(Elementary) Math INTERVENTION SESSION PLAN – Fractions (PART TWO)	
Student(s):	
ACM:	
Week #:	**Dates:**
DESSA Focus(es):	

Plan Flow

(What CCSS <u>standard</u> and <u>specific scaffolded skill/s</u> are targeted in this session?)

<u>CCSS Grade Level Math Standard:</u>

2.OA.1: *Use addition and subtraction within 100 to solve one- and two-step word problems involving situations of adding to, taking from, putting together, taking apart, and comparing, with unknowns in all positions, e.g., by using drawings and equations with a symbol for the unknown number to represent the problem.*

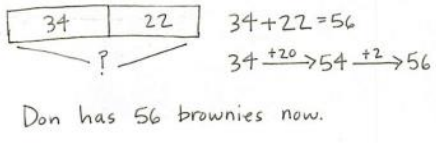
<u>Skill #2:</u> *'Write an addition and subtraction equation with a symbol for the unknown in one- and two-step word problems.'*

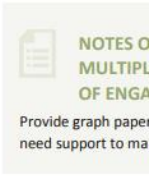
EngageNY Lesson: Grade 2, Module 4, Topic A, Lesson 5

**********<u>Problem 1 (modified – number bond, not arrow)</u>**********

Problem 1: Solve a single-step word problem using a tape diagram and the arrow way.

Don has 34 brownies. He bakes 22 more. How many brownies does he have now?





<u>Learning Objective:</u> *Students will be able to* **solve a single-step word problem** *BY* **using tape diagrams and number bonds.**

<u>KEY VOCABULARY (including *visuals* as I see fit):</u>

- ***Tape Diagram***
- ***Number Bond***
- ***Identify***
- ***Unknown***
- ***Addition***
- ***Subtraction***
- ***Equation***
- ***Symbol***
- ***Position***
- ***Determine***
- ***Operation***
- ***Solve***
- ***Situation***

- ***'Add to'***
- ***'Take from'***
- ***'Put together'***
- ***'Take apart'***
- ***'Compare'***

Materials: (*Example: Strips of paper for creating Tape Diagrams, anchor charts, vocabulary cards, whiteboards, handouts, etc.*)

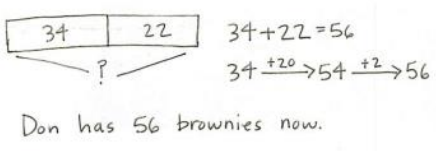
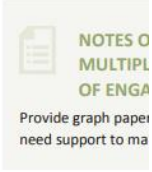
- **PRE-PREPARED** ANCHOR CHART *(see details in 'Warm-Up' section)*
- **PRE-PREPARED** VOCABULARY WORDS AND DEFINITIONS *(see words in 'Plan Flow' above)*
- ***Personal* white boards** OR separate notebooks/paper to record
- **Dry-erase markers**

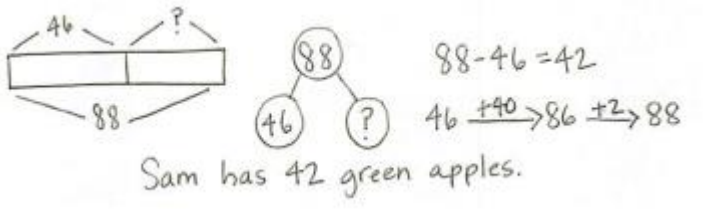
Room Set-Up: *(Example: students facing the board, pictures posted, objective written on the board)*

- ACM and students *around a table*
- ***All number lines and markers*** *moved towards center of table*
- *Students* ***only*** *take number lines and markers* **when ACM invites them to do so**
- **When not actively using folding papers, markers, and/or notebooks, etc., all materials** should **'take a rest'** back towards the middle of the table.

