

“Choose Your Own Adventure”

Visualizing, Writing, and Creating Word Problems

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Content Objectives

In 3rd grade students are required to use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities by using drawings and equations with a symbol for unknown number to represent the problem (**3.OA.A.3.**) They also need to know how to solve two-step word problems using the four operations. They are required to represent these problems using equations with a letter standing for the unknown quantity, and assess the reasonableness of answers using mental computation and estimation strategies including rounding (**3.OA.D.8.**) After having spent several years teaching 3rd grade I have found that reading, visualizing and making sense of word problems is a constant struggle for most 3rd grade students. Many students struggle to make sense of what the word problem is actually asking them to find, others struggle trying to determine which operation to use, and several simply struggle with reading the actual words in the problem. It is my hope that through this instructional unit, I will provide a visual, step by step, differentiated approach for students to help them better understand and solve word problems.

In addition to word problems being a struggle for the average 3rd grade student, having a high number of English Language Learners in my classroom, increases this struggle and the need for more visuals. ELLs who are new to, or still working on, the English language, are inherently more visual learners. In reading class, they rely heavily on images and illustrations to make sense of the text language. This makes word problems even harder for them. Not to mention visuals even more important. Many of these students are new to the country and are well below a 3rd grade reading level. So, the fact that even the average 3rd grader has a hard time with these skills, imagine how much harder it is for a student not fully engaged in the language. I believe that every student learns differently, and any different way of showing them something may be the way they connect with it. Within this unit I intend to be able to take the visuals further, represent the problems in a different way that would help the ELL students a great deal. New types of visuals would not only help ELLs, but possibly be able to reach different students that I currently may be missing.

There is research to support the idea we are currently not teaching word problems in the best way. In the article *13 Rules That Expire. Teaching Children Mathematics*, it discusses one of the most common methods of teaching word problems in the primary grades, using key words to solve the problems. In this article, Karp, Bush, & Dougherty, argue that this method has students pull numbers out of a problem and just compute them out of context (Karp, Bush, & Dougherty, 2014, p. 19) The drawback to this method is that many of these “key words” that are common in word problems, and in the English language can be used in a variety of ways, which can then alter the operation of the problem. However, many times while this is taught, one word is given a designation of one operation. For example, the word “more” might be taught to be a key word for

addition. However, when students get to a “how many more” problem, they still associate more with addition, and don’t know to find the difference. Karp, Bush, & Dougherty say “reducing the meaning of an entire problem to a simple scan for key words has inherent challenges.”(Karp, Bush, & Dougherty, 2014, p. 19)Simply pulling out key information and solving out of context is not building real knowledge and not really addressing what the standards are asking. Students need the skills to help the visualize and solve a problem for what it is, not just as an equation. By taking a step back and creating lessons that take away this idea of teaching “key words,” students will start to realize that they cannot just look at a word problem and pull out numbers and do what one word tells them to do. Students will start to be able to dissect word problems and break them down into what it is really asking and what they are really looking to solve for. They will become thinkers and problem solvers, not just calculators.

Because there are flaws in the way that many teachers introduce word problems, we are setting our students up for failure. This is why I find the idea behind a visual approach to learning math, an awesome opportunity for our students to gain skills needed to move forward with problem solving. Math is so inherently visual and explaining math ideas and concepts in a visual way is something that I, and I am sure many other teachers, already do on a daily basis. The ideas behind many of the 3rd grade standards are best taught visually. However, being able to expanding upon the ways I (and we) already do this and incorporate more drawing and animation, with a special focus on word problems, is what this unit focuses on. I can already imagine how excited my students are going to be when they see these fun and more engaging visuals, when they create a math comic, when they act out their word problem.

In *The Common Core Mathematics Companion: The Standards Decoded, grades 3-5: What they Say, What they Mean, How to Teach them* it thoroughly breaks down the standards and addresses student misconceptions and common errors that are made. They say “that students who have trouble identifying information in a word problem situation need more experience making explicit connections between their representations (visualizations) and determining the number of groups or the number in a group (Gojak & Miles, 2016, pp. 13).” This means they need visuals. They need to be able to see the problem. Re-reading it and finding key words won’t help. They need to see it. Gojack and Miles also discuss that when working with word problems, there are ways to help a student determine what to do to solve a word problem, but they should never be told what to do to reach a solution (Gojak & Miles, 2016, pp. 34). By creating a visual word problem, we will be helping the student see the problem, helping them figure out how to reach the solution. We will be helping them see it, but we will not be telling them what to do.

