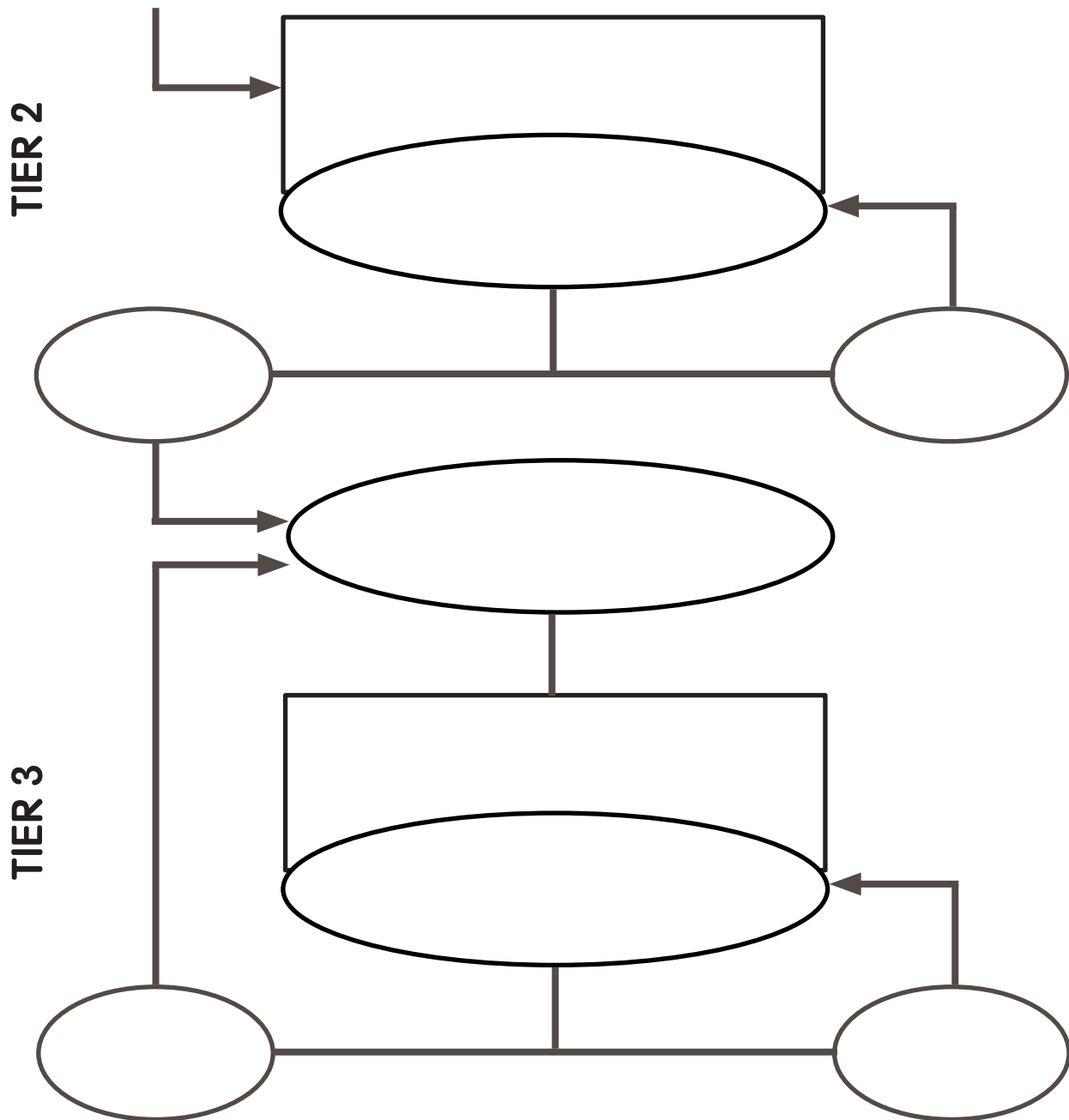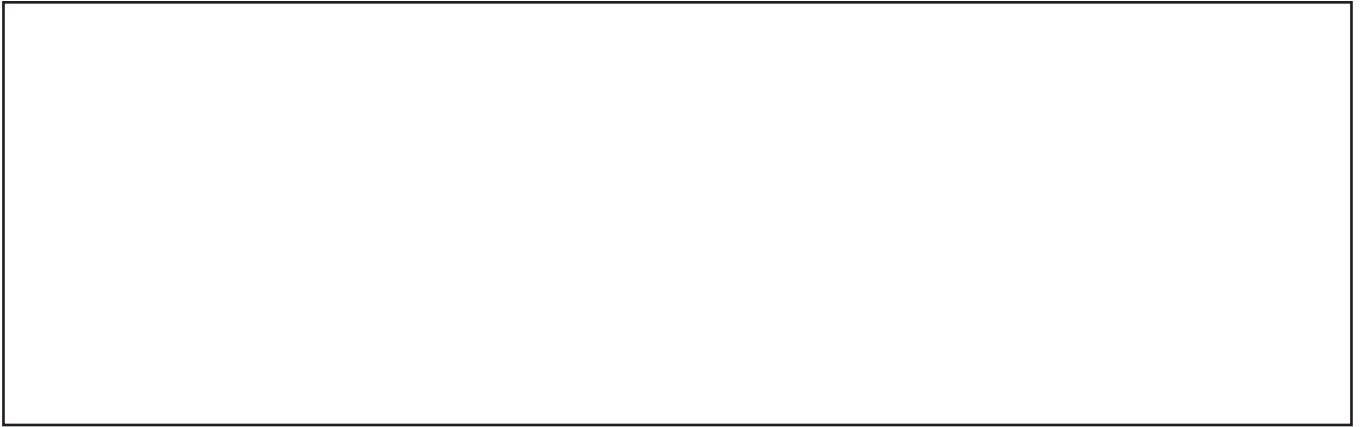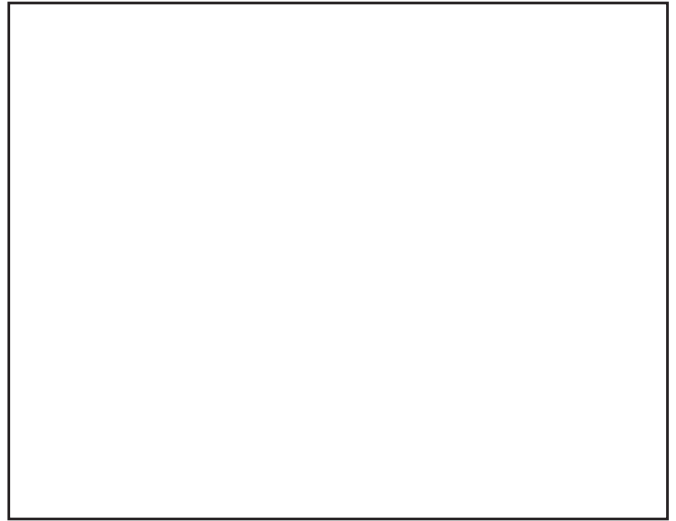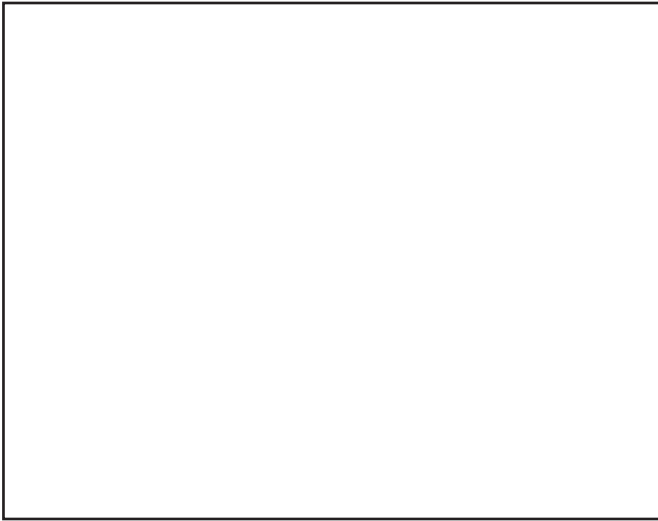# Data-Based Individualization in Mathematics

