of Knowledge
1.1: Express the value of a digit in a multi-digit number with decimals to the thousandths changes if the digit moves one or more places to the left or right.	SAMPLE: 1	SAMPLE: Involves restating information, not solving.
1.2: Read and write multi-digit numbers with decimals to the thousandths using standard form, word form and expanded form.		
1.3: Compose and decompose multi-digit numbers with decimals to the thousandths in multiple ways using the values of the digits in each place. Demonstrate the		

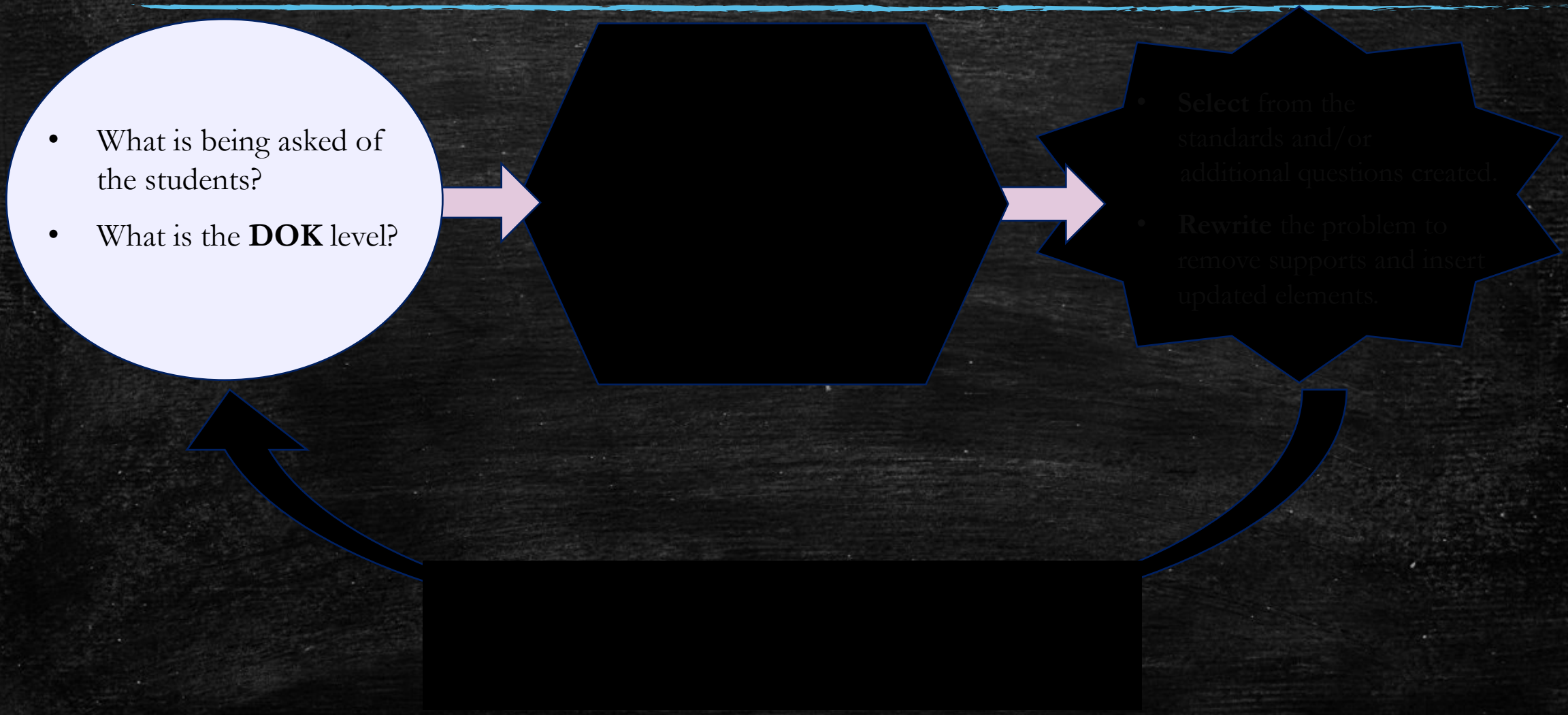
Increasing Cognitive Complexity

Leveling Up

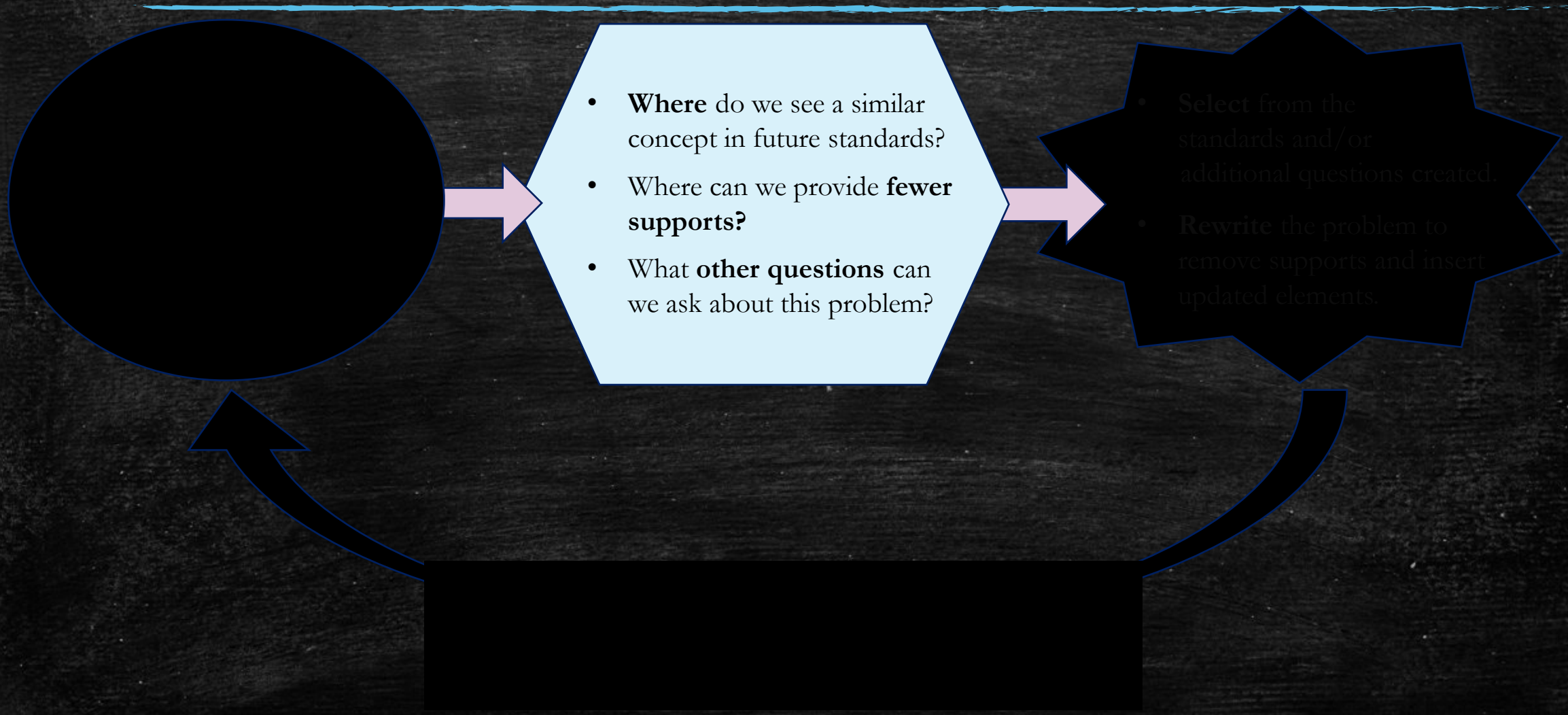