Mins:	Opening
	Soft Check-In: (2 minutes) (2/20) ***"Before we engage our minds in math, we need to make sure we're ready by first engaging our brains in a 'mode' (or mood) check. Focusing on a specific process in math requires lots of concentration, so let's make sure our minds are 'checked-in' and 'ready to rock' today's Learning Objective. But, first!":*** **Ask students the below, or modify for my student(s)' specific interests:** **1)** If you were a **snack**, what **snack** would best encapsulate how you're feeling right now? **2)** Why?
	Expectations: (*Review the expectations you have for your students in this session.)* **(2 minutes) (4/20)** ***(FIRST:*** **Review the 'group expectations' I have already developed with my students in the 'Grounding Session Plans' from my 'Intro to Session Planning' training.** *"**In addition to our usual group expectations,** we will need to **treat our materials**, like the whiteboards, papers, markers, and other objects we might be using **JUST as respectfully as we have agreed to treat each other**. We've all already agreed and decided on these, so we'll just extend them to ALL session 'participants'. =) '* **EXPECTATIONS FOR USE OF MATERIALS AND/OR MANIPULATIVES:** **1)** Materials remain in center of table unless ACM has explicitly invited students to begin using them **2)** When ACM directs students to return materials to center of table for 'talk and think time', students safely put their materials back in center of table **3)** When ACM *or any other student* is explaining their thinking, asking a question, or otherwise speaking, all students have eyes on speaker and all hands are free materials/objectives/pencils/papers/etc. **4)** All students will Campfire their own materials *unless otherwise directed by ACM*
	Warm-Up: (**4 minutes) (8/20)** ***"Now that we've got our focus in 'Math Mode', let's make sure our brains are properly 'warmed' by grounding our learning in today's learning objective, what you already know about these topics, and a jumpstart on the vocabulary we're emphasizing in our conversations today."*** • **Review Learning Objective:** ○ Review ***posted*** Learning Objective (see Plan Flow above)

	○ **Clarify any questions (or *quickly* validate** any short comments) from students • **Activate Prior Knowledge:** ○ **Tell students that I am setting my timer for '60 seconds' and they are going to 'call out' all the words (or jot down images on their whiteboards) that come to mind when they see the 3 words I've prepared on the board** ▪ **Have prepared *(without definitions)* the terms 'identify' 'unknown' 'symbol'** ▪ **Ask your student(s) if they (or would one of them) like to record the 'call-outs', or would they prefer I do it for them *(voice + choice!)*** ▪ **Ask my student(s) if they (or would one of them) like to record the 'call-outs', or would they prefer I do it for them (*voice + choice!)*** ▪ **"*When the timer goes off, we'll take a look at any 'similarities' between our 'call-outs' around these 3 math terms. Let's see how many words (or images!) we can pull out of our math memories! Ready, set, go.*"** *****Once the time has gone off, 'moderate' a conversation with students around any 'similarities' or 'differences' between their 'call-outs'; make sure any 'answer' is fully correct, BUT remember: I must be careful with my words, here, as it's the place for me to build up student confidence around their 'prior knowledge', not to push for 'Right is Right'** • **Review/ Review/Introduce Vocabulary:** ○ **HAVE PREPARED** visual/easy-to-read vocabulary words (including definitions) ○ Some *potential* options: ▪ 'Flashcards' – word on front, definition on back ▪ Already 'written' on whiteboard ▪ Already written on paper (notebook, construction paper, etc.) ▪ FAST power-point slides ▪ Etc. **Transition for Returning to the Anchor Chart:** ***"Okay, so…over to that Anchor Chart back to that Anchor Chart I showed you when we looked at the Learning Objective! It's going to help 'guide' me through the steps of the process we're using today: "Solving single-step word problems using tape diagrams and number bonds."***
	Gradual Release of Responsibility
	I Do: **(3 minutes) (11/20)** **(POSTED ANCHOR CHART)** **Solving Single-Step Word Problems Using Tape Diagrams and Number Bonds** **Step 1: Circle the words and numbers I need to think about to solve the problem; underline what the problem is telling you to find (**e.g. What is being 'counted'? How many of these does the problem tell us about? What is the problem telling us we DON'T know?) **Step 2: Draw a tape diagram for one of the amounts/quantities the problem DID give you – LABEL IT** (e.g. '34 brownies') **CFUs/OEQs:** *(What Checks for Understanding or Open Ended Questions will you use to ensure progress at each step?)* • **(for Step 1) Draw a tape diagram for one of the amounts/quantities the problem DID give you – LABEL IT** (e.g. '34 brownies') • **(for Step 2) Draw a tape diagram for one of the amounts/quantities the**