So much of 3rd grade math is based upon multiplication and division. I would love to explore what are other ways there are to visualize these types of equations. Putting things into equal groups, the basis of multiplication, doesn’t always click with everyone. How else can we help them visualize this? How can we show them a group of something being divided into equal groups? Whether in a word problem or not. I think there is a lot of potential to create different visuals then we are currently teaching and that is what this unit will show. However, not just visualizing multiplication, but being able to make sense of it, within the context of all four operations, and hidden within a word problem.

For example, let’s say students are working to solve two-step word problems using multiplication and division. Not even all four operations. First of all, not all students are on a 3rd

grade reading level, so just reading the word problem may be too difficult for them. Let alone dissecting it. However, if we were able to create a visualization to go along with the word problem, those students who cannot read it, could still make sense of it. By creating an interactive flow chart organizer, we will help our students make sense of a problem, step by step, until they solve for what it is asking. Then, taking their understanding even further, students will have to work backwards, writing their own word problem, creating a type of word problem comic strip to keep track of the steps, and lastly, creating a word problem video on their own.

In summary, this unit takes the lessons and ideas learned in seminar, partners them with research and my own teaching struggles, and finds the best ways to help 3rd grade students visualize the content they need in 3rd grade.

Teaching Strategies

Most of this unit will be taught through the use of word problems. While teaching word problems, we will be using a new power point tool that I have never previously used before in my classroom, but I believe it will be a great tool to help students break down and solve word problems step by step. The tool will work as an interactive flow chart, it will be referred to as the “choose your own adventure” chart. By using this chart, students will be able to break down word problems into a yes or no answer, helping remove some of the fear that seeing a lot of words and numbers together may create. This “choose your own adventure” chart will allow students to focus on one aspect of the problem at a time, and work step by step towards the answer. The hope is that by using this chart, students will begin to see what a word problem is actually asking them, they will learn to see what kind of information they are already given within a word problem, and by realizing those important details, they will be able to understand and solve.

This “choose your own adventure” chart is designed to be a tool that students can use while beginning to gain the deeper understanding of a word problem, but not used indefinitely. The idea is that this tool will help walk them through a series of word problems until they get the hang of it and are able to make sense of the word problems without using the “choose your own adventure” chart. While this tool will be interactive, the flow chart itself will make a great anchor chart to keep up in the room for reference as needed.

Prior to introducing the “choose your own adventure” chart, I believe it is important to take a few steps backwards in order to take away, or unteach, any bad habits that the students may have. That is, getting the idea of “Key Words” out of their head and beginning to understand that those “key words” will not always work and they cannot rely on them. In addition to that, students will have a lesson without any words. Students will work through some visualization problems, seeing only people or objects. They will see things being removed from groups, things being added to groups, they will see manipulatives being divide into groups, or groups of things expanding. Having removed “key words” the students will now have to come up with the vocabulary that they are seeing happen. They will need to know they are seeing addition, not just doing addition cause they saw the word “together.”

To wrap it all up, after they have unlearned the bad habits, after they no longer need the “choose your own adventure” chart, students will demonstrate they have mastered the standards and word problems in three different ways. First, they will write their own word problem. Then,

they will illustrate their own word problems in a comic strip. And lastly, they will “direct” and film a video version of the same word problem. Proving that they can take an equation and work through all the different word problem steps, from words to pictures, to visualization.

Lesson Outline:

Lesson 1 – Removing “Key Words”

The main focus of this lesson will be to start to help students recognize that “Key” words within word problems will not always work. In previous grades, when only focused on addition and subtraction, these key words may have been a go to for students to understand a word problem, however now with the introduction of multiplication and division, using key words will no longer be an effective strategy. Throughout this lesson I will incorporate a number of different examples of word problems that have a “key” word in them and show how the “key” word can be the same, but it may lead to a different operation given the rest of the problem

Lesson 2 – Just visuals, no words.