Steps for Leveling-up DOK



Steps for Leveling-up DOK

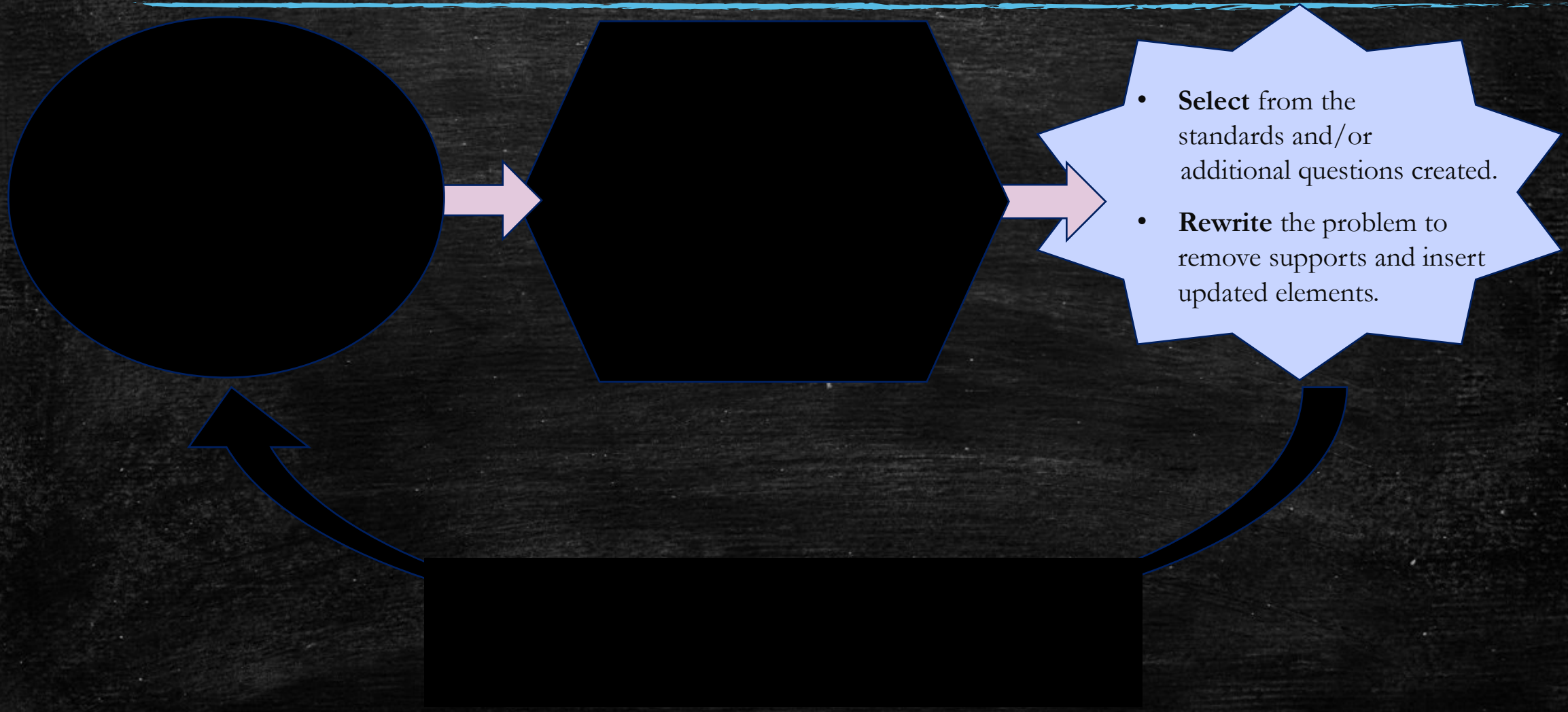


Steps for Leveling-up DOK



Steps for Leveling-up DOK

1. Analyze
2. Determine
3. Construct



Steps for Leveling-up DOK

1. Analyze

- What is being asked of the students?
- What is the **DOK** level?