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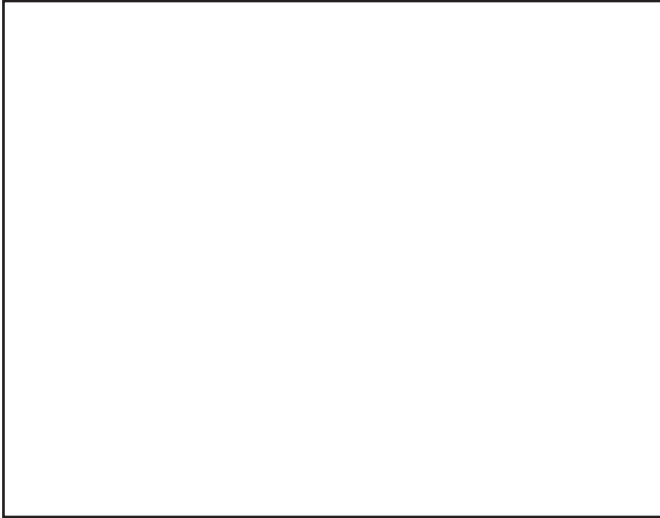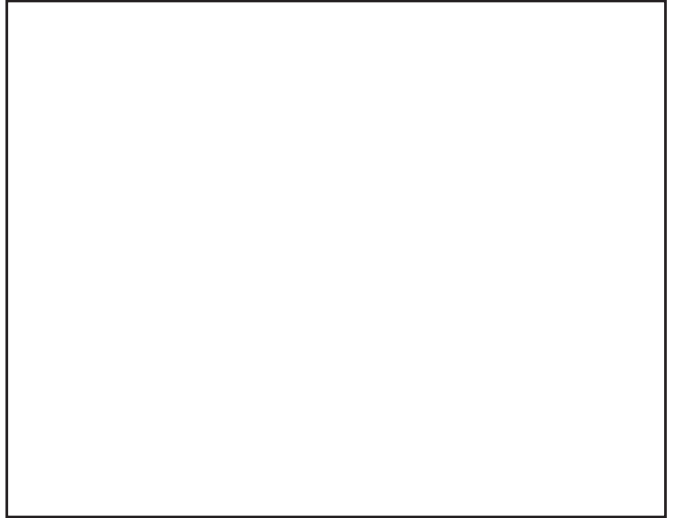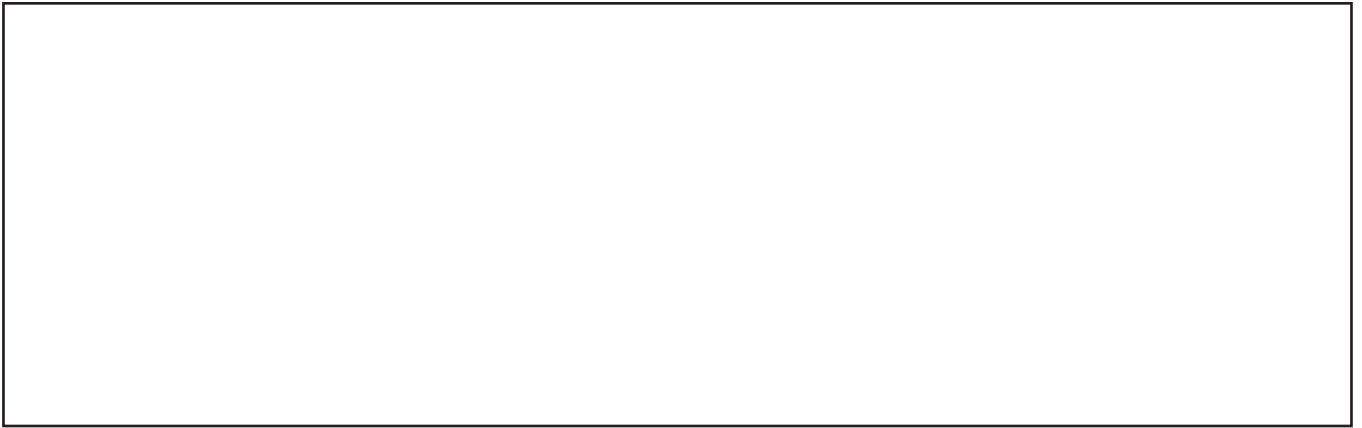
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TIER 2

