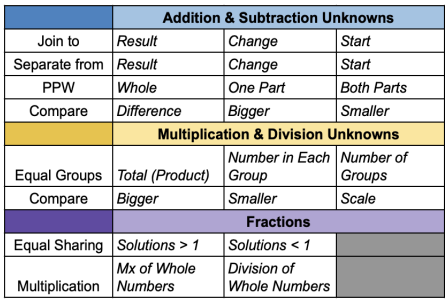
Education

MATH JUSTICE LEAGUE
CREATING CAPABLE, CURIOUS,
& COURAGEOUS MATHEMATICIANS

K-5 Problem Solving Routine Anticipatory Framework

Mathematical Understanding Goal	Problem Type	Problem
Students will understand…		(*Type problem here*) Equation to match problem context:

	Addition & Subtraction Unknowns		
Join to	*Result*	*Change*	*Start*
Separate from	*Result*	*Change*	*Start*
PPW	*Whole*	*One Part*	*Both Parts*
Compare	*Difference*	*Bigger*	*Smaller*
	Multiplication & Division Unknowns		
Equal Groups	*Total (Product)*	*Number in Each Group*	*Number of Groups*
Compare	*Bigger*	*Smaller*	*Scale*
	Fractions		
Equal Sharing	*Solutions > 1*	*Solutions < 1*	
Multiplication	*Mx of Whole Numbers*	*Division of Whole Numbers*	

Comprehension Question and Exemplary Response:

Anticipate Student Models, Strategies, and Manipulatives + Monitoring Table

Anticipated Strategy	Anticipated Strategy	Anticipated Strategy
Anticipated Strategy	**Anticipated Strategy**	**Anticipated Strategy**

See our anticipatory planning guide for additional support in planning an inquiry math lesson that uses a Launch, Explore, Discuss, Synthesize lesson structure and the 5 Practices for Orchestrating Productive Discourse. (bit.ly/mathAFguide)

LESSON PLAN

Launch & Explore:

How will you introduce the task in a way that **(A)** provokes student **curiosity**, **(B)** ensures **access**, **(C)** maintains **cognitive demand**, and **(D)** sets students up to use **manipulatives and tools** effectively?

Discussion & Synthesis: Plan to Select, Sequence, & Connect

Selected Student Work, Key Discussion Questions, & Active Engagement Strategies *(3 columns assumes 3 student strategies shared, add/delete as needed)*		
Initial Thinking Question:		
Board/Chart Plan: How you plan to visually capture and organize student thinking in support of students making the intended connections		
Synthesis Question: What will you ask to help students articulate new learning (math understanding goals) and how will that be shared?		
Individual Student Reflection: What will you ask to prompt students to reflect on learning? What data will you collect to inform next steps?		