2. Determine

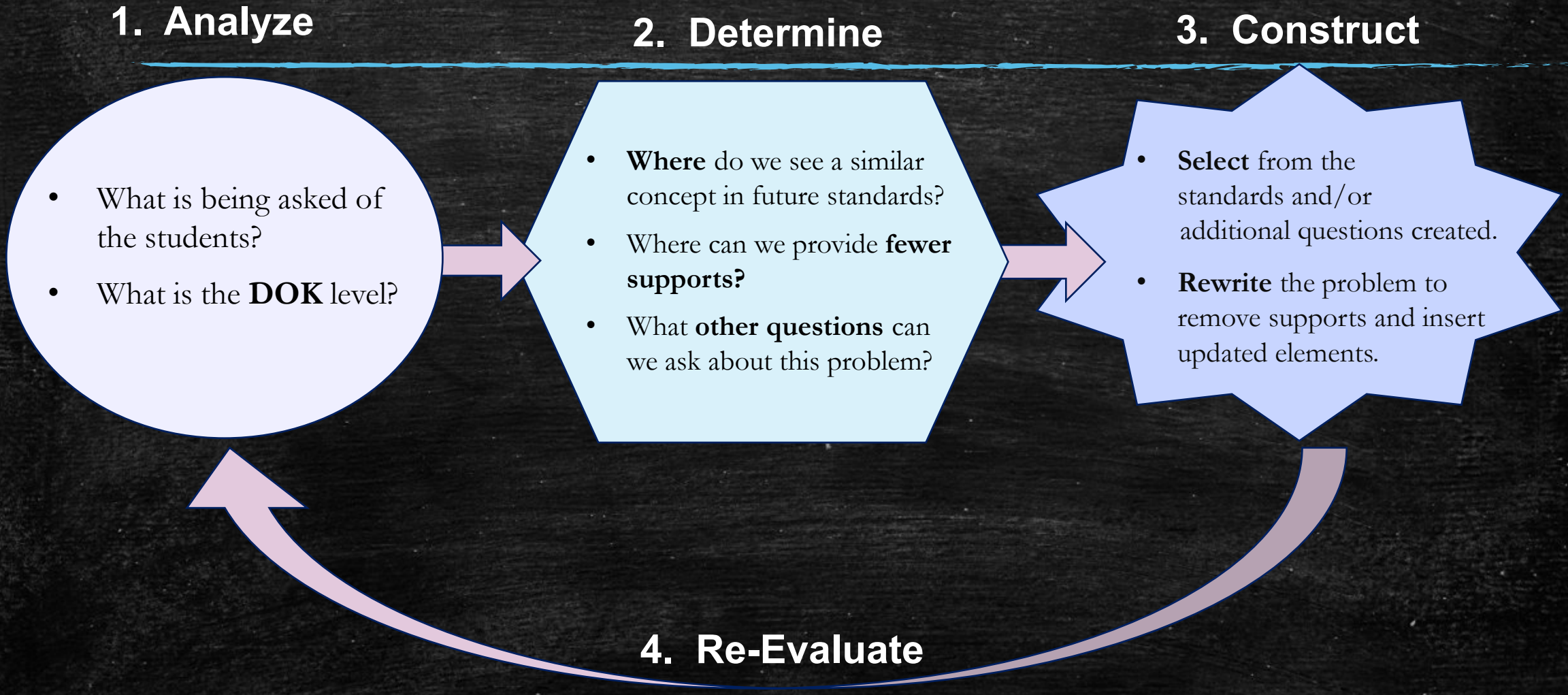
3. Construct

- Select from the standards and/or additional questions created.
- Rewrite the problem to remove supports and insert updated elements.

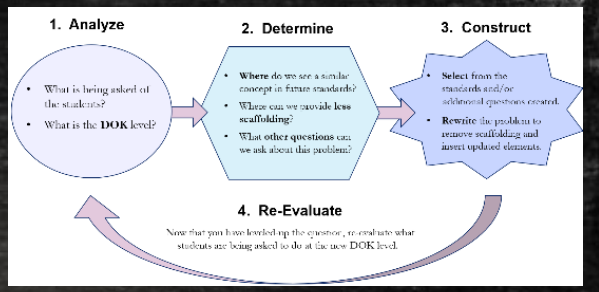
4. Re-Evaluate

Now that you have leveled-up the question, re-evaluate what students are being asked to do at the new DOK level.

Steps for Leveling-up DOK



Original Problem



A photographer has files saved in three online albums.

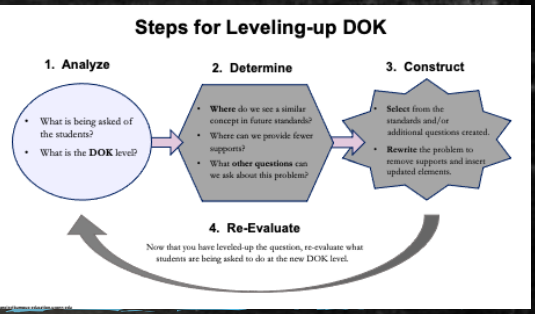
- The Wedding album has 2,073 files.
- The Birthday album has 1,860 files.
- The Pets album has 2,370 files.

