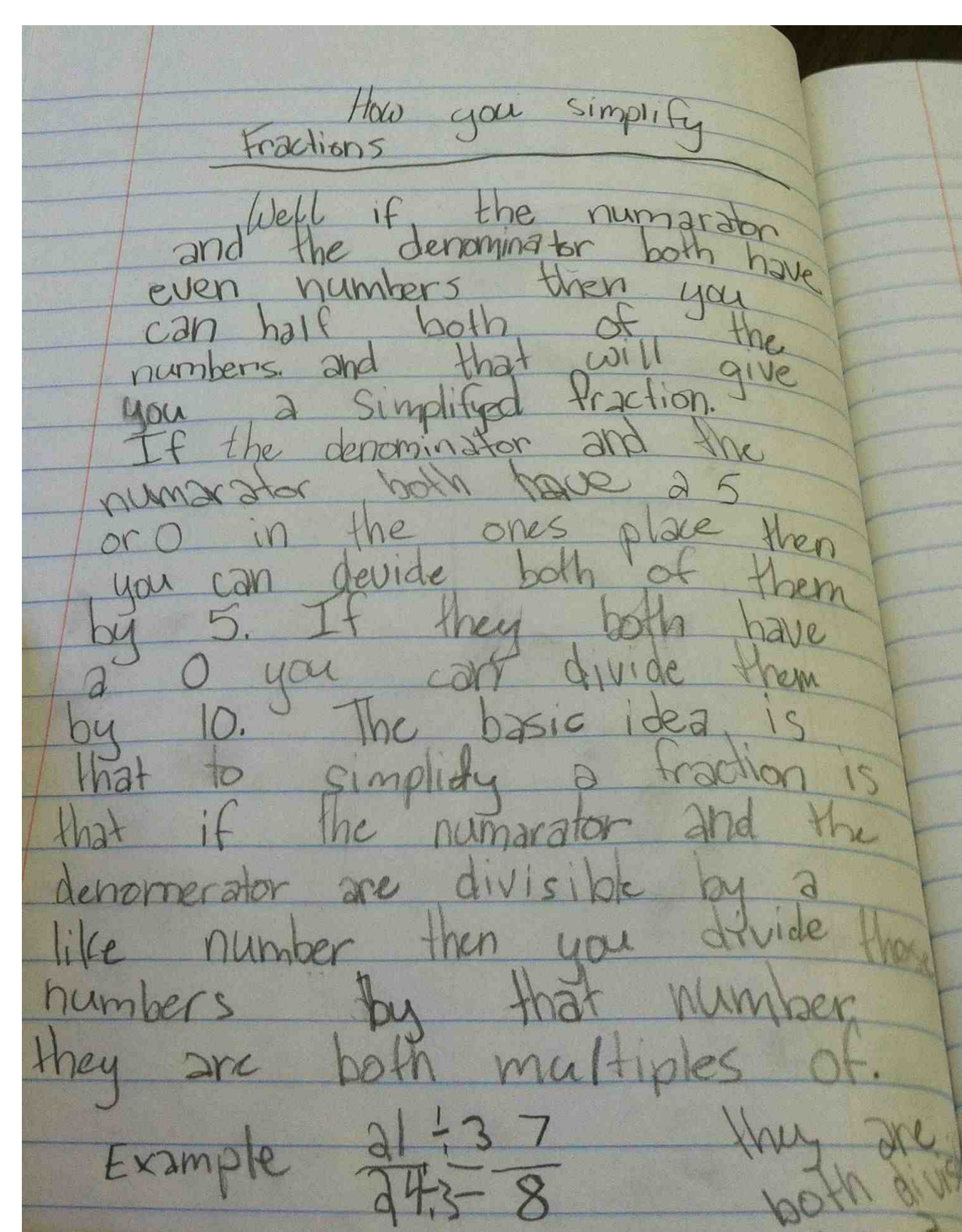


Goals

We set out to help students develop

- A broad exposure to interesting mathematics
- The ability and willingness to persist in problem solving
- The ability to articulate, critique, and apply mathematical reasoning

Math Journals



Students respond to journal prompts which ask them to develop meta-cognition skills. Examples are encouraged as a way to get started, but the goal is to understand and describe the problem-solving process more generally.

Games

E	Qu	I	Vo
$\frac{3}{8}$	$\frac{3}{4}$	$\frac{1}{6}$	$\frac{1}{2}$
$\frac{3}{5}$	$\frac{2}{9}$	$\frac{2}{6}$	$\frac{9}{10}$
$\frac{7}{10}$	$\frac{1}{3}$	$\frac{1}{5}$	$\frac{1}{10}$
$\frac{4}{5}$	$\frac{2}{3}$	$\frac{2}{5}$	$\frac{8}{9}$

E-Qu-I-Vo is a fraction game based on BINGO. Students select simplified fractions to fill their boards, and then unsimplified fractions are called out one at a time. Students then simplify the fraction to determine if it is on their board.

Be the first to get E-Qu-I-Vo three ways and you win a prize, if you can defend your answers...

Our Partnership



From left to right: Stephanie Greene-Hunley, Michael Phizicky, and Flor Robles.

Marathon Math

Students worked on weekly challenge problems called “marathon problems” and were awarded prizes for participating.

Marathon Math Problems - Week 6

Min is based on the game *Nim* that we played last week. The only difference is that in order to win a game of *Min*, you must force your opponent to take the final marble. The game begins with three piles of marbles; pile one which has 1 marble, pile two which has 2 marbles, and pile three which has 4 marbles. The players take turns removing one or more marbles from a SINGLE pile.

You should write all answers on a separate sheet of paper.

Problem 1

Assume there are two piles left, a 1 marble pile and a 3 marble pile. It is your move. What should you do to make sure you win the game? Explain your reasoning. (Test it by playing!)

Problem 2

