


Unlocking Problem Solving for ALL Students K-2

Part-Part-Total - All combinations

There were 5 animals in a pond. If they could only be ducks and/or frogs, what are all the possibilities?

animals	
5	
?	?
ducks	frogs



$5+0=5$ $5=5+0$
 $4+1=5$ $5=4+1$
 $3+2=5$ $5=3+2$
 $2+3=5$ $5=2+3$
 $1+4=5$ $5=1+4$
 $0+5=5$ $5=0+5$

Workshop Notebook



Welcome to the Unlocking Problem Solving K-2 Workshop!



I am so excited you are here! In this workshop, we are going to explore the various problem types involving addition and subtraction, modeling the structure of the story types, providing flexibility in the calculation of answers, and explore a bunch of ways we can engage students in the process of problem solving. Once we know the research behind the problem types and the best ways to engage in problem solving, we will be better to provide positive math journeys for ALL our students!

This notebook will help you:

- record and organize your biggest takeaways
- provide you time for reflection
- easily keep track of your action steps

Let's get started!



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Word Problem Types

Before you begin the workshop, write a story problem that involves single-step addition or subtraction.

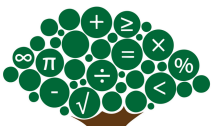
Problem Types - Jot down some notes on the 4 types of story problems from the research of Cognitively Guided Instruction.

Add To

Description

Model

Sample story problems



Take From

Description

Model

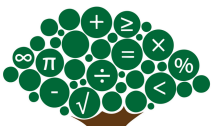
Sample story problems

Part-Part-Whole

Description

Model

Sample story problems



Comparison - Easier Versions

Description

Model

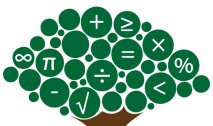
Sample story problems

Comparison - Harder Versions

Description

Model

Sample story problems



Look back at the story problem you wrote at the beginning of the workshop. what problem type was it and where was the unknown?

What problem type was the story you wrote? _____

Where was the unknown? _____

Which grade level is it expected students would have mastered it? _____

Strategies

what we do with the numbers

Examples:

Models

how we make our thinking visible (CRA)

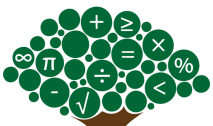
Examples:



Notes on Modeling!



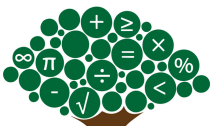
Action Items!



Notes on Addition Fact Fluency

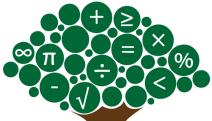


Action Items!



Notes on Subtraction Fact Fluency

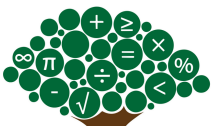
Action Items!



Notes on Subtraction Fact Fluency



Action Items!



Notes on Addition within 100

Partial Sums

Round and Adjust

Add by Place Value

Decompose To Make
Friendlier Numbers

Action Items!



Notes on Subtraction within 100

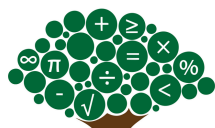
Subtract Subtrahend
by Place Value

Round and Adjust

Find Distance
(add/sub)

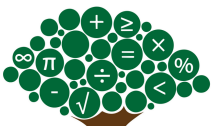
Constant Distance

Action Items!



Notes on Problem Solving

Action Items!



Top Ideas for Engaging In Problem Solving

Worked Examples

Picture That!

Give Students Models or Equations and have them write stories

Have Students Sort Problems By Problem Type

Provide Choices of Numbers

Give just an answer like 16 hats and students write stories.



Top Ideas for Engaging In Problem Solving

Bet Lines

Info Gap

Numberless Word Problems

3 Reads Routine



Top Ideas for Engaging In Problem Solving

Building Thinking Classrooms

3 Act Tasks

Open Middle Tasks



Calculate the Time Spent on Workshop

Watching all the Videos in the Workshop
and reflecting in Workshop Handbook
(5 hours) _____

Story Problem Sort Activity: _____

Model Matching Activity _____

Watching Brainingcamp Webinar on
Problem Solving K2 with Ann Elise and Dr
Nicki (1 hour) _____

Listened to Teacher As Podcast Top 10
Ways to Explore Problem Solving Episode
with Ann Elise and Dr Nicki. (1 hour) _____

Total Time for Class Certificate _____

Be sure you check with your school district to be sure they will honor the professional development hours. Then, email Ann Elise a copy of this form and she will email you your certificate.



Keep in Touch!

Be sure to subscribe to my monthly newsletter on my website at www.anneliserecord.com.



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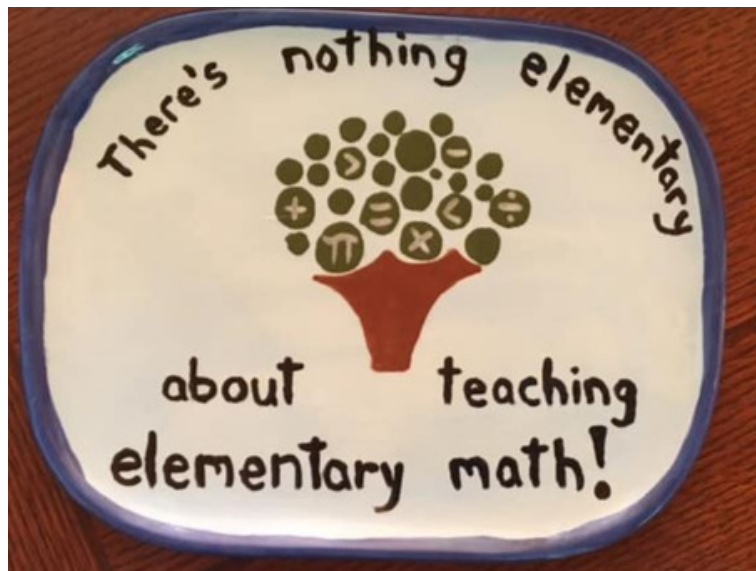
Facebook groups: [Elementary Math with Ann Elise](#), Facilitator of [Math Running Records](#) and [Build Math Minds](#)



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