Which album has the most files? Show your work.

Hint: You might want to use a place-value chart to compare these numbers.

(Curriculum Associates, 2015)

Currently, what is this question asking the student to do?



- Compare place value
- Order numbers least to greatest

A photographer has files saved in three online albums.

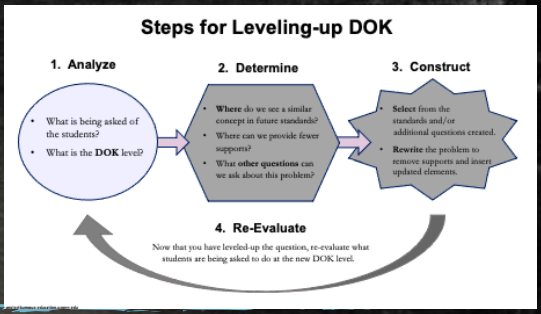
- **The Wedding album has 2,073 files.**
- **The Birthday album has 1,860 files.**
- **The Pets album has 2,370 files.**

Which album has the most files? Show your work.

Hint: You might want to use a place-value chart to compare these numbers.

(Curriculum Associates, 2015)

Currently, what is the DOK of this problem?



- DOK 2: Classifying a number and requiring students to make an informed decision using multiple steps to solve.

A photographer has files saved in three online albums.

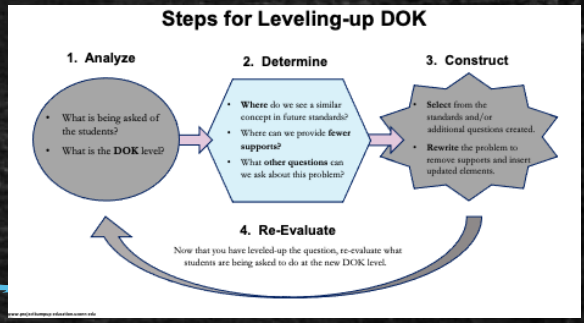
- **The Wedding album has 2,073 files.**
- **The Birthday album has 1,860 files.**
- **The Pets album has 2,370 files.**

Which album has the most files? Show your work.

Hint: You might want to use a place-value chart to compare these numbers.

(Curriculum Associates, 2015)

Looking Ahead: When will we see a similar concept like this in the future?



- Comparing and ordering decimals

A photographer has files saved in three online albums.

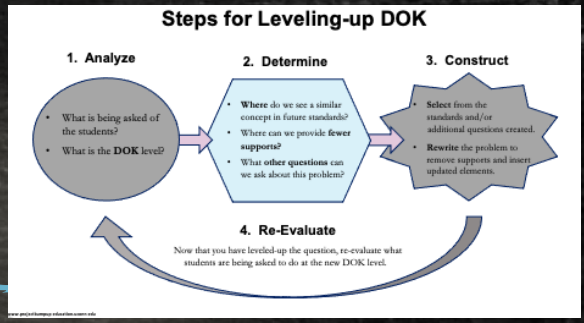
- **The Wedding album has 2,073 files.**
- **The Birthday album has 1,860 files.**
- **The Pets album has 2,370 files.**

Which album has the most files? Show your work.

Hint: You might want to use a place-value chart to compare these numbers.

(Curriculum Associates, 2015)

Where can we **provide fewer supports** for students?



- Eliminate the hint

A photographer has files saved in three online albums.

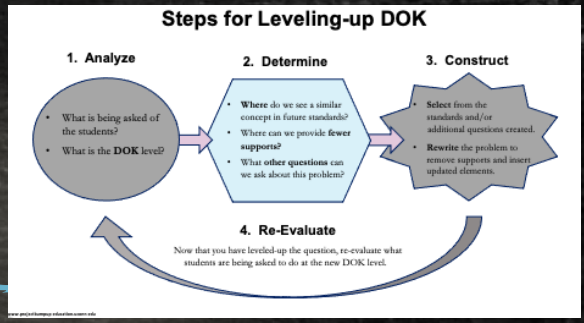
- **The Wedding album has 2,073 files.**
- **The Birthday album has 1,860 files.**
- **The Pets album has 2,370 files.**

Which album has the most files? Show your work.

