

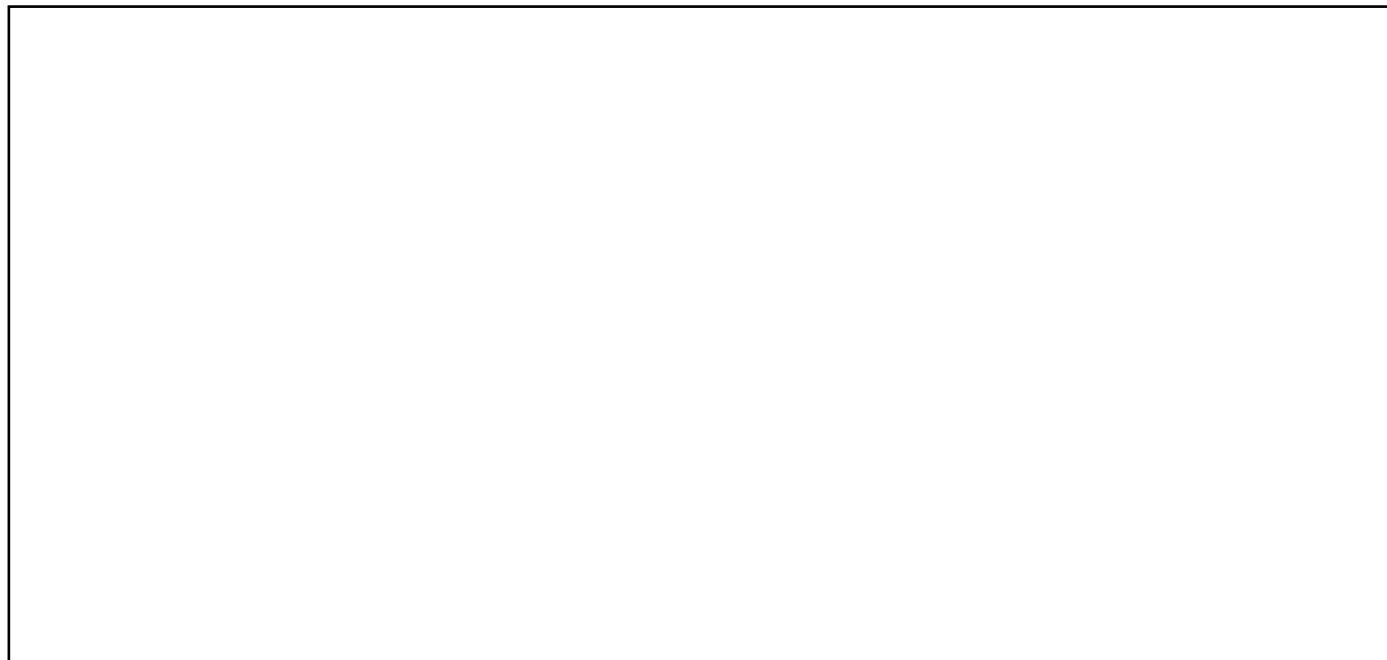
Effective Mathematics Practices

DAY 1

srpowell@utexas.edu @sarahpowellphd

www.sarahpowellphd.com

Mathematical Trajectories



Critical Content

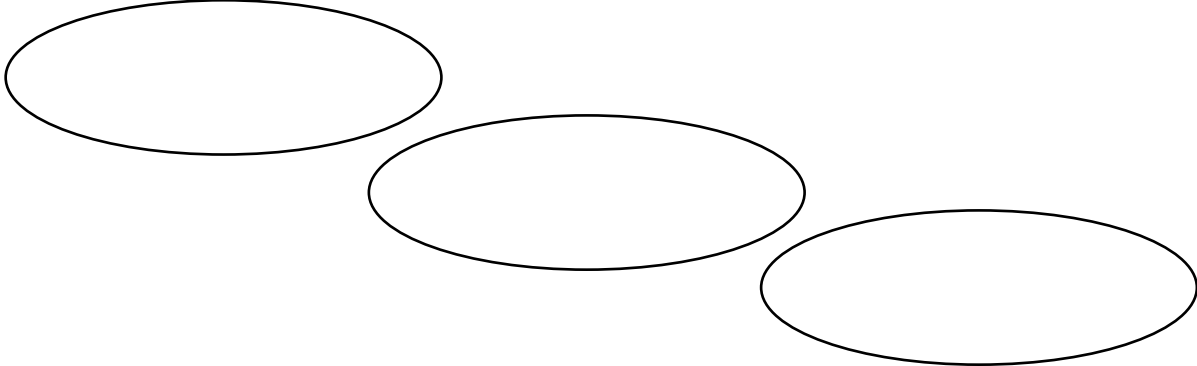


Evidence-Based Practices

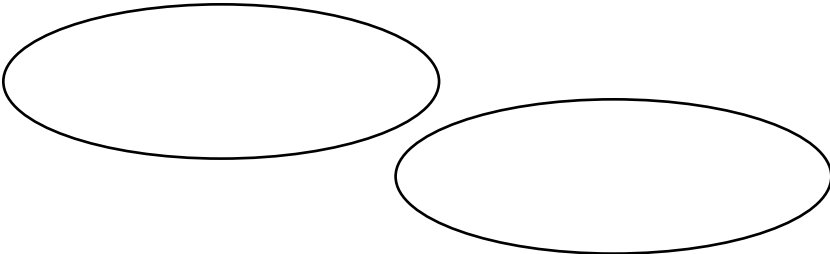
A large, empty rectangular box with a thin black border, occupying most of the page below the title. It is intended for the user to write or draw their response to the title.

