

1ST GRADE

TM

POWER



Problems

TANYA YERO Teaching

Name:

Dylan was counting from 95 to 102.
Here is how he did it:

95	96	97	98	99	9010	9011
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Dylan is very confused. Explain to him what went wrong, and how he can fix it.



Name:

Sue feels like the problem $12 = \underline{\quad} - 5$ is too complicated. She thinks she can rewrite the problem so that it is easier to solve. Is Sue right? What is one way she can rewrite the equation?

Name:

Explain how you can determine if $7 - 9 = 3$

PREVIEW QUESTIONS:

Name:



POWER
PROBLEM
1.OA.3

Luke thinks that to add $8 + 4 + 6$ it is easiest to add the first 2 addends first, and then add the 3rd addend. Is Luke's strategy correct? What is another strategy you can use to solve this problem?

Name:



POWER
PROBLEM
1.OA.7

Katy thinks that $12 - 3$ does equal $6 + 3$. Rob thinks Katy is wrong because one problem is addition and the other one is subtraction. Who is correct? Explain why.

Name:



POWER
PROBLEM
1.NBT.2

What is the largest number you can have with 1 ten and some ones, before you have to regroup to make another ten?

Name:



POWER
PROBLEM
1.NBT.1

Kiki was counting and writing from 98 to 106. This is the sequence she wrote:

98	99	100	1001	1002	1003	1004	1005	1006
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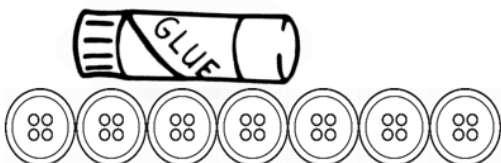
Explain Kiki's error, and how you would fix it.

Name:



POWER
PROBLEM
1.MD.2

Nancy is also using buttons to measure. She thinks the glue stick is 4 buttons long. What would you tell Nancy about her measuring?



Name:



POWER
PROBLEM
1.NBT.4

Beth needs to solve the following problem:
If you have \$25 and get \$20 more dollars, how much money will you have?
a. What number sentence can she write to demonstrate the problem?
b. Explain a strategy she can use to solve it.

WHAT ARE POWER PROBLEMS?



PURPOSEFUL - These problems are meant to keep students focused, while strengthening initiative and perseverance.



OPPORTUNITIES - These prompts can be used in a variety of ways. P.O.W.E.R problems can be used to introduce a lesson, spiral review, or as formative assessments.

WITH



ENGAGEMENT - Problems are real word applicable and designed to hook students with interest and presentation. Complexity of problems promotes problem solving skills.



RIGOR - Tasks are specifically designed to challenge students and assess conceptual understanding of curriculum versus procedural understanding. Students will need to apply more than just a "formula."

WHY USE POWER PROBLEMS?

BUILD STAMINA WITHIN YOUR STUDENTS



MORE THAN JUST A COOKIE CUTTER TEXTBOOK APPROACH

- P.O.W.E.R problems are designed to challenge your students with their open ended presentation. Majority of problems that come from textbooks and workbooks assess procedural understanding of curriculum. Some textbooks even provide step by step instructions where the textbook is thinking for the students and taking away that "productive struggle" for children. When we rob students of that event, we rob them of their ability to reason, problem solve, and see beyond a standard algorithm. P.O.W.E.R problems are meant to show students that there are different ways to answer one question in math. With these tasks students take ownership and are part of the problem solving process versus filling in blanks in a textbook.

HOW TO USE POWER PROBLEMS

YOUR KIDS. YOUR
CHOICE. FLEXIBILITY.



TO INTRODUCE A LESSON - P.O.W.E.R problems can be used to introduce a new skill. In this case your students will experience a "productive struggle." Their problem solving skills and prior knowledge will kick in. Often times most of my students will have the incorrect answer or no answer at all. I then have someone explain their method/reasoning and allow my students to critique their peer's answer. This makes for great accountable talk discussions. If I see that most students do not have an answer I will assist the class in getting to a specific point and then allow them to finish independently.



SPIRAL REVIEW - Avoid your students forgetting standards by using P.O.W.E.R problems to spiral review previously taught lessons.



FORMATIVE ASSESSMENTS - You can use these problems to assess mastery and levels of understanding.

Don't miss out on more **P**OWER MATH FUN!

 RIGOROUS
QUESTIONS

 TEST PREP
RESOURCES

 CONCEPTUAL
THINKING

 OPEN ENDED
QUESTIONS