	<u>Step 3</u>: If the problem tells you to find a total/how many NOW/altogether, *attach a 2nd tape diagram to the end of your 1st tape diagram – LABEL IT* (e.g. 'He bakes 22 more; how many does he have NOW?'); **If the problem tells you that you DON'T know the total – you only know 'how many more' or 'how many less', *draw a 2nd tape diagram BELOW your first tape diagram – LABEL IT*** (e.g. 'There are 29 more students on the yellow bus than the red bus – how many students are on the yellow bus?' **<u>Step 4</u>: Write out the number sentence to *represent* what you drew – with a letter/word/phrase/symbol in place of the amount you DON'T know yet** (e.g. 34 brownies + 22 more brownies = ?) **<u>Step 5</u>: Make a number bond for the FIRST quantity, then the SECOND quantity, to help you solve the addition or subtraction sentence you wrote** (e.g. 30 + 4 + 20 + 2 = 50 + 6 **<u>Step 6</u>: Solve your number sentence/find the amount you DIDN'T know from what the problem told you – AND DON'T FORGET YOUR UNITS** (e.g. 56 BROWNIES) _____ ***"Great! So, the first thing I'm going to do is '<u>a Metacognitive Think-Aloud'</u> and** model **the problem; I will be asking myself questions, and also answering them for myself. I want to make sure I'm <u>making all of my 'thinking' visible to you</u> all, or letting you all 'seeing inside my brain', so make sure your full visual AND auditory attention are directed at me – just for 3 minutes, though – unless I have to stop so we can re-focus our attention. So, thank you in <u>advance</u> for giving me those 180 seconds!"*** ***"So, I'M going to model for you all PROBLEM 4, and then WE will do PROBLEM 5* together"** *****PROBLEM 4***** **Problem 1: Solve a single-step word problem using a tape diagram and the arrow way.** Don has 34 brownies. He bakes 22 more. How many brownies does he have now?   **<u>Solving Single-Step Word Problems Using Tape Diagrams and Number Bonds</u>** **(Step 1): Circle the words and numbers I need to think about to solve the problem; underline what the problem is telling you to find (**e.g.	**problem DID give you – LABEL IT** (e.g. '34 brownies') • **(for Step 3) If the problem tells you to find a total/how many NOW/altogether, *attach a 2nd tape diagram to the end of your 1st tape diagram – LABEL IT*** (e.g. 'He bakes 22 more; how many does he have NOW?'); **If the problem tells you that you DON'T know the total – you only know 'how many more' or 'how many less', *draw a 2nd tape diagram BELOW your first tape diagram – LABEL IT*** (e.g. 'There are 29 more students on the yellow bus than the red bus – how many students are on the yellow bus?' • **(for Step 4) Write out the number sentence to *represent* what you drew – with a letter/word/phrase/symbol in place of the amount you DON'T know yet** (e.g. 34 brownies + 22 more brownies = ?) • **(for Step 5) Make a number bond for the FIRST quantity, then the SECOND quantity, to help you solve the addition or subtraction sentence you wrote** (e.g. 30 + 4 + 20 + 2 = 50 + 6 • **(for Step 6) Solve your number sentence/find the amount you DIDN'T know from what the problem told**

