

<b>Teaching Point:</b>	Mathematicians can devise, explain, and use strategies to show regrouping clearly on paper.
<b>Big Idea:</b>	We group numbers in tens to make them easier to understand (visualize, move value around, order, compare, etc.).
<b>Standard</b>	Represent numbers in at least two ways that demonstrate an understanding of place value regrouping (e.g., represent 72 as both 7 tens and 2 ones and also 6 tens and 12 ones).
<b>Materials Needed:</b>	PST Packet Base ten blocks Space to chart student work or have students share their work (doc cam, chart paper)
<b>Vocabulary:</b>	<b>Place Value</b> , tens, ones, digit, base 10, hundreds chart, expanded form, decompose, standard form, regrouping, composing, endpoints, number lines, greater than, less than, ordering, visualizing, hundreds place
<b>Takeaway:</b>	We can show how we regroup clearly on paper.
<b>Lesson Outline</b>	Vocab review - 3 min PST - 5 min Discussion -5 min Application-5 min Group work- 15 min Wrap up- 2 min Exit Ticket- 5 min

**PST:** Sam has 2 hundreds, 14 tens and 23 ones. What is the easiest way to show Sam's value?

Show Sam how he can regroup to make the value in the easiest way below.

**What we want students to get from this problem (including consideration of how it connects to prior day and builds to next day):**

Students should be able to devise strategies to use when given words (such as "What is the simplest way to write the value of 32 tens, 4 hundreds, and 26 ones?" Or "I am organizing my sticker collection. I have 2 pages that have 100 stickers on them. 34 strips of stickers that have 10 on each strip. And I have 22 loose stickers. What is the easiest way to write how many stickers I have?")

### **Possible Strategies to Approach Problem:**

- Scholars use their base ten blocks or a picture to represent the value and count them up using skip counting.
- Scholars draw or explain how to group together groups of ten to count more easily (i.e. showing circling and arrows).
- Scholars regroup groups of tens to build the value in a simpler way to start because they were able to visualize the value. (In this case, be sure they explain in words or pictures what they did.

**Anticipated misconceptions:**

- Scholars regroup incorrectly.
- Scholars make a counting error in computation or in regrouping.
- Scholar's work is unorganized, resulting in counting errors.

**Flow of the lesson:**

- *Quick Vocab Review(3 mins)*
- *Review the vocabulary words **value and digit***
- *Review the vocabulary word **regroup**.*
  
- *Problem Solving Task (5 minutes):*
  - *Routine to reinforce:*  
*PSTs are intended to be focused, independent work or in partnerships depending on the task. Teachers can use the discussion toolkit to plan for the discussion during this time and note misconceptions. Students should engage in the struggle and attempt to work for the whole time - rereading the problem or trying another model or strategy if they finish early. Teachers should only intervene if students have a misconception that needs to be addressed to access the problem (noted in the discussion planner).*
  - *Habits to reinforce through narration and sharing student work:*
    - *Following the directions carefully*
    - *Showing work (labels, pictures, models, or using manipulatives)*
    - *Writing a solution sentence if appropriate*
    - *Rereading the problem or asking the teacher to re-read a problem if you are stuck/not sure what to do*
    - *Using the whole work time. Students should not be engaging in other tasks when they are done. They should look over their work, reread the problem, and see what they can add.*
  
- Yesterday we learned that we can show how we regroup on paper. Today we are going to continue to talk about how we can clearly show regrouping on paper.
- Today we are going to be using what we have learned about place value and regrouping to help us show how we regroup in an organized way on paper.
- **Read the PST together as a team. Remember, as you are working on today's problem, think about what we know about place value to help you think about the answer to this question.**
  - **Be sure to offer base ten blocks to students who are still using the models to help them represent the values on paper.**
- When you get back to your seat you will have time to answer the question and show your thinking.  
**Note: Students should be able to get some of their thinking on paper, but if they are struggling, as you are circulating, try to ask students to orally tell you what they think so they can be prepared for the math discussion.**

**Discussion Planner:** (Note-As you are circulating during the PST, take notes of students that you want to highlight in the discussion. Below is the order in which you could call students up to explain their thinking.)

**STRATEGIES USED:**

<p><b>Scholars use their base ten blocks or a picture to represent the value and count them up using skip counting</b></p>	
<p><b>Scholars draw or explain how to group together groups of ten to count more easily (i.e. showing circling and arrows)</b></p>	
<p><b>Scholars regroup groups of tens to build the value in a simpler way to start because they were able to visualize the value. (In this case, be sure they explain in words or pictures what they did.</b></p>	

**MISCONCEPTIONS To Note:**

<b>Scholars regroup incorrectly</b>	
<b>Scholars make a counting error in computation or in regrouping</b>	
<b>Scholar's work is unorganized, resulting in counting errors</b>	

**Note: You can always have students start discussions with a quick turn and talk with their partners on the rug to give them a chance to share their thinking.**

**Discussion (5 Minutes):** During this discussion, I recommend a doc cam so students can see other student's work.

- Call on a student either built or drew the value of 3 hundreds, 14 tens and 23 ones and then showed
- Have a few more students share their strategies on how they showed clearly their regrouping on paper. Look for clear and organized examples that show how they took the value and clearly marked regrouping .