Instructional Platform

Instructional Delivery



Instructional Strategies



Explicit Instruction

MODELING

PRACTICE

SUPPORTS

Explicit Instruction

Problem

Step-by-Step Explanation

Explicit Instruction

Problem

Practice Opportunities

High-Level Questions

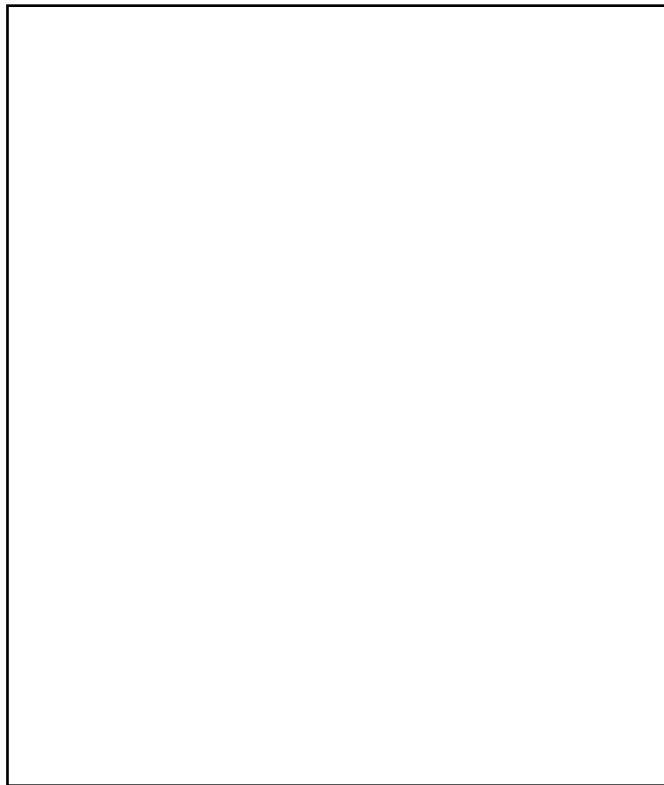
Low-Level Questions

Affirmative Feedback

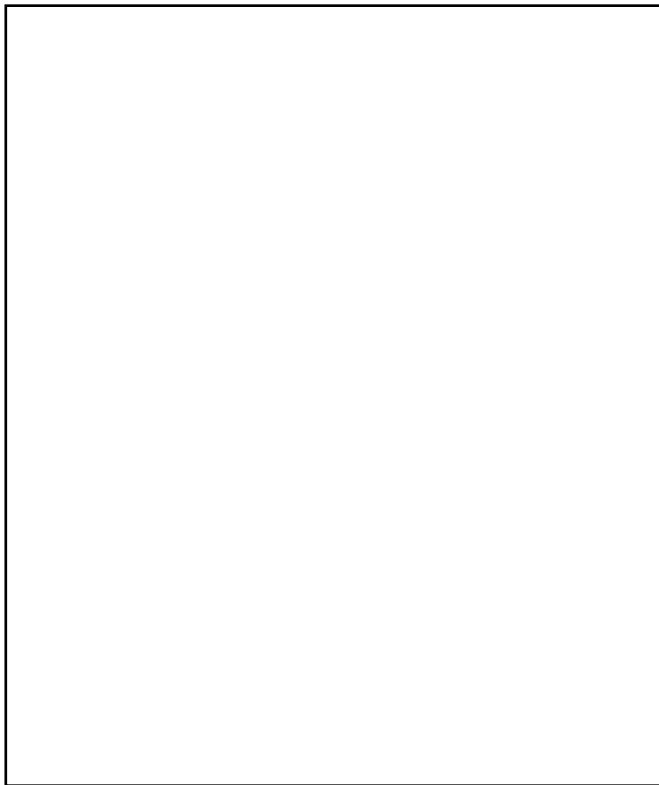
Corrective Feedback

Fluency

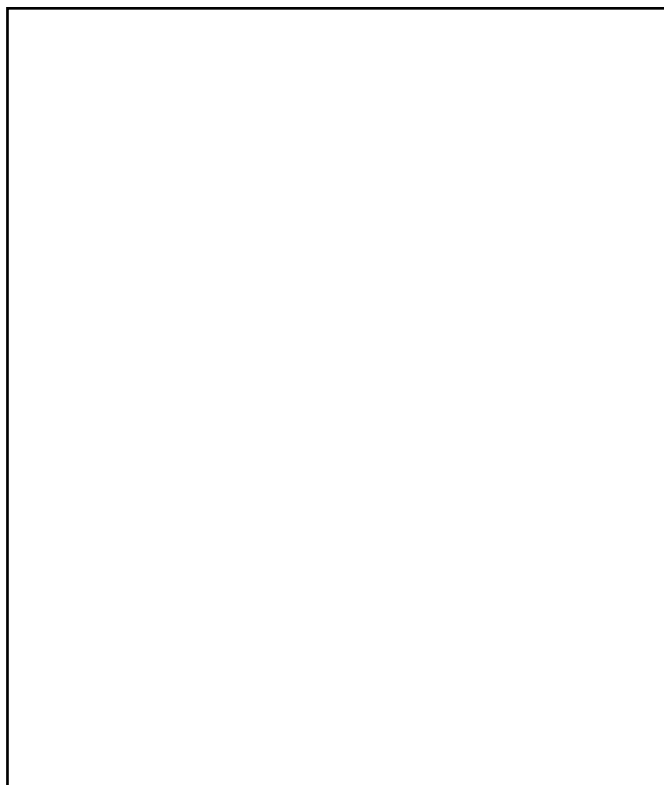
Addition



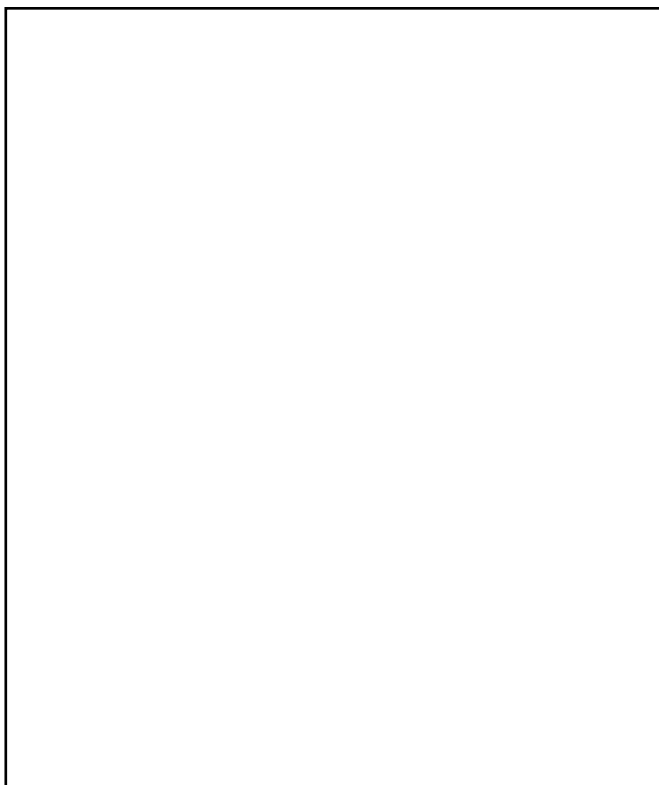