This lessons focus is to make sense of a problem without reading. This will be especially helpful for ELL students and help them put their own vocab to what they see. Seeing what is happening and adding the words yourself will reinforce the removing of “key” words because they won’t be able to focus in on the words, they will have to describe it to themselves.

Lesson 3 – What is the problem actually asking?

By finding out what the problem is actually asking, students can start to realize what they are looking for. By doing that, they help to build an understanding of what information the problem has already given them. These steps will be crucial to using the “choose your own adventure” chart in upcoming lessons, so they need to work on this beforehand. This lesson won’t even really be asking students to solve any problems. Just to break down what is in a problem and how that information is important.

Lesson 4- Is there a total?

This lesson will focus on figuring out if the problem is starting with a total or not? It builds off of the previous lesson, taking what the problem is asking for and finding what information it has given, however, the next lesson will start with the question of “Is there a total?” which can be difficult for some so this lesson is important to lay that ground work. “Is there a total?” is where the “choose your own adventure” chart will always start, so being able to identify that is key to using the chart effectively. Furthermore, what if there is not a total? What is given? This lesson will help students identify what the word problem lays out in front of them.

Lesson 5- Choose your own adventure!

This lesson will introduce “choose your own adventure” flow chart and guide students through its use. This will be whole group focused and show them how to use the chart, make the correct selections, and relate what they choose to the given word problem. Please not, this “choose your own adventure” chart will never fully “solve” a word problem for a student. It is used as a guide to help them realize and understand what operation they need to use. Students will still need to work out the math and solve for a final answer on their own.

Lesson 6- Go on an adventure!

This lesson will allow the students to use the “choose your own adventure” chart on their own to help them navigate a set of word problems. This lesson will be up to the teachers discretion to decide how long students can use the “choose your own adventure” chart, and which students will need it. This lesson will also introduce the non-interactive anchor chart of the “choose your own adventure” chart to keep up as a reference. This lesson will end with a word problem quiz to see who is able to solve with and without the interactive “choose your own adventure” chart.

Optional Lessons:

Lesson 7- Write it out.

This is the lesson where students begin to show mastery of the standards by working backwards. They will do the opposite of what the previous lessons have been showing them. They will be taking an equation of their choice, and working backwards to write it out into a word problem with correct vocabulary. They will also be able to use these word problems to quiz other students in the class and as a check to see if their word problem will work using the “choose your own adventure” chart.

Lesson 8 – Draw it out.

Continuing from the previous lesson, students will now take their written problem, and create a visual for it. They will be drawing in pre-made comic strips, demonstrating the changes in their problem in each frame.

Lesson 9 – Act it out.

This is the final lesson, where students will direct a “movie” for their word problem. Students will use the website Flip Grid (my class is now familiar with the website due to remote learning) to make their word problem movie. They can use themselves, their siblings, toys/action figures, manipulatives, etc. whatever they need in order to help their classmates visualize their word problem.

Classroom Activities

Lesson 1 – Removing “Key Words”

Standards:

3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for unknown number to represent the problem.

3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Objectives: SWBAT unlearn key words that do not work universally for all word problems IOT solve word problems using the four operations.

Procedure:

The teacher will have a pre-made anchor chart (Example: Appendix A) that has the common “Key Words” for word problems listed on it. The teacher will discuss how students may have been taught in the past to use these key words to help them know what operation to use to solve word problems. Teacher will go over the chart quickly identifying some of the words and how they may relate to an operation. After that, teacher will post the following word problem and tell the students to solve using the chart. (Keeping the numbers low to make a point)

Posted Word Problem:

“Alex has 10 Pokémon cards. Chloe has 18 Pokémon cards. How many MORE cards does Chloe have?”