**Questions to push the discussion points: (these questions can be posed to all students who are sharing and the class as a whole)**

- How did you show the value Sam had? (most will draw out the value, but if someone figures it out mentally, they can also share their strategy, but be sure to connect it to the drawing)
- How did you show that value in a different way?
- How did you show **regrouping** the ten tens to make the value in a different way? (I noticed that there were 14 tens, so I could group ten tens and make it 100. Answers may vary)
- Why were you able to regroup a ten tens for a hundred? (it is the **same/equal** value)
- How did you show **regrouping** ten ones to make the value in a different way? (I noticed that there were 23 ones and that there are two groups of ten there. Answers may vary)
- Why were you able to regroup ten ones for a ten? (it is the **same/equal** value)
- How did \_\_\_\_\_ show what they regrouped in a clear and organized way?
- Are these two values the same? (yes, because we built 363 one way and we built 363 again, just in a different way.
- **When we show regrouping on paper, we want to make sure that people know how we are regrouping and that the value is not changing. It is important to have organized work that clearly shows regrouping.**
- **We can show how to build values when we are given words and not pictures.**

**Application (5 Minutes):**

- *Have kids grab their slates and markers. Here we want to give students a couple of practice problems on their slates to show how they regrouped. Highlight students who are showing neat work and clearly circling groups of ten or drawing arrows to show where they regrouped. Note: for these, students might want to draw out the value first and then show another way. Encourage them to do this if they need to.*
- Write 1 hundred, 15 tens, and 23 ones on the board and have them show a different way to build the same value, showing regrouping.
- Write 2 hundreds, 31 tens and 17 ones on the board and have them show a different way to build the same value, showing regrouping.

**Group work (15 minutes):**

Pass out the practice problems. Have a packet under the doc cam ready to model for all students to see. Give students time to complete the first practice problem in partnerships or on their own. Make sure students are using vocabulary such as regrouping and place value.

Keep students who need more support at the carpet in order for them to become more comfortable with showing values in different ways using base ten blocks and then modeling how they show regrouping on paper.

**Wrap up (2 mins):**

Ask scholars to turn and talk about what they learned today. Listen for students who say that we learned that we can show on paper how we regroup values to make them in different ways, even when we're given the value in words.

**Exit Ticket (5 min):** The exit ticket should be done independently by students. This will help you know who may need a follow up conference based on this concept.

*Note students below who you want to follow up with on this concept.*

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Name \_\_\_\_\_

Date \_\_\_\_\_

### Problem Solving Task

Sam has 2 hundreds, 14 tens and 23 ones. Draw his value below.

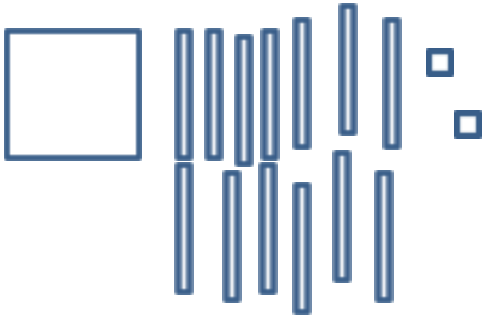
Show Sam how he can **regroup** using base ten blocks to make the value in the **easiest** way.

## Practice Problems

1. What is the value of 32 tens, 4 hundreds, and 26 ones? \_\_\_\_\_

Now show how you can **regroup** to show the easiest way to build this value.

2. Frank draws 232 this way:



Show an easier way to draw 232. Be sure to show how you regrouped.

3. What is the value of 12 tens, 4 hundreds, and 26 ones?

Now show the easiest way to build this value. Be sure to show how you regrouped.

**Name:** \_\_\_\_\_

### Exit Ticket

Find the value of 16 tens, 3 hundreds, and 28 ones.

Now show how you **regrouped** the base ten blocks to show the value in the easiest way.

## Lifework/Review

### Today's Math Takeaway!

We learned that we can show how we regrouped neatly on paper.

**Math Vocabulary: Regrouping** is when you group ten tens or ten ones together and make a new group for the next place value.

Find the value of 2 hundreds, 23 tens, 7 ones using base 10 blocks.

Now show another way to make the same value. Be sure to show how you **regrouped**.

① Sam and Franny have 2 bags of apples.



Show two other ways they can split their apples between their two bags.

Way one:



Way two:



② Build the number 562 in two different ways