Subtraction



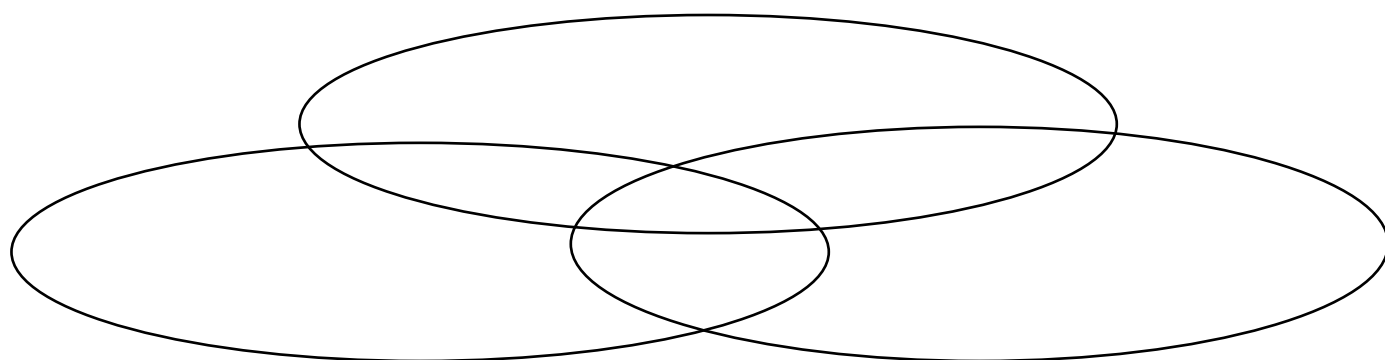
Multiplication



Division



Multiple Representations



Addition and Subtraction Computation

$227 + 185 =$

$232 - 164 =$

Multiplication and Division Computation

$$13 \times 7 =$$

$$135 \div 5 =$$

$$13 \times 47 =$$

$$804 \div 12 =$$

Fraction Concepts

Fraction	Length	Area	Set
$\frac{2}{3}$			
$\frac{1}{4}$			
$1\frac{1}{2}$			
$\frac{3}{7}$			

Integers

Addition and Subtraction

Problem	Representation
$3 + (-5)$	
$-2 + 6$	
$3 + (-1)$	
$-3 - 4$	
$2 - 5$	
$-2 - (-6)$	
$-3 - 2$	

Solving Equations

With Cups/Plates and Counters

Problem	Representations
$x + 2 = 5$	
$x + 2 = 5$	
$4 + x = 6$	
$5 = x - 3$	
$-2 = x + 3$	

With Algebra Tiles

Problem	Representations
$x + 2 = 5$	
$4 + x = 6$ $x + 3 = 7$	
$y - 4 = 2$	
$5 = x - 3$ $y - 2 = 5$	

Solving Equations

With Algeblocks

Problem	Representations
$x + 2 = 5$	
$4 + x = 6$	
$-2 = x + 3$	
$-1 = y - 4$	
$2x + 2 = 6$	
$x + 4 = 3x$	
$2(x + 3) = x + 4$	
$2x - 4 = 1 + 3x$	
$3y - 5 = -y - 1$	
$1 - x = x + 1$	

Geometry