~~Hint: You might want to use a place-value chart to compare these numbers.~~

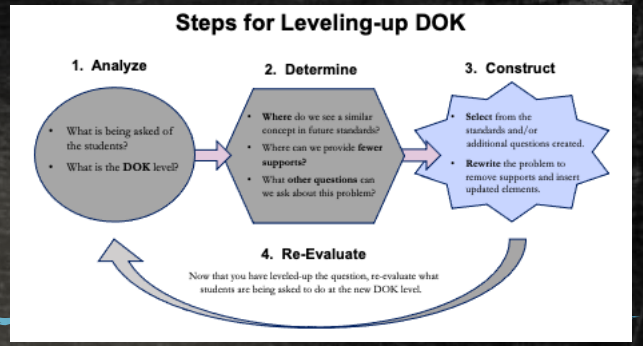
(Curriculum Associates, 2015)

What other questions can we ask about this problem?



- Show two ways to answer the question, "Which album has the most files?"
- Use a diagram to help you solve this problem
- Order the files from least to greatest
- Explain your thought process
- Provide students the opportunity to use new math vocabulary (least and greatest) and symbols (<,>,=)
- Allow students to see that "most" is the same as "greatest"

How can we implement these questions?



New Problem

A photographer has picture files saved in three online albums. The Wedding album has 2,073 files. The Birthday album has 1,860 files. The Pets album has 2,370 files.

a. Order the files from least to greatest. Then, describe how you came up with an order for the numbers.

b. Now, come up with another way to compare the number of files in each album. What makes this way different than the first way you solved this problem?

c. After ordering the number of files, which album has the greatest (or most) number of files? Which album has the least (or smallest) number of files?

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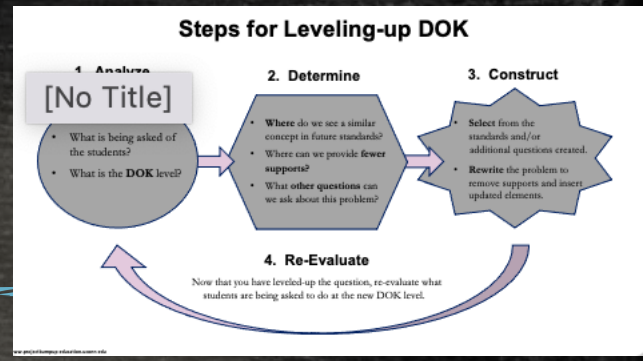
*Part (c) is so the students can explicitly state their answer, and they self-correct by ensuring parts (a) and (b) are the same.

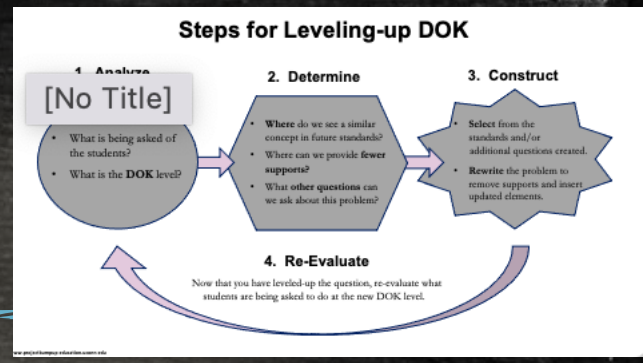
Now, what is this question asking?



(This should be the same as the original question/task.)

- Compare place value of the numbers
- Order numbers from least to greatest

Now, what is the DOK of this problem?



(DOK should increase & look at Bloom's Taxonomy)

- DOK 3
  - **Explain** their thinking
  - **Another way** to approach the problem
  - **Compare** answers
  - **Analyze** their responses.

