

Putting it all Together

Unpacking a Differentiated Unit



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In the Classroom

- Class goals
 - Show mastery of all benchmarks
 - Provide differentiated learning for students according to their knowledge level
- Meeting students' needs
 - Pre-tests before each unit to guide instruction
 - Students who show mastery will compact out of the unit and receive alternative math instruction
 - Compacted students receive grades based on their demonstrated mastery and alternative work.

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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

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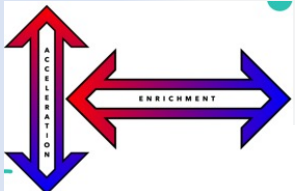
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Other Information or Additional Comments		

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Curriculum Compacting

INDIVIDUAL EDUCATIONAL PROGRAMMING GUIDE The Compactor


Prepared by: Joseph S. Rencall
Linda M. Smith

NAME _____ AGE _____ TEACHER(S) _____ Individual Conference Dates And Persons
Participating in Planning Of IEP _____

SCHOOL _____ GRADE _____ PARENT(S) _____


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

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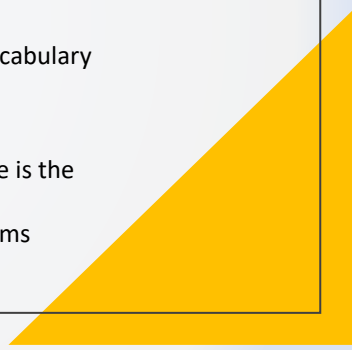
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Step 1: Name it

- What is in the unit?
 - Standards, benchmarks, objectives, concepts, vocabulary
- Deconstruct the standard(s)
 - What is/not included?
 - What level of knowledge is the content?
 - Example assessment items



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Unit Description

Grade 4

- *Students will describe lines and angles and look for different kinds of lines and angles in 2D figures. Also, students will identify shapes that have symmetry.*

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Step 2: Prove it

- Identify students for compacting math
- Measure student mastery level of content and skills of the unit
- Mastery does not mean they know everything

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Prove It Examples

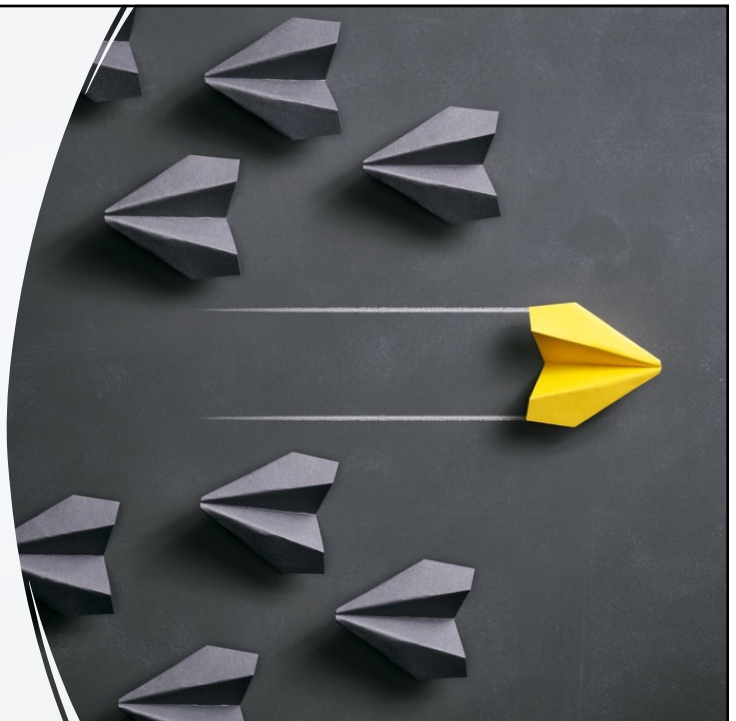
- Pre-test (version of the post-test)
- Open-ended large concept question
- Pre-unit challenge lesson to observe advanced mathematics behaviors
- Verbal questioning
- Probes
- Asking students to perform a skill
- Answer the essential question(s)



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Pre- Assessment

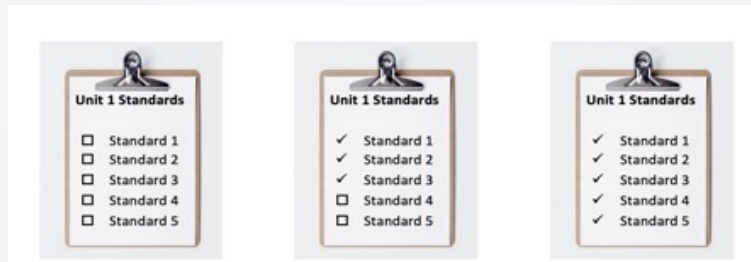
1. Identify points, lines, line segments, rays, and perpendicular and parallel lines.
2. Draw and identify angles (rights, acute, obtuse).
3. Classify 2D figures based on sides and angles.
4. Draw and identify lines of symmetry in shapes.