Allow students a few minutes to solve, highlighting that MORE is on the anchor chart for the addition operation. After a few minutes, by a show of hands ask students who got 28? If students followed the anchor chart and added correctly, they would have gotten 28. Wrong! Take the time to show students that in this case, the key word MORE does not mean they should add, but they should have subtracted! Let’s try another one:

Posted Word Problem:

“Mark got \$5 for doing all of his chores. He then helped his neighbor wash the car and his neighbor gave him \$3 MORE. How much money does Mark have now?”

Again, allow students a few minutes to solve, highlighting that MORE is on the anchor chart for the addition operation. After a few minutes, by a show of hands ask students who got 8? This time they are RIGHT! Go over the problem and explain how this time, MORE did mean they should add.

Discuss how we just did two different problems, both following the key word MORE, and to get the correct answer, both problems involved using different operations. At this point, the teacher should take down the “KEY WORDS” anchor chart and rip it up for effect. Tell

students that we are no longer going to be using key words to try to solve word problems. Moving forward, we will focus on what the words in the problem actually mean. We will discover what the word problem is actually asking. We will not just pick a key word and solve; we will start to actually understand the problem.

Use the rest of class the time to try out a few other word problems, whole group, from the word problem bank (Appendix B). Continue to make the point of what we thought the key word was verse what we actually needed to do to solve the problem.

Lesson 2 – Just visuals, no words.

Standards: 3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for unknown number to represent the problem.

3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Objectives: SWBAT discuss visual word problems IOT know which of the four operations they are seeing.

Procedure:

This lesson will start with the students on the carpet in front of whatever you have to project a power point. This lesson will mostly be discussion and talking through visuals. There are no actual word problems, no actual solving operations, just visuals. The “Just Visuals” power point will be used to lead the discussion. Going through the slides, the idea is to just get the students talking. What are they seeing happen? Are things coming together? Being taken apart? Put into groups? Do some go missing? Go over each slide a few times. Calling on different students to describe what they saw. Then, starting over, see if anyone can put a story to the images. Can students create a word problem based on what is happening on the slides?

The idea is that by seeing what is happening and adding the words yourself will reinforce the removing of “key” words because they won’t be able to focus in on the words, they will have to describe it to themselves.

After going over the slides and allowing time for discussion, students will return to their seats and need a set of manipulatives on their desk. During the remaining time, allow students to work with a partner creating visuals with the manipulatives. Student one will first create a visual with the manipulatives while student two creates a word problem for what student one has done. Allow students to go back and forth, while circulating the room and checking in for understanding and reinforcement.

Exit Ticket:

Use an informal exit ticket as you do check ins for each pair of students. To close, call on a few groups that you saw doing an exceptional job to go to the board and draw/explain each other's problems.

Lesson 3 – What is the problem actually asking?

Standards:

3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for unknown number to represent the problem.

3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Objectives: SWBAT identify which operation they will need to use IOT solve word problems using the four operations.

Procedure:

In this lesson, we will be looking closely at word problems but we won't actually solve them. Most of the time, doing the operation and solving is the easy part for students. However, they rarely take the time to study the word problem and really figure out what it is asking and what information they know. We will continue to pull from the word problem bank (Appendix B) in this lesson. The actual word problem chosen does not really matter, more so what matters is having the students be able to make sense of what it is asking and what information they are given. Instruct students to make sure they pay close attention to the ends of the word problems and especially when they see a question mark, because that will be what they are asking for.

Lead a discussion for a word problem from the word problem bank. Example below:

Posted word problem- "Sandy has 36 bags of Takis. Mike bought 12 of Sandy's bags of Takis. How many bags of Takis does Sandy have now?"

Key questions to pose:

Where is the question mark? What does that sentence ask? – How many bags does Sandy have now?

Ask students to focus on the word NOW. Explain that when they see this word, that might mean something has changed.

Discussion: Guide students through a discussion of the problem:

What do we know before the word NOW?

We know: Sandy has 36 bags of Takis.

We know: Mike buys 12 of Sandys bags, so we know Mike has 12 total bags.

We know: Mike bought from Sandy, so that must mean Sandys number of bags will GO DOWN.

We know that if a number needs to go down, we SUBTRACT.

You don't even have to solve the problem. That is not the point. The idea is that the students are discussing what they are seeing in the problem. They are making sense of it. They are visualizing it in their head.