	What is being 'counted'? How many of these does the problem tell us about? What is the problem telling us we DON'T know?) **(Step 2): Draw a tape diagram for one of the amounts/quantities the problem DID give you – LABEL IT** (e.g. '34 brownies') **(Step 3)**: **If the problem tells you to find a total/how many NOW/altogether, *attach a 2nd tape diagram to the end of your 1st tape diagram – LABEL IT*** (e.g. 'He bakes 22 more; how many does he have NOW?'); **If the problem tells you that you DON'T know the total – you only know 'how many more' or 'how many less', *draw a 2nd tape diagram BELOW your first tape diagram – LABEL IT*** (e.g. 'There are 29 more students on the yellow bus than the red bus – how many students are on the yellow bus?' **(Step 4)**: **Write out the number sentence to *represent* what you drew – with a letter/word/phrase/symbol in place of the amount you DON'T know yet** (e.g. 34 brownies + 22 more brownies = ?) **(Step 5)**: **Make a number bond for the FIRST quantity, then the SECOND quantity, to help you solve the addition or subtraction sentence you wrote** (e.g. 30 + 4 + 20 + 2 = 50 + 6 **(Step 6)**: **Solve your number sentence/find the amount you DIDN'T know from what the problem told you – AND DON'T FORGET YOUR UNITS** (e.g. 56 BROWNIES)	**you – AND DON'T FORGET YOUR UNITS** (e.g. 56 BROWNIES) **<u>***Metacognitive CFU:</u>** **How am I feeling about solving single-step word problems using tape diagrams and number bonds, and why might I feel that way?** **Thumbs Up:** That felt good! I think I'll remember how to do this next time. **Thumbs Sideways:** I think I could use some more practice! **Thumbs Down:** I'm still feeling lost!
	<u>We Do</u>: **(5+ minutes)** ***"Thank you for your focused visual and auditory attention! Now we'll get going together."*** ***"Before we can get any materials, though, let's make sure we can explain which materials we're each going to take and what, specifically, we will be using them to do as it relates to <u>solving single-step word problems using tape diagrams and number bonds</u>"*** *****<u>Take 1 or more student responses</u>/explanations about the materials and their purposes for this session*****  **<u>Solving Single-Step Word Problems Using Tape Diagrams and Number Bonds</u>** **(Step 1): Circle the words and numbers I need to think about to solve the problem; underline what the problem is telling you to find (**e.g. What is being 'counted'? How many of these does the problem tell us about? What is the problem telling us we DON'T know?)	**<u>CFUs/OEQs</u>:** *(What Checks For Understanding or Open Ended Questions will you use to ensure progress at each step?)* • **(for Step1) What amounts DO we know? Which amounts do we NOT know, that the problem is asking us to find?** • **(for Step 2) Which amount should we draw a tape diagram first, and why do you think so?** • **(for Step 3) Is this a problem where we know the total, or we need to find the total? How did you know that?** • **(for Step 4) Which 'amount' don't we know? What 'symbol' should we use to 'represent' it?**

