

Problem Solving Toolbox Notes

Problems with Word Problems...

Notes:

Tools & Tips

#1 Models

#2 Equations

#3 PPW Models

#4 Number Lines

Step by Step Approach

This numberless word problem lesson goes step by step to help build conceptual understanding of what is happening in the problem. There is no one right way to teach word problems but these steps might give you some ideas. Feel free to change it up to meet the needs of your students.

Step 1: As you read the problem, students should close their eyes and visualize what is happening. I always tell my students they need to make a movie in their mind just like when they read a book. They can even draw a picture or you can draw one on the board to help students visualize the problem. After you read the problem you can talk about the problem – what is happening, what the problem is about, is the number of objects getting bigger or smaller, etc. This discussion will help all students fully understand the problem.

Step 2: After the discussion in Step 1 students should have some ideas for how to solve. In step 2 let students share their ideas. They might talk about modeling (drawing a picture, using cubes, etc), setting up a part-part-whole model, or writing an equation. I always like to ask follow up questions like, “Will you add more cubes to your model or take some away?” “Will you be adding or subtracting in your equation? Why?” (this is where talking about the number of objects getting bigger or smaller in step 1 helps). If you are doing the part-part-whole models you could label the parts during this step. There are obviously tons of ways to solve problems. You can choose to pick 1 plan to do together as a class or let students pick a plan they like best and then solve on their own.

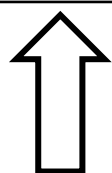
Step 3: Scroll to the next slide to reveal the numbers in the problem. Reread the problem and encourage students to visualize it one more time. I try to discourage them from beginning to draw/write their solutions the first time I reread it. Depending on my class I will then slowly re-read the problem sentence by sentence so they can draw their models or write their equations.

Step 4: This is when students will get their final answer and check to make sure it makes sense with the problem (did it get bigger/smaller like had been discussed). This is also a great time to let students share their solutions with the class. I included a blank slide with a work space and moveable counters so students can show their models or you can use the scribble or text box features to write in equations.

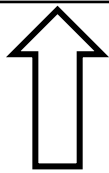
How to Use the Teacher Guide

The next page has a teacher guide to go with the Google Slide lesson on addition change unknown word problems. You can feel free to adjust this to fit the needs of your students. It could also be left for a sub or other teacher working with your students. Each teacher guide has 4 columns and each row features a different word problem.

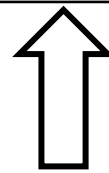
Problem	Step 1	Step 2	Steps 3 & 4
#1 George saw 8 bears in the woods. Then he saw some deer in the woods. He saw 15 animals total. How many deer did he see?	Q: What is in our problem? A: bears and deer Q: Is the number of animals getting bigger or smaller? A: Bigger because he sees some deer	Model: We could draw 15 circles to show the total and then circle 8 to show bears PPW: Part-bears, Part-deer Equation: $8 + \underline{\quad} = 15$	Reread the problem with the numbers and carry out the plan chosen in step 2. This can be done individually or as a whole class. Answer: 7



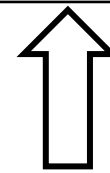
You can pre-read the problem with numbers to help with your planning before beginning the lesson.



Sample Q & A that you can use to help students understand what is happening in the problem.



These are some ideas students might come up with for how to solve the problem. For part-part-whole (PPW) I included ideas of what you could label the parts.



This column includes the answer for easy checking if you choose to have students work independently before revealing the answer on the Google Slide.