If the problem allows, have the students get up and act it out. Have them be the people in the problem and actually do whatever is happening in the problem. This will deepen their understanding.

Repeat this process several different times, continuing to pull new problems from the bank. This is a great time to allow for turn and talks. Have students partner up and take turns explaining what they know. Explaining what the problem is asking them. Not making them solve the problem allows all students to access the problem, even struggling students.

Exit Ticket:

For an Exit Ticket, post one final problem. Simply have the students return to their seats and write down everything they know about the problem.

Lesson 4- Is there a total?

Standards:

3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for unknown number to represent the problem.

3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Objectives: SWBAT identify which operation they will need to use IOT solve word problems using the four operations.

Procedure:

This lesson will focus on figuring out if the problem is starting with a total or not. It builds off of the previous lesson, taking what the problem is asking for and finding what

information it has given, however, this lesson will focus on figuring out if you have a total. Following the same format as the previous lesson, this will be more discussion based and focus on talking about if you have a total to start with, and if not, what do you have? The idea of know if you have a total will be the key to using the PowerPoint in the next lesson. Following the what do you know and what is the problem asking, use the word problem bank to work through some examples to know if you have a total or only part.

Example 1:

Posted word problem: “There are nine trees currently in the park. Park workers will plant seven more trees today. How many trees will the park have when the workers are finished?”

What is it asking? How many trees will the park have?

What do we know: The park has 9 trees?

What do we know: Workers will plant 7 more.

Do we have a total: No

So, do we have a total yet? NO. We know there are 9 right now and 7 more are being planted. So, we do not have the total. We have two different parts, or sets of trees. Explain that since we are not given a total, that is what we are trying to find. In this case, to get the total we would have to add the trees we have and the new trees being planted to get the new total.

Do several more whole-group.

Example 2:

Posted Word Problem: “There are 15 children in the classroom. The teacher will give each student 2 pencils. How many pencils will the teacher have to give out?”

What is it asking? How many pencils will the teacher give out?

What do we know: there are 15 kids

What do we know: each kid gets 2 pencils

Do we have a total? No

So, do we have a total yet? NO. We know the number of kids and we know the number of pencils they will get. These are two groups, not a total. The total will be all the pencils the teacher will give out. SO, if each kid gets 2 pencils, and there are 15 kids, then you would need to multiply to get 30 pencils.

Exit Ticket:

Repeat this process as many times you feel necessary, pulling from the word problem bank, until you feel your students have gotten the understanding of whether or not there is a total given. To close out, put up one more fresh word problem and have the students again write out an exit ticket stating:

What is it asking:

What do we know:

Do we have a total:

Lesson 5- Choose your own adventure!

Standards:

3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for unknown number to represent the problem.

3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Objectives: SWBAT identify which operation they will need to use IOT solve word problems using the four operations.

Procedure:

This lesson will introduce “choose your own adventure” flow chart and guide students through its use. This will be whole group focused and show them how to use the chart, make the correct selections, and relate what they choose to the given word problem. Please note, this “choose your own adventure” chart will never fully “solve” a word problem for a student. It is used as a guide to help them realize and understand what operation they need to use. Students will still need to work out the math and solve for a final answer on their own.

Using the “Is there a total?” model from lesson 4, you will work through several word problems whole group. However, this time, you will have the flow chart pulled up on the projector/smart board and you will begin to walk the students through its use. Go through several word problem examples and click through the flow chart showing students how it works and how it will bring you to the correct operation to use. You can call on students to come up and click the chart, you can take a poll to decided what to click, however see it working best for your students. But the main goal is for students to see how the chart will work before going to use it on their own.

Once you have worked through several examples, now is time for students to practice how to access the flow chart on their own. Student will need individual laptops. My

classroom is familiar with google classroom and I would recommend having a link to the flow chart posted there. Walk the class through how to access it and how to start the using process. Students may be familiar with power point, however, in order for the flow chart to function, they need to be in a presentation mode.

Exit Ticket:

After working through everything whole group, have an informal exit ticket where each student shows you, they are able to access the flow chart, and get it up and running for tomorrows assessment.

