

Unit 3: Number Stories (4 Weeks)

Content Standards:		
1.OA.A.1 Use addition and subtraction within 20 to solve word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using objects, drawings, and equations with a symbol for the unknown number to represent the problem. 1.OA.B.3 Apply properties of operations as strategies to add and subtract.2 Examples: If $8 + 3 = 11$ is known, then $3 + 8 = 11$ is also known. (Commutative property of addition.) To add $2 + 6 + 4$, the second two numbers can be added to make a ten, so $2 + 6 + 4 = 2 + 10 = 12$. (Associative property of addition.) 1.OA.C.5 Relate counting to addition and subtraction (e.g., by counting on 2 to add 2). 1.OA.C.6 Add and subtract within 20, demonstrating fluency for addition and subtraction within 10. Use strategies such as counting on; making ten (e.g., $8 + 6 = 8 + 2 + 4 = 10 + 4 = 14$); decomposing a number leading to a ten (e.g., $13 - 4 = 13 - 3 - 1 = 10 - 1 = 9$); using the relationship between addition and subtraction (e.g., knowing that $8 + 4 = 12$, one knows $12 - 8 = 4$); and creating equivalent but easier or known sums (e.g., adding $6 + 7$ by creating the known equivalent $6 + 6 + 1 = 12 + 1 = 13$). 1.OA.D.8 Determine the unknown whole number in an addition or subtraction equation relating three whole numbers. For example, determine the unknown number that makes the equation true in each of the equations $8 + ? = 11$, $5 = _ - 3$, $6 + 6 = _$.		
Practice Standards :		
Students will have opportunities to: - Make sense of number stories involving addition and subtraction. (MP.1) - Reflect on thinking while solving problems. (MP.1) - Persevere in solving problems when faced with difficult problems. (MP.1) - Check to see if answer makes sense. (MP.1) - Solve problems in more than one way. (MP.1) - Look for mathematical structures such as categories, patterns and properties. (MP.7) - Use structures to solve problems and answer questions, such as number patterns. (MP.7)		
Concepts from Previous Units Supporting Unit 3:	Big Ideas, Concepts, & Strategies for Unit 3:	Connections to Upcoming Concepts after Unit 3:
- A number is made up of two or more parts. - A number can be decomposed into its parts. - Larger numbers can be composed from two or more parts. - Addition can be thought of as placing two or more quantities together. - Subtraction can be thought of as taking an amount away from a given quantity, comparing two quantities, or find a missing part given the whole and the other part. - When you add two numbers in any order, you'll get the same answer. - Subtraction is a missing-addend problem. - Counting On/Back, Combinations of 10 and Turn Around Rule are strategies for addition and subtraction.	- Models can be used to add and subtract numbers such as number lines. - Addition names the whole in terms of the parts. - Subtraction names a missing part. - Addition can be thought as putting together and subtraction can be thought as taking apart. - Counting can be connected to addition and subtraction.	- Known facts can be used to determine unknown facts. (doubles & combinations of tens) - When you add three numbers, you can pick any two numbers to add first and then add the third number. You will get the same answer. - The equal sign is a symbol in an equation that shows that one amount is the same as another.
Vocab.	Bold- listed in teacher's edition Normal- not listed in teacher's edition as a vocabulary word but will be helpful for students in explanations arrow rule, column, parts-and-total diagram, row, Frames and Arrows, number line, put together, take apart, pattern, skip-count, count on, count back, equation, add, subtract, sum, difference, addend, unknown, all together, number model, notate, number grid,	