Lesson 2 – Teacher Guide

Problem	Step 1	Step 2	Steps 3 & 4
#1 George saw 8 bears in the woods. Then he saw some deer in the woods. He saw 15 animals total. How many deer did he see?	Q: What is in our problem? A: bears and deer Q: Is the number of animals getting bigger or smaller? A: Bigger because he sees some deer	Model: We could draw 15 circles to show the total and then circle 8 to show bears PPW: Part-bears, Part-deer Equation: $8 + \underline{\quad} = 15$	Reread the problem with the numbers and carry out the plan chosen in step 2. This can be done individually or as a whole class. Answer: 7
#2 Marcos ran 5 laps on Tuesday. He ran more laps on Wednesday. If he ran a total of 14 laps, how many laps did he run on Wednesday?	Q: What is in our problem? A: a boy running laps Q: Is the number of laps getting bigger or smaller? A: Bigger because he's running more on Wednesday	Model: We could draw 14 laps to show the total and circle 5 to show Tuesday PPW: Part-Tues, Part-Wed Equation: $5 + \underline{\quad} = 14$	Reread the problem with the numbers and carry out the plan chosen in step 2. This can be done individually or as a whole class. Answer: 9
#3 Paula put 6 yellow flowers in a vase. Then she put some blue flowers in the vase. There are 12 flowers in the vase altogether. How many blue flowers are there?	Q: What is in our problem? A: yellow and blue flowers Q: Is the number of flowers getting bigger or smaller? A: Bigger because she added blue flowers	Model: We could draw 12 circles to show the total and then circle 6 to show yellow PPW: Part-yellow, Part-blue Equation: $6 + \underline{\quad} = 12$	Reread the problem with the numbers and carry out the plan chosen in step 2. This can be done individually or as a whole class. Answer: 6
#4 Isa baked 8 cupcakes. She also baked some cookies. She baked 20 treats in all. How many cookies did she bake?	Q: What is in our problem? A: cupcakes and cookies Q: Is the number of treats getting bigger or smaller? A: Bigger because she made cookies	Model: We could draw 20 to show the total and circle 8 to show cupcakes PPW: Part- cupcakes, Part-cookies Equation: $8 + \underline{\quad} = 20$	Reread the problem with the numbers and carry out the plan chosen in step 2. This can be done individually or as a whole class. Answer: 12

Name: _____

Lesson 2

Numberless Word Problem Lesson

#1 George saw ____ bears in the woods. Then he saw some deer in the woods. He saw ____ animals total. How many deer did he see? ____

#2 Marcos ran ____ laps on Tuesday. He ran more laps on Wednesday. If he ran a total of ____ laps, how many laps did he run on Wednesday? ____

#3 Paula put ____ yellow flowers in a vase. Then she put some blue flowers in the vase. There are ____ flowers in the vase altogether. How many blue flowers are there? ____

#4 Isa baked ____ cupcakes. She also baked some cookies. She baked ____ treats in all. How many cookies did she bake? ____

Name: _____

Lesson 2

Numberless Word Problem Practice

#1 Julio found ____ pennies in his pocket. He found more in his backpack. He found ____ pennies total. How many were in his backpack? ____

#2 Tanya earned ____ for selling lemonade and some money for walking her neighbor's dog. She earned ____ total. How much money did she earn walking the dog? ____

#3 There were ____ flowers in the garden. Pat planted some more flowers. Now there are ____ flowers in the garden. How many flowers did Pat plant? ____

#4 A frog ate ____ flies in the morning and some more flies in the afternoon. If it ate a total of ____ flies, how many did it eat in the afternoon? ____

Name: _____

Lesson 2

Word Problem Assessment

#1 A baseball team scored 3 runs in the first inning and some more runs in the second inning. They scored 12 runs total. How many did they score in the second inning? _____

#2 There were 8 red birds in a tree. Some yellow birds joined them. Now there are 17 birds in the tree. How many yellow birds are there? _____

#3 Lila spent \$8 on a movie ticket and some money on popcorn. If she spent \$12 total, how much money did she spend on popcorn? _____

#4 Ryan swam 7 laps in the morning and more laps in the afternoon. If he swam 14 laps total, how many laps did he swim in the afternoon? _____

Love the Sample?

Grab ready to go google slide lessons and student pages to practice numberless word problems with your students.

Numberless Word Problems

#1 Step 1: Visualize the problem – bigger or smaller?
Step 2: Make a plan – what model will you use?

Lee caught some fish on Sunday. He caught more fish on Monday. How many fish did he catch in all?

Numberless Word Problem Lesson

Name: _____

#1 Lee caught _____ fish on Sunday. He caught _____ fish on Monday. How many fish did he catch in all? _____

#2 He put _____ red flowers and _____ flowers in a vase. How many flowers are in the vase? _____

#3 There were _____ monkeys in a tree. _____ monkeys joined them. How many monkeys are in the tree? _____

#4 Sal ate _____ cookies. Then _____ more cookies. How many cookies did he eat in all? _____

Addition Sums to 20 Bundle

Foreman Fun