Lesson 6- Go on an adventure!

Standards:

3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for unknown number to represent the problem.

3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.

Objectives: SWBAT identify which operation they will need to use IOT solve word problems using the four operations.

This lesson acts as a summative assessment for the unit. This lesson will allow the students to use the “choose your own adventure” flow chart on their own to help them navigate a set of word problems. It will be up to the teacher’s discretion to decide how long students can use the “choose your own adventure” chart, and which students will need it.

Students will need individual laptops and the final assessment sheet (Appendix C).

Keep in mind, the interactive flow chart is meant to be a learning tool to help guide and further students understanding of word problems. It is something that is meant to be used as needed, but not always. Some students may not even need it at all. Others may rely on it longer.

I have not had a chance to teach this unit yet, therefore I am being transparent when I say it is up to you. My thought is that this lesson should serve as an assessment to see how well they can solve word problems WHILE using the flow chart. However, moving forward I would continue on and offer another assessment at a later date, to see how well the students have mastered the standards without the flow chart tool.

Continued / Optional Lessons:

These lessons do not continue with the use of the flow chart which the unit was based around. However, depending on time/mastery of standards that your students may show, these are optional ideas to continue working on word problems. These are ideas and not full lessons, therefore do not have as much detail.

Optional Lesson 7- Write it out.

This is the lesson where students begin to show mastery of the standards by working backwards. They will do the opposite of what the previous lessons have been showing them. They will be taking an equation of their choice, and working backwards to write it out into a word problem with correct vocabulary. They will also be able to use these word problems to quiz other students in the class and as a check to see if their word problem will work using the “choose your own adventure” chart.

Optional Lesson 8 – Draw it out.

Continuing from the previous lesson, students will now take their written problem, and create a visual for it.

Optional Lesson 9 – Act it out.

This is the final lesson, where students will direct a “movie” for their word problem. Students will use the website Flip Grid (my class is now familiar with the website due to remote learning) to make their word problem movie. They can use themselves, their siblings, toys/action figures, manipulatives, etc. whatever they need in order to help their classmates visualize their word problem.

Resources

“Choose your own adventure” Power point

“Just visuals” Power Point

Flip-Grid website and student laptop

Manipulatives

Bibliography

Gojak, L., & Miles, R. H. (2016). *The common core mathematics companion: the standards decoded, grades 3-5: what they say, what they mean, how to teach them*. Thousand Oaks: Corwin Mathematics.

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Appendix

A:

PROBLEM SOLVING KEY WORDS

Addition	Subtraction	Multiplication	Division
sum	less than	times	split
plus	more than	total	each
and	decrease	of	cut
total	reduce	per	equal pieces
increase	difference	as much	average
more	remain	twice	every
raise	minus	by	out of

B:

Word Problem Bank

Mary earns \$12.50 an hour cleaning houses. If she works from 8:00am to 3:00pm, how much money will she make?

Keith had forty dimes in his bank. His dad gave him thirty - seven more dimes. How many dimes does Keith have now?

There was a total of seventy - two soccer games in the season, and three are played at night.

The season is played for nine months. How many games were played each month, if each month has the same number of games?

There are forty - three crayons and twenty pencils in the drawer. Tom took thirty - four crayons from the drawer. How many crayons are now in the drawer?

Jason bought six hundred fifteen crayons that came in packs of fifteen. There were five colors of crayons. How many packs of crayons did Jason buy?

Sandy's high school played thirty - eight soccer games this year, two of the games were played at night. She attended fifteen games. How many soccer games did Sandy miss?

There are 39 calories in a candy bar. Mike ate 44 candy bars. How many calories are there in 31 candy bars?

Sara bought 22 dozen eggs from the grocery store to bake some cakes. How many eggs did Sara buy?

A restaurant served 38 salads during lunch and 23 during dinner today. How many salads were served today?

Jessica had twenty - nine baseball cards, and thirty Pokémon cards. Alyssa bought eleven of Jessica's baseball cards. How many baseball cards does Jessica have now?

There are 5 children in the classroom, each student will get 2 pencils and 6 erasers. How many pencils will the teacher have to give out?