TIER 3

Explicit Instruction

Your Example

Mathematical Language

Instead of that...	Say this...

Multiple Representations
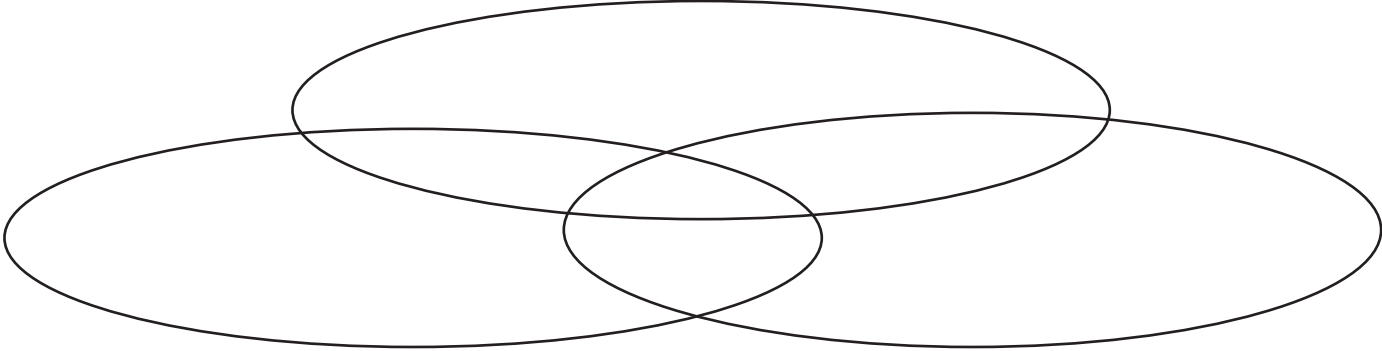
Fractions

Three Models

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

Improper Fractions and Mixed Numbers

Equivalent Fractions

$$\frac{1}{2} \qquad\qquad\qquad \frac{1}{4}$$

Comparing Fractions

$$\frac{1}{2} \quad \frac{3}{10} \qquad\qquad \frac{2}{6} \quad \frac{4}{6} \qquad\qquad \frac{2}{3} \quad \frac{2}{5}$$

Ordering Fractions
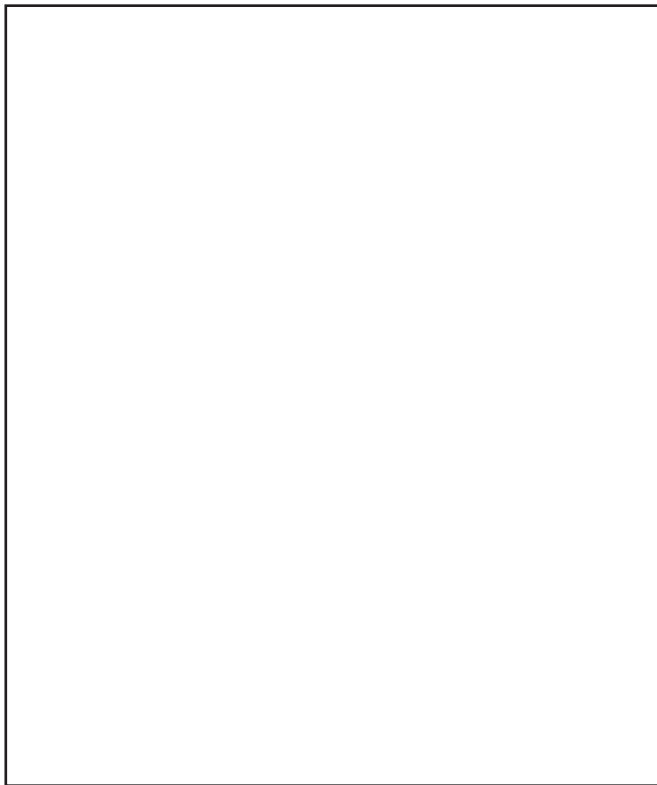
$$\frac{6}{8} \quad \frac{3}{5} \quad \frac{1}{3}$$