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Lessons:	Learning Objective(s): teachers	Student Objective(s): students	Math Vocabulary & Tools:	Implement Math Task(s) from EDM TE Vol 1:	Supplemental Math Task Options:	Guiding Questions & Strategies to Support Struggling Learners:	Select Practice Opportunities:	Implement Number Talks: (Write in Plans)
3.1	1. Solve addition within 20 word problems involving situations with putting together with unknowns in all positions. 2. Use objects to represent the addition word problem. 3. Use drawings to represent the addition word problem.	1. I can solve word problems with an unknown number. 2. I can represent a word problem.	Vocabulary in the Launch: all together Tools: - Counters - Unifix Cubes - Parts and Total Diagram Vocabulary in the Summarize: N/A	- Focus TE pg. 224 - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- Supplemental Task - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- Ask guiding questions such as: - What is the problem asking? - What are you stuck on? - How can you use _____ to show the problem? - How can you prove that to me? - How can you model this number story? - What is unknown? - How can you draw a picture to show your work? - How can you write an equation to show your work?	Activity Cards: 27–28 Math Journal 1: pp. 18–19 Domino Top It MM G28 - 29 Use slates to create parts & total diagrams.	
3.2	1. Solve subtraction within 20 word problems involving situations with taking from with unknowns in all positions. 2. Use equations with a symbol for the unknown number to represent the subtraction problem. 3. Solve addition within 20 word problems involving situations with adding to with unknowns in all positions.	1. I can solve word problems with an unknown number. 2. I can represent a word problem.	Vocabulary in the Launch: n/a Tools: - counters - unifix cubes Vocabulary in the Summarize:	- Focus TE pg. 230 - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- Supplemental Task - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- Ask guiding questions such as: - What is the problem asking? - What are you stuck on? - How can you use _____ to show the problem? - How can you prove that to me? - How can you model this number story? - What is unknown? - How can you draw a picture to show your work? - How can you write an equation to show your work?	Math Journal 1: p. 20-3 MM p. 61 Activity Cards: 29 Manipulative Kit: per partnership: 1 die labeled 3–8 1 dot die	
3.3	This lesson is skipped. The explorations are embedded in practice opportunities for other lessons.							
3.4	1. Use drawings to represent the subtraction word problem. 2. Use equations with a symbol for the unknown number to represent the subtraction problem. 3. Solve subtraction within 20 word problems involving situations with taking from with unknowns in all positions.	1. I can solve word problems with an unknown number. 2. I can represent a word problem.	Vocabulary in the Launch: n/a Tools: - counters - unifix cubes Vocabulary in the Summarize: - number model	Day 1: -MM pg. 15 Day 2: -Revisit work and discuss - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- Supplemental Task - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- What is the problem asking? - What are you stuck on? - How can you use _____ to show the problem? - How can you prove that to me? - Why did you draw these birds? - What does this number represent? - How does your picture or number model show how many birds flew away? - Does this number model match the story?	MJ p. 27 MJ p. 28 MM p.66	

3.5	- Use counting on to add within 20. - Use counting back to subtract within 20.	1. I can understand the relationship between addition and subtraction.	Vocabulary in the Launch: number line Tools: - counters - unifix cubes number lines Vocabulary in the Summarize: - notate	-Modified TE pgs. 251-252 - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	N/A	- Ask guiding questions such as: <i>How can you count up on the number line?</i> <i>How can you count back on the number line?</i> <i>Is there another way to count up or back?</i> <i>What story problem can you create to match the hops on your number line?</i> <i>How can you use the number line to solve this number story?</i> <i>How can you use the number grid to solve this number story?</i>	MJ p. 27 MJ p. 29-30 Roll and Total MM p. G17 MM p.68	
3.6	- Use counting on to add within 20. - Use counting back to subtract within 20.	1. I can understand the relationship between addition and subtraction.	Vocabulary in the Launch: number line Tools: - counters - unifix cubes number lines Vocabulary in the Summarize: n/a	-Modified Focus TE pg. 256 and 258 - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- Supplemental Task - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- Ask guiding questions such as: <i>What is the problem asking?</i> <i>What are you stuck on?</i> <i>How can you use _____ to show the problem?</i> <i>How can you prove that to me?</i> <i>How can you model this number story?</i> <i>How could you represent this on a number line?</i> <i>What is unknown?</i> <i>How can you draw a picture to show your work?</i> <i>How can you write an equation to show your work?</i> <i>Is there another equation that works?</i>	Subtraction Bingo MM G23 MJ pg. 31 MJ p 31 MM p 70	
3.7	- Understand subtraction as an unknown addend problem. - Understand relationships between addition and subtraction. - Use the relationship between addition and subtraction to add and subtract within 20.	- I can understand the relationship between addition and subtraction. - I can find the unknown number in an addition equation. - I can find the unknown number in a subtraction equation.	Vocabulary in the Launch: number line Tools: - counters - unifix cubes number lines Vocabulary in the Summarize: n/a	- Focus TE pgs. 262-263 - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- N/A	- Ask guiding questions such as: <i>What is the problem asking?</i> <i>What are you stuck on?</i> <i>How can you use _____ to show the problem?</i> <i>How can you prove that to me?</i> <i>How can you model this number story?</i> <i>How could you represent this on a number line?</i> <i>What is unknown?</i> <i>How can you draw a picture to show your work?</i> <i>How can you write an equation to show your work?</i> <i>Is there another equation that works?</i>	Penny Plate MM p G22 MJ p 32 MM p 74	
3.8	- Use counting on to add within 20. - Use counting back to subtract within 20.	- I can solve word problems with an unknown number. - I can identify patterns in addition facts. - I can identify patterns in subtraction facts.	Vocabulary in the Launch: number grid Tools: - counters - unifix cubes - number grid number lines Vocabulary in the Summarize: skip counting	-Focus TE pgs. 269-270 - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- Supplemental Task - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	Ask guiding questions such as: <i>What is the problem asking?</i> <i>What are you stuck on?</i> <i>How can you use _____ to show the problem?</i> <i>How can you prove that to me?</i> <i>How can you model this number story?</i> <i>How could you represent this on a number line?</i> <i>What is unknown?</i> <i>How can you draw a picture to show your work?</i> <i>How can you write an equation to show your work?</i> <i>Is there another equation that works?</i> <i>How could you count by 1s to find the answer? 5s? 10s?</i>	MJ p 33 MM p 74	