Choosing Advanced Options

Match advanced options to students, not just standards

That being said…


Deciding on
advanced options…

Gr. 4 Geometry – 17 Days

1. Points, Lines, Angles, Rays (5 Days)
1.1: Using your knowledge… pp. 238-39
1.2: Points, Lines, and Rays pp. 240-43
1.3: Parallel, Perpendicular Lines pp. 244-45
1.4: Identifying Points, Lines, Rays, and Angles Together – pp. 246-47
1.5: Identifying Points, lines, Rays, and Angles – Independently pp. 248-49

2. Classify 2D Figures (5 days)
2.1: What do you know? pp. 350-351
2.2: Sorting Shapes Based on Side and Sorting Shapes Based on Angles – Modeled and Guided Instruction pp. 352-355
2.3: Sorting Triangles – Modeled and Guided Instruction pp. 356-357
2.4: Practice Classifying Two Dimensional Figures – Guided Practice pp. 358-359
2.5: Practice Classifying Two-Dimensional Figures – Independent practice pp. 360-361

3. Symmetry (5 Days)
3.1: What do you know? pp. 362-363
3.2: Finding Lines of Symmetry – Modeled and guided instruction pp. 364-365
3.3: Drawing a Line of Symmetry – Modeled and guided instruction pp. 366-367
3.4: Practice Finding and Drawing Lines of Symmetry – Guided practice pp. 368-369
3.5: Practice Finding and Drawing Lines of Symmetry – Independent practice pp. 370-371

4. Classify Shapes and Angles (2 days)
4.1: Introduction, modeled and guided practice
4.2: Independent Practice

1.

Examine

the activity.

2.

Decide

if the activity is advanced.

If it is not…

3.

Advance!

-Increase complexity

-Select an advanced standard

-Choose from a supplemental source

Examine

Decide

Advance

Textbook Activity

pp. 238-39 Write directions on how to draw a rectangle

Curriculum Guide Differentiation Log

Differentiation for BUMP UP Students		
Content From a Supplemental Source	**Differentiation of the Standard**	**Alternative Standard**
Topic_____ Source_____ DOK Level 3 _____ or 4 _____? **Brief description of differentiated math activity:**	☐ **Math differentiation option from the textbook for this lesson.** **Page** 5 **Activity Number(s)** 30 **Brief description of differentiated math activity:** DOK Level 3 X or 4 _____? **and/or** ☐ **DOK Differentiated math to: Level 3 __ and/or Level 4 ___** **Brief description of differentiated math activity:** Lesson 1 - Removed scaffolding	Grade_____Standard_____ DOK Level 3 _____ or 4 _____? **Brief description of differentiated math activity:**

Examine

Decide

Advance

Textbook Activity

Sorting Shapes pp. 352-355

Curriculum Guide Differentiation Log

Differentiation for BUMP UP Students		
Content From a Supplemental Source	**Differentiation of the Standard**	**Alternative Standard**
Topic_____ Source_____ DOK Level 3 _____ or 4 _____? **Brief description of differentiated math activity:**	☐ **Math differentiation option from the textbook for this lesson.** **Page _____ Activity Number(s) _____** **Brief description of differentiated math activity:** DOK Level 3 _____ or 4 _____? **and/or** ☐ **DOK Differentiated math to: Level 3 __ and/or Level 4 ___** **Brief description of differentiated math activity:**	Grade__5__Standard_____G.2.3_____ DOK Level 3 ___X___ or 4 _____? **Brief description of differentiated math activity:** Lesson 2 - Gr. 5 Ready Textbook pp. 323-324

Examine

Decide

Advance

Textbook Activity

Finding and Drawing Lines of Symmetry
pp. 370-371

Curriculum Guide Differentiation Log

Differentiation for BUMP UP Students		
Content From a Supplemental Source	**Differentiation of the Standard**	**Alternative Standard**
Topic Symmetry Source W&M Beyond Polygons DOK Level 3 X or 4 _____? **Brief description of differentiated math activity:** Lesson 3 Gr. 3 Lesson 5.2 pp. 207-209: Analyzing lines of symmetry and formulating a pattern/rule about lines of symmetry and the number of sides shapes have.	☐ **Math differentiation option from the textbook for this lesson.** **Page _____ Activity Number(s) _____** **Brief description of differentiated math activity:** DOK Level 3 _____ or 4 _____? **and/or** ☐ **DOK Differentiated math to: Level 3 __ and/or Level 4 ___** **Brief description of differentiated math activity:**	Grade_____Standard_____ DOK Level 3 _____ or 4 _____? **Brief description of differentiated math activity:**

Examine

Decide

Advance

Textbook Activity
Introduction and practice of folding shapes.
Independent Practice