Fluency

Addition
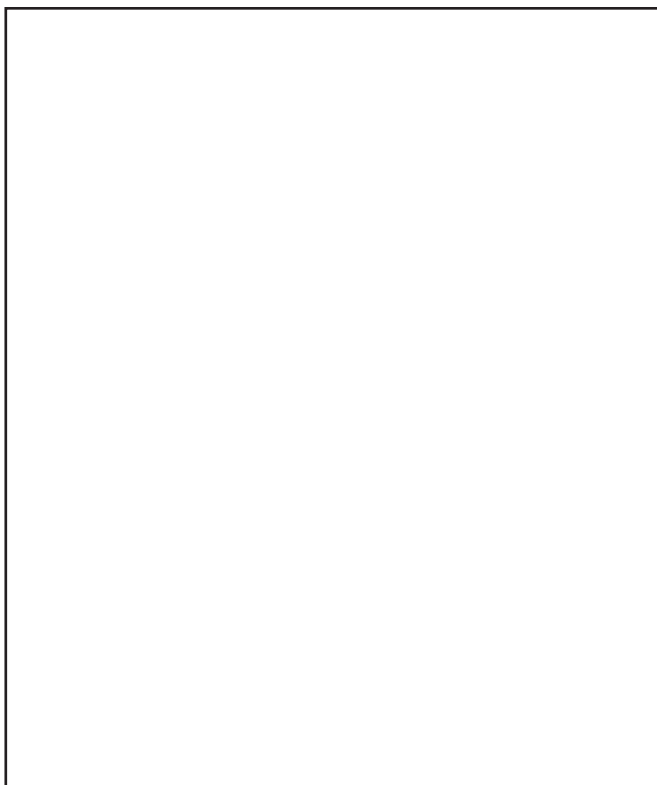
Subtraction

Multiplication

Division

Problem Solving

Three Things to Remember

Attack Strategies

Additive Word Problems

Problem type	Definition	Examples			Equation	Graphic organizer
Total		Total unknown	Part unknown			
Difference		Difference unknown	Greater unknown	Lesser unknown		
Change (increase)		End unknown	Start unknown	Change unknown		
Change (decrease)		End unknown	Start unknown	Change unknown		

Additive Word Problems

A.
Megan baked 28 sugar cookies and 24 chocolate chip cookies. Enter the total number of cookies Megan baked in all.

B.
A banana farm received a total of 12 millimeters of rain in March and April. If 11 millimeters of rain fell on the farm in March, how many millimeters of rain fell on the farm in April?

C.
Jana has 107 wooden beads and 68 glass beads. How many more wooden beads than glass beads does Jana have?

D.
Farmer Hank has 6 more cows than horses. He has 4 horses. He also has 9 chickens. How many cows does he have?

Additive Word Problems

E.
A bus had 13 passengers. At the next stop, more passengers got on the bus. Now, there are 28 passengers. How many passengers got on the bus?

F.
Martina had some money. Then, she spent $42 on a sweater. Now, she has $13. How much money did she have to start with?

G. The animal park has 12 zebras, 25 monkeys, and some giraffes. If the total number of animals is 50, how many giraffes are there?

H. Mrs. Lanier saved $617 in January. In February, she spent $249 of the money she saved. She saved $291 more in March. How much has Mrs. Lanier saved by the end of March?

Multiplicative Word Problems

Problem type	Definition	Examples	Equation	Graphic organizer
Equal Groups				
Comparison				
Combinations				
Ratios and Proportions				

Multiplicative Word Problems

A.
Ms. Thompson sold 6 cartons of cherries at the Farmers' Market. Each carton holds 25 cherries. How many cherries did she sell?

B.
Jane bought 24 light bulbs. The light bulbs come in packs of 4. How many packs of light blubs did Jane buy?

C.
Isabella has 2 times as many DVDs as Emma. Emma has 6 DVDs. How many DVDs does Isabella have?

D.
Susan has 3 times as many books as Mary. Mary has 18 books. Which equation can be solved to figure out how many books Susan has?

Multiplicative Word Problems

E.	F.
There are 176 slices of bread in 8 loaves. If there are the same number of slices in each loaf, how many slices of bread are in 5 loaves?	A sea turtle made 460 dives in 12 hours. At this rate, how many dives did the sea turtle make in 3 hours?

Adaptations

Implement with greater fidelity	
Embed behavioral supports	
Increase dosage	
Adapt mathematics content	
Utilize explicit instruction	
Explicitly teach transfer	