3.9	1. Use counting on to add within 20. 2. Use counting back to subtract within 20.	1. I can identify patterns in addition facts. 2. I can identify patterns in subtraction facts.	Vocabulary in the Launch: pattern Tools: ● counters ● unifix cubes ● number lines Vocabulary in the Summarize: ● Frames and Arrows Diagram ● arrow rule	-Modified Math Message pg. 274 - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- Supplemental Task - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	● <i>What is the problem asking?</i> ● <i>What are you stuck on?</i> ● <i>How can you use _____ to show the problem?</i> ● <i>How can you prove that to me?</i> ● <i>How can addition help you?</i> ● <i>What pattern do you notice?</i> ● <i>How will this pattern continue?</i> ● <i>How can you use addition or subtraction to describe the number pattern?</i>	MM p TA14 MJ p 34-36 MM p 77-78	
3.10	1. Use counting on to add within 20. 2. Use counting back to subtract within 20. 3. Determine the unknown whole numbers in an addition equation relating to three whole numbers.	1. I can identify patterns in addition facts. 2. I can identify patterns in subtraction facts. 3. I can find the unknown number in an addition equation.	Vocabulary in the Launch: unknown pattern Tools: ● counters ● unifix cubes ● number lines ● frame and arrow diagrams Vocabulary in the Summarize: n/a	- Modified Math Message pg. 280 - Observe student thinking during Explore and Summarize portions of the task for Formative Assessment	- N/A	● <i>Ask guiding questions like:</i> ● <i>What is the problem asking?</i> ● <i>What are you stuck on?</i> ● <i>How can you use _____ to show the problem?</i> ● <i>How can you prove that to me?</i> ● <i>How can addition help you?</i> ● <i>What pattern do you notice?</i> ● <i>How will this pattern continue?</i> ● <i>How can you use addition or subtraction to describe the number pattern?</i> ● <i>What kind of number story can you write to go with one of the equations?</i>	MM p TA14 MJ p 37-39 MM p 82	
Administer the Unit 3 Assessment and Open Response Assessment								

Key: MJ = Math Journal; MM = Math Master; MP = Math Practice; EDM = Everyday Math; TE = Teacher’s Edition; SRB = Student Reference Book

Language Supports for Mathematics:		
Domains	Language Objective(s):	Sentence Stem(s):
Speaking	1. I can orally describe the steps I took to solve the problem. 2. I can orally describe my reasoning. 3. I can defend my strategy. 4. I can restate someone else's thinking in my own words. 5. I can compare strategies.	• I need more time to think please. • I would like to add _____. • I think what you said is _____. • This is my strategy _____. • I agree/disagree with _____ because _____. • I would _____ instead. • This makes me think _____. • The evidence I have is _____. • What if _____? • How can that be _____? • Could you have _____? • How did you _____? • Why did you _____?
Reading	1. I can find important information in a word problem. 2. I can summarize the purpose of the word problem.	• The problem is asking me to find _____. • The purpose of the problem is _____.
Writing	1. I can write to explain my reasoning. 2. I can explain why my strategy works. 3. I can record drawings and equations to show my work.	• The problem is asking me to find _____. First I, _____ Next, _____. Finally I found out that _____. My strategy works because _____. • The problem is asking me to find _____. In the beginning _____. But then, _____. At the end, _____. My strategy works because _____. • These are the steps I took to find _____. First, _____. Second, _____. Third, _____. I got _____ as my solution. I solved the problem this way because _____. • The problem is asking me to determine _____. I used the _____ strategy. To solve this problem first I _____. Then, I _____. Next, _____. After that, I _____. Finally I found out that _____. I noticed _____. My strategy works because _____.