Unit Topic: Factors, Multiples, and Patterns   Content: Math   Grade: 4   Date: December

DAY IN UNIT	*Content Strand *Learning Target -I Can *Essential Questions -WHY?? -How do you know? Curriculum document Common Core	Daily Tasks www.everydaymathonline.com	Thoughtful Ed./ Student Engagement www.marshall.kyschools.us/ www.muhlenberg.kyschools.us/?q=node/61 Engagement Cube Cube II (examples)	Literacy/Reading in the Content Literacy Ideas Vocabulary/ Vocab Activity Activities Activities II	Formative/ Summative Assessment F –Formative S-Summative www.act.org/standard/guides/explore/ Strategies More Ideas	Differentiation T-Task S-Special Needs G-Gifted/Accel. http://serge.ccsso.org/ Ideas 9 Types Big Explanation Tool MAP Site Reading Differentiation K-5	Technology 50 Ideas Resources- Text, sites,…
1-2	4.OA.4 I can define factors and multiples. I can list all of the factor pairs for any whole number in the range 1-100. How can I find the multiples of a given number? How can I find the factors of a given number?	Pre-assess Find factor pairs using a "T" to guide thinking. List the factors in order from least to greatest and check by drawing rainbows to connect the factor pairs. – Gradual Release "Finding Factors" – Super Teacher Worksheets		Factor Multiples ("T" chart, rainbows)	Use the Crosswalk Coach Book to pre-assess students-pages 89-90.	Students will find the factors of numbers varying in difficulty based on ability.	
3	4.OA.4 I can define prime and composite. I can determine if a number in the range 1-100 is prime or composite. How can I determine if a number is prime or composite?	Continue finding factor pairs using the "T" chart and rainbow methods. Lead students into discovering that some numbers only have two factors, 1 and the number. "Prime and Composite" (Super Teacher) – color prime numbers red, composite numbers blue on the 100s chart. Homework: "Prime and Composite" List the factors of 11 numbers and tell whether they are prime or composite.		Prime Composite (graphic organizer, rap) Are 0 and 1 prime or composite? Prove it. What do prime numbers have in common? Are all prime numbers odd? Why is 2 the only even prime? Predict which numbers over 20 are prime or composite and then test your ideas.	Exit Slip	Give students cm cubes to model arrays. This will lead students to understand that if the only array that can be created is 1 and n, then it is a prime number.	Prime Number Rap: http://www.youtube.com/watch?v=cRz4hW9SPPc

4	4.OA.4		Give each student a different number as they enter the room. Have students list the factors of their number using either the "T" chart or rainbow method. Pair students up with a partner to check each other's work. Then, using a Venn diagram, list the things they have in common. This can include the factors they share/don't share as well as other known facts about the numbers (ex: prime? Composite? Even? Odd?)		Venn Diagram	Numbers will be strategically passed out to students with numbers that have less factors going to students who may still be struggling with the concepts, while numbers with more factors will be given to students who are grasping the concept.	Brainpop: http://www.brainpop.com/math/numbersandoperations/primenumbers/preview.weml
5	4.OA.4	Give students a quiz to assess understanding of prime and composite numbers.			Formative – 5 question quiz over prime and composite numbers. What are factors? How is a prime number different from a composite number? Are all even numbers composite? Explain Are there any numbers that are neither prime nor composite? Explain Find the prime number from the list below. Explain how you can tell which one is prime.	Introduce some students to divisibility rules as they are ready. Numbers on the quiz will vary depending upon ability.	
6	4.OA.5 I can create or extend a	Pre-assess Show the Brainpop movie	Thoughtful Ed Strategy: Create a List of at least 5 different patterns that	Pattern Rule	Use the Crosswalk Coach Book to pre-assess students-pages	Use the Patterns Unit from the Common Core Mathematics	http://www.brainpopjr.com/math/geometry

	shape or number pattern that follows a certain rule. I can identify and explain additional patterns or special behaviors in a pattern that go beyond a given rule. How do I create a shape or number patterns that follows a certain rule? How do I extend a shape or number pattern that follows a certain rule?	over patterns as an introduction to this part of the unit.	can be found in our classroom. Share the list with someone else and see if you can add to your own list. (Antonetti: clear modeled expectations, authenticity, learning with others) Homework: Make a List of at least 5 patterns found in your home.		127-128.	Practice book (3 levels) as needed, especially with intervention students.	/patterns/preview.weml
7	4.OA.5	Using the document camera and pattern blocks, create example patterns and have students predict what will be next. Using the Patterns PowerPoint, guide students through Activity 14.12 on page 268 in Elementary and Middle School Mathematics by John A. Van de Walle. Patterns B and E and patterns C and F purposefully contain the same core structure in order to create interesting discussions.	Have students write/draw in their journals the next three items in each sequence. Have students predict the 20th item in each pattern sequence. Discuss how our understanding of multiples helps us determine a given item in a pattern.	If You Give a Mouse a Cookie by Laure Joffe Numeroff. (This book can be read or watched on You Tube.) After reading the book, discuss what will happen next. Explain that we know this because it is a pattern. This is an example of a *repeating pattern.* The events in the story are the *core* that we can predict will repeat.	"Picture Patterns"	Use the Patterns Unit from the Common Core Mathematics Practice book (3 levels) as needed, especially with intervention students.	http://www.youtube.com/watch?v=ZFKzriYtEt8 "Patterns" PowerPoint Presentation
8	4.OA.5	Crosswalk Coach Book – Do Example 5 on page 125. Complete the Picture Patterns 4 wkst.	In small groups-use pattern blocks to create patterns and have partners determine what will be next. Encourage students to	Growing Pattern Number Pattern		Use the Patterns Unit from the Common Core Mathematics Practice book (3 levels) as needed, especially with	

		Guide students through "Number Patterns." (The page that begins with the pattern: 10, 18, 26, …) Homework: "Number Patterns" (The page that begins with 104, 113, 122, …)	create patterns that go beyond just ABAB. (Examples: ABCAABCA, or growing patterns) Draw the patterns in math journals.			intervention students.	
9	4.OA.5	Practice Input/Output Tables using the "Basic Input Output 1 and/or 2" files. Do NOT print these. Complete them together by allowing students to take turns coming to the board. Complete "In and Out Boxes" (The ones that begins with 6, 9, 15 and also 7, 9, 14)	Which One Doesn't Belong? (Personal Response, Novelty and Variety, Emotional and Intellectual Safety)	Input/Output Table Rule Function (Function Machine)	Formative: Give the pre-test over patterns again as a quiz grade.	Use the Patterns Unit from the Common Core Mathematics Practice book (3 levels) as needed, especially with intervention students.	
10	4.OA.4 and 4.OA.5				Summative Assessment: Unit 5 Test		
11	4.OA.4 and 4.OA.5				Self-Assessment – Students will use the "self-assessment circle sheets" to analyze their own understanding of each of the targets for this unit.		