	(Step 2): Draw a tape diagram for one of the amounts/quantities the problem DID give you – LABEL IT (e.g. '34 brownies') **(Step 3)**: **If the problem tells you to find a total/how many NOW/altogether, *attach a 2nd tape diagram to the end of your 1st tape diagram – LABEL IT*** (e.g. 'He bakes 22 more; how many does he have NOW?'); **If the problem tells you that you DON'T know the total – you only know 'how many more' or 'how many less', *draw a 2nd tape diagram BELOW your first tape diagram – LABEL IT*** (e.g. 'There are 29 more students on the yellow bus than the red bus – how many students are on the yellow bus?' **(Step 4)**: **Write out the number sentence to *represent* what you drew – with a letter/word/phrase/symbol in place of the amount you DON'T know yet** (e.g. 34 brownies + 22 more brownies = ?) **(Step 5)**: **Make a number bond for the FIRST quantity, then the SECOND quantity, to help you solve the addition or subtraction sentence you wrote** (e.g. 30 + 4 + 20 + 2 = 50 + 6 **(Step 6)**: **Solve your number sentence/find the amount you DIDN'T know from what the problem told you – AND DON'T FORGET YOUR UNITS** (e.g. 56 BROWNIES) ***WHAT TO DO IF I HAVE TO GO BACK TO THE I DO/**<u>IF STUDENTS CANNOT ANSWER QUESTIONS IN THE WE DO</u>*****: **Optional 'rounds' for We Dos and/or final You Do:** a. Ms. Lopez cut 46 cm of yarn. Ms. Hamilton cut 22 cm less than Ms. Lopez. How many centimeters of yarn did Ms. Hamilton cut? b. How many centimeters of yarn did they have altogether? ***I will know my students are ready to move to the 'You Do' because *they'll be trying to get ahead of me and start the next ones on their own*.**	• **(for Step 5) Which number should we 'number bond' first? How do we know what to 'break' it into?** • **(for Step 5) What's our final answer? What are the 'units' we have to put after the number?** **<u>***Metacognitive CFU:</u>** **How are we feeling about solving single-step word problems using tape diagrams and number bonds, and why might we feel that way?** **Thumbs Up:** That felt good! I think I'll remember how to do this next time. **Thumbs Sideways:** I think I could use some more practice! **Thumbs Down:** I'm still feeling lost!
	<u>You Do</u>: (if my students needed more practice in the We Do when my time with them is up, I WILL RETURN TO THIS SESSION WHEN I SEE THEM AGAIN, beginning with an I Do (this serves as my 'Activing Prior Knowledge, and I are not introducing any new vocabulary; then start right back up where I left of with them in the 'We Do') **Once my students have expressed their desire or readiness to 'do one on their own', I will make sure I'm taking notes on their 'process' and any errors they might be making. These will inform either a) the rest of the session or b) my planning for the next session.** Sam has 46 red apples and some green apples. He has a total of 88 apples. How many green apples does he have?	**<u>CFUs/OEQs</u>:** *(What Checks For Understanding or Open Ended Questions will you use to ensure progress at each step?)* **'Which resource might you use to remember what we did at that step?' (or any other 'cheerleading advice' (as long as you don't *tell* your student(s) 'what to do')** **<u>***Metacognitive CFU:</u>** **How are *<u>you</u>* feeling about solving single-step word problems using tape**

	<u>IF STUDENTS GET STUCK IN THE YOU DO:</u> ▪ **Ask a follow-up question** ○ ***(AFTER GIVING MY STUDENT at least ONE(1) MINUTE to try it on their own)*** ▪ **<u>If I have time left in my current session,</u> Return to 'We Do'/Guided Practice** ○ **(BUT I WILL NOT GO BACK TO THE YOU DO IN THIS SESSION – WAIT UNTIL THE NEXT TIME I SEE THIS STUDENT and have successfully built their confidence/ability up in the extended We Do)** **<u>Extra possible practice problems, in case students finish at different times:</u>** If students finish early and want to try some challenge problems, encourage them to use more *bar diagrams* to *reason* about the following questions (using the problem from the I Do/Anchor Chart): a. There are 31 students on the red bus. There are 29 more students on the yellow bus than on the red bus. How many students are on the yellow bus? b. How many students are on both buses combined?	**diagrams and number bonds, and why might you feel that way?** **Thumbs Up:** That felt good! I think I'll remember how to do this next time. **Thumbs Sideways:** I think I could use some more practice! **Thumbs Down:** I'm still feeling lost!
Mins:	**<u>Closing</u>**: *(What final check for understanding are you using? How will you ensure the learning objective was met?)* (Examples: exit ticket, Twitter post, practice problem, real world connection, etc.) **<u>Once my students have taken a stab at, or finished, their 'You Dos'</u>, make sure all pencils, papers, materials, etc. get <u>carefully</u> placed back into the middle of the table**. Let them know that I all will be pushing their brains one last step – by reflecting on the process they learned today. ▪ **Invite students to discuss the following prompt: '*Explain how you knew whether to draw two tape diagrams attached, or one below the other?*'** ▪ **Moderate the conversation**, making sure I'm are reminding my students of NOSTUESO, and ensuring I get a chance to hear each student's response to the question. PARAPHRASE for clarity, especially if a student gives a 'not quite' response. ▪ **Quickly summarize** what they did today and how it relates to what they'll be doing next when they see me again. ▪ **Qualify my praise** for students with some authentic things I noticed that they did today that relates to one of their own SEL or Academic goals. **"Bring it in on a thumb break!"**	