There are nine popular trees currently in the park. Park workers will plant seven more popular trees today. How many popular trees will the park have when the workers are finished?

Jason has ninety - six muffins, which he needs to box up, three of which are blueberry, into dozens. How many boxes does he need?

Jason found 16 seashells and Alyssa found 46 seashells on the beach. When they cleaned them, they discovered that 40 were cracked. How many seashells did they find together?

There were a total of 12 baseball games in the season. The season is played for 3 months. How many baseball games were played each month, if each month has the same number of games?

Mike had 16 dimes and 40 quarters in his bank. His dad borrowed 18 quarters from Mike. How many quarters does he have now?

Sandy has forty - three baseball cards. Mike bought thirty - six of Sandy's baseball cards. How many baseball cards does Sandy have now?

Tom has four green marbles. Tim has two times more green marbles than Tom. How many green marbles does Tom and Tim have?

Joan has saved 9 quarters from washing cars. How many cents does Joan have?

There are 6 oak trees and 8 rose bushes currently in the park. Park workers had to cut down 2 oak trees that were damaged. How many oak trees will be in the park when the workers are finished?

There are 930 students at a school, and 410 of them are boys. If each classroom holds 30 students, how many classrooms are needed at the school?

A restaurant served 33 salads during lunch and 26 during dinner today. How many salads were served today?

Jessica bought 27 dozen eggs from the grocery store to bake some cakes. How many eggs did Jessica buy?

There are thirty - two pine trees and sixteen popular trees currently in the park. Park workers will plant forty - three more pine trees today. How many pine trees will the park have when the workers are finished?

There are forty - five scissors in the drawer. Keith placed forty - six more scissors in the drawer. How many scissors are now there in all?

There were a total of fifty - four baseball games in the season. The season is played for six months. How many baseball games were played each month, if each month has the same number of games?

Keith's high school played twenty football games this year. He attended seventeen games. How many football games did Keith miss?

Jessica has 39 yellow marbles and 18 violet marbles. Keith has 38 times more yellow marbles than Jessica. How many yellow marbles does Jessica and Keith have?

Jason grew thirty - six pumpkins and forty - three carrots, but the rabbits ate twenty - three pumpkins. How many pumpkins does Jason have left?

Keith picked twenty - four pears and ten apples from the orchard. He gave twelve pears to Melanie. How many pears does Keith have left?

C:

Final Assessment Sheet:

- 1) Melanie has one hundred eight muffins, which he needs to box up into dozens. How many boxes does she need? _____
- 2) Sara picked 42 limes and 40 plums from the orchard. She gave 29 limes to Tim. How many limes does Sara have left? _____
- 3) There was a total of eighteen football games in the season. The season is played for nine months. How many football games were played each month, if each month has the same number of games? _____
- 4) Sally has twenty - four orange and twenty - six green balloons. Tim has eighteen orange balloons. How many orange balloons do they have in all? _____
- 5) Benny, Jason, Joan, and Fred each have 19 baseball cards. How many baseball cards do they have in all? _____
- 6) Fred has saved 2500 cents over 9 days from selling lemonade. How many dollars does Fred have? _____
- 7) Sandy has 42 yellow and 31 red marbles. Joan took 32 of Sandy's yellow marbles. How many yellow marbles does Sandy now have? _____
- 8) A diner served four pizzas during lunch and eight during dinner today. It served five of them yesterday. How many pizzas were served today? _____
- 9) Sandy has five books. Jessica has six times more books than Sandy. How many books does Jessica have? _____
- 10) Fred grew 8 cantaloupes and 2 watermelons. Benny grew 9 cantaloupes. How many cantaloupes did they grow in all? _____

Standards

3.OA.A.3 Use multiplication and division within 100 to solve word problems in situations involving equal groups, arrays, and measurement quantities, e.g., by using drawings and equations with a symbol for unknown number to represent the problem.

3.OA.D.8 Solve two-step word problems using the four operations. Represent these problems using equations with a letter standing for the unknown quantity. Assess the reasonableness of answers using mental computation and estimation strategies including rounding.