Curriculum Guide Differentiation Log

Differentiation for BUMP UP Students		
Content From a Supplemental Source	**Differentiation of the Standard**	**Alternative Standard**
Topic polygons Source Georgia Curriculum Frameworks DOK Level 3 _____ or 4 X ? **Brief description of differentiated math activity:** Lesson 4 - Geometry Town pp. 90-97 https://www.georgiastandards.org/Georgia-Standards/Frameworks/4th-Math-Unit-6.pdf	☐ **Math differentiation option from the textbook for this lesson.** **Page _____ Activity Number(s) _____** **Brief description of differentiated math activity:** DOK Level 3 _____ or 4 _____? **and/or** ☐ **DOK Differentiated math to: Level 3 __ and/or Level 4 ___** **Brief description of differentiated math activity:**	Grade_____Standard_____ DOK Level 3 _____ or 4 _____? **Brief description of differentiated math activity:**

Multiple differentiation options in one topic/unit:

Curriculum Guide Differentiation Log

Differentiation for BUMP UP Students		
Content From a Supplemental Source	**Differentiation of the Standard**	**Alternative Standard**
Topic polygons Source Georgia Curriculum Frameworks DOK Level 3 _____ or 4 X ? **Brief description of differentiated math activity:** Lesson 4 - Geometry Town pp. 90-97 https://www.georgiastandards.org/Georgia-Standards/Frameworks/4th-Math-Unit-6.pdf Symmetry W&M Beyond Polygons Lesson 3 Gr. 3 Lesson 5.2 pp. 207-209: Analyzing lines of symmetry and formulating a pattern/rule about lines of symmetry and the number of sides shapes have.	☐ **Math differentiation option from the textbook for this lesson.** **Page** 5 **Activity Number(s)** 30 **Brief description of differentiated math activity:** DOK Level 3 X or 4 _____? **and/or** ☐ **DOK Differentiated math to: Level 3 __ and/or Level 4 ___** **Brief description of differentiated math activity:** Lesson 1- Removed scaffolding	Grade 5 Standard G.2.3 DOK Level 3 X or 4 _____? **Brief description of differentiated math activity:** Lesson 2 - Gr. 5 Ready Textbook pp. 323-324

Activity

Choosing Advanced Options for Standards

- A shared form
- Pre-populated standards
- Teams enter ideas for higher grade level standard or problem/project-based learning option
- Living document

Number Sense and Operations	Although we would make a formal choice of advanced options based on the given group of students, we can examine the standards and consider which options might make for a good choice. In the box below, type your suggestion for a good option in relation to the given standard (i.e., higher grade level standard, link to an advanced activity, suggestion to level up DOK to level 3 or 4).	Explain why you suggest this option for this standard.
Grade 4		
1.1: Express how the value of a digit in a multi-digit whole number changes if the digit moves one place to the left or right.	SAMPLE: Level up a textbook activity to Level 4	SAMPLE: Leveling up to DOK 4 could include other number sense and operation standards in one longer real-world, open-ended project that could encompass the length of the pacing guide unit.
1.2: Read and write multi-digit whole numbers from 0 to 1,000,000 using standard form, expanded form and word form.		

Day 1

- Introduction
- 3-Phase Professional Learning Framework
- Co-Planning and Co-Teaching Introduction
- BUMP UP 5- Step Collaboration Model
- 6 Co-Teaching Models
- Exit Ticket

Day 2

- Exit Ticket Review
- Curriculum Compacting & Differentiation Log
- Advanced Resources
- Advanced Standards
- Vetting and Increasing Cognitive Complexity
- Putting it All Together
- Wrap Up and Exit Ticket

Day 3

- Review Exit Tickets
- Four Operation Styles
- 5-Step Collaboration Model –Tools for engaging, co-planning, and co-teaching
- Differentiation Overview
- Exit Ticket: Punctuate Your Learning

WELCOME!

- Review Exit Tickets
- Four Operation Styles
- 5-Step Collaboration Model –Tools for engaging, co-planning, and co-teaching
- Differentiation Overview
- Exit Ticket: Punctuate Your Learning

Resources

- BUMP UP Website
- bumpup@uconn.edu

Thank you!

Exit Ticket

Punctuate Your Learning