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Pre-assessment

60% or above on all standards
 Or
 60% or above on most standards



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Points of Promise Checklist

POINTS OF PROMISE: Classroom Observation Checklist	
	1. Is motivated and persists in solving difficult math problems.
	2. Learns new concepts in mathematics quickly.
	3. Applies mathematical concepts to real-world situations.
	4. Shows flexibility in using a variety of thinking or problem-solving strategies.
	5. Makes inferences based on logical reasoning.
	6. Demonstrates original ways of approaching math problems.
	7. Organizes information in a variety of ways to discover mathematical patterns.
	8. Demonstrates a strong number sense.
	9. Displays spatial abilities.

Co-teach the Points of Promise Geometry Lesson

- Scout: One teach/one observe
- Look for some (not all) POP behaviors
- Keep the checklist in mind throughout future lessons


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GROUPING

ABILITY GROUPING IS BEST PRACTICE



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Step 3 – Change it

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Alter the regular curriculum for those students in various ways


- 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



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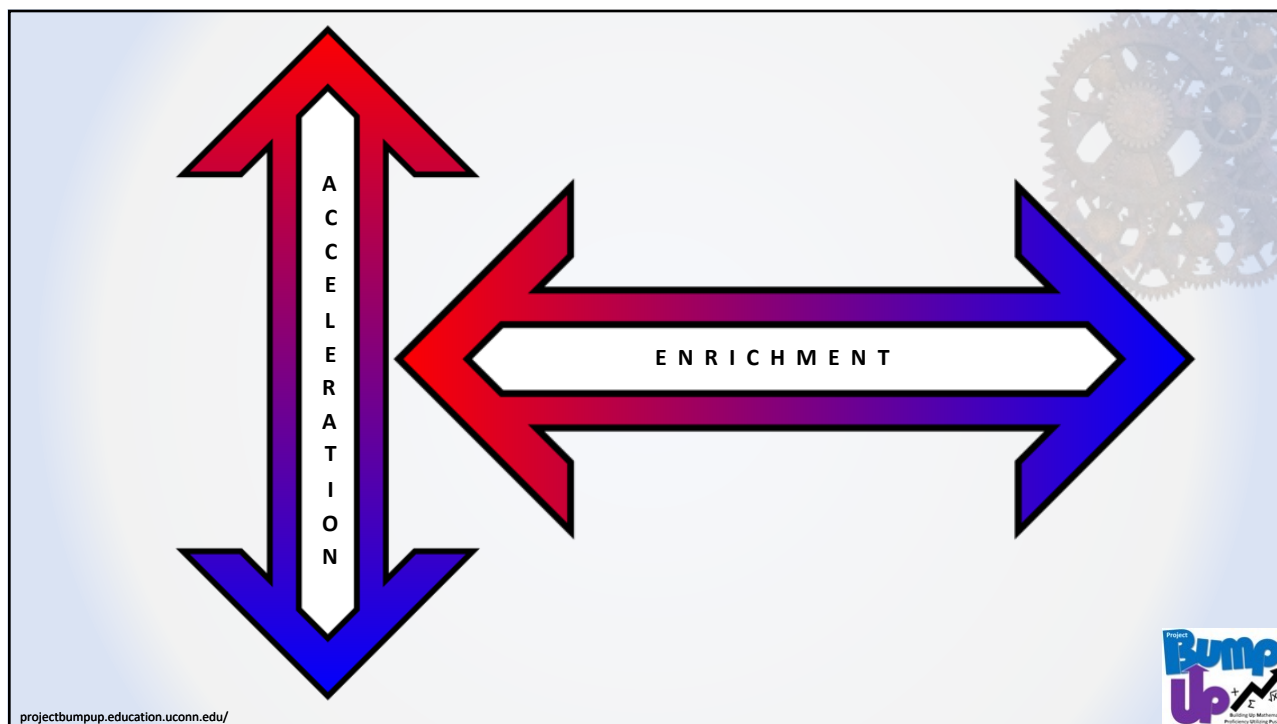
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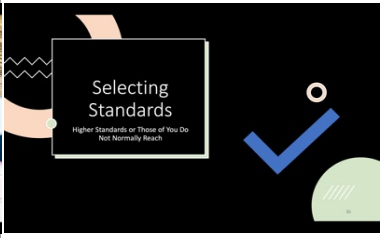


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Selecting Standards

- Higher Standards or Those You Do Not Normally Reach

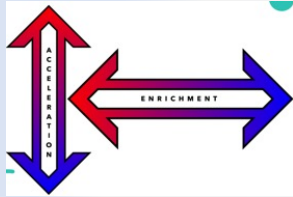


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Advanced Resources Units

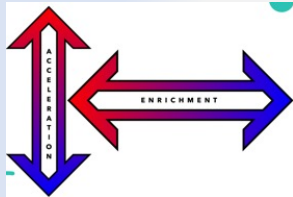
Grade	K-1	2	3	4	5	6
Thinking Like A Mathematician			x			
Concept-Based Units						
Splash	x					
Spatial Reasoning		x	x	x		
Polygons Galore!			x	x	x	
Beyond Base Ten			x	x	x	x
Moving Through Dimensions						6-8
Math Curriculum for Gifted Students			x	x	x	x

<https://education.wm.edu/centers/cfge/curriculum/mathematics/materials/index.php>

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Open-ended, Real-world Project-based Learning



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Math Content Standards & Math Practices

Depth + Thinking	Level 1 Recall & Reproduction	Level 2 Skills & Concepts <i>(routine applications)</i>	Level 3 Strategic Thinking <i>(support with data, equations, models, etc.)</i>	Level 4 Extended Thinking <i>(across domains)</i>
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

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Steps for Leveling-up DOK

- 1. Analyze**
 - What is being asked of the students?
 - What is the **DOK** level?
- 2. Determine**
 - **Where** do we see a similar concept in future standards?
 - Where can we provide **less scaffolding**?
 - What **other questions** can we ask about this problem?
- 3. Construct**
 - **Select** from the standards and/or additional questions created.
 - **Rewrite** the problem to remove scaffolding 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.

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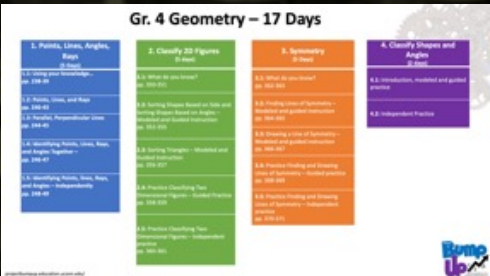
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Deciding on advanced options...

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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



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<div style="display: flex; justify-content: center; align-items: center;"> <div style="text-align: center; margin-right: 20px;"> <p>Examine</p>  </div> <div style="text-align: center; margin-right: 20px;"> <p>Decide</p>  </div> <div style="text-align: center;"> <p>Advance</p>  </div> </div>	Is the the activity advanced?	What could I do or choose to make it more challenging?
Textbook Activity		
pp. 238-39 Write directions on how to draw a rectangle	No! There are 6 scaffolds that provide students with important details regarding rectangles. It makes it too easy.	Reduce scaffolding provided in parts a-f

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Examine 	Decide 	Advance 
Textbook Activity	Is the the activity advanced?	What could we do or choose to make it more challenging?
Sorting Shapes Based on Side and Sorting Shapes Based on Angles – Modeled and Guided Instruction pp. 352-355	Parallel and perpendicular sort: The questions on p. 353 are lower level and repetitive of the sorting activities on pp. 352 and 354	2.2 Advanced Activity : Gr. 5 Ready Textbook pp. 323-324

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Examine 	Decide 	Advance 
Textbook Activity	Is the the activity advanced?	What could we do or choose to make it more challenging?
Practice Finding and Drawing Lines of Symmetry – Independent practice pp. 370-371	Questions involve describing and recognizing features of a shape. Students are not developing or discovering new information to deepen their learning.	W&M Grade 4 Lesson 5.2 pp. 207-209 - develop methods for finding the area of a trapezoid

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Topic <u>Symmetry</u> Source <u>W&M Beyond Polygons</u> DOK Level 3 <u>X</u> 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.	<input type="checkbox"/> 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 <input type="checkbox"/> 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:

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Examine 	Decide 	Advance 
Textbook Activity	Is the the activity advanced?	What could we do or choose to make it more challenging?
Introduction, modeled and guided practice of folding shapes.	A quick exploration of folding shapes to see if they “fit exactly on top of each other,” which is an introduction to symmetry. Not much opportunity for students to understand symmetry in a real-world example.	MiA Advanced Activity : Georgia Culminating Task Geometry Town pp. 90-97
Independent Practice of polygon question	Questions are regular-polygon specific and involve identification.	

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<p>Topic <u>polygons</u></p> <p>Source <u>Georgia Curriculum Frameworks</u></p> <p>DOK Level 3 ____ or 4 <u>X</u> ?</p> <p>Brief description of differentiated math activity:</p> <p>Lesson 4 - Geometry Town pp. 90-97 https://www.georgiastandards.org/Georgia-Standards/Frameworks/4th-Math-Unit-6.pdf</p>	<p><input type="checkbox"/> Math differentiation option from the textbook for this lesson.</p> <p>Page ____ Activity Number(s) ____</p> <p>Brief description of differentiated math activity:</p> <p>DOK Level 3 ____ or 4 ____?</p> <p>and/or</p> <p><input type="checkbox"/> DOK Differentiated math to: Level 3 __ and/or Level 4 ____</p> <p>Brief description of differentiated math activity:</p>	<p>Grade ____ Standard ____</p> <p>DOK Level 3 ____ or 4 ____?</p> <p>Brief description of differentiated math activity:</p>

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Multiple differentiation options in one topic/unit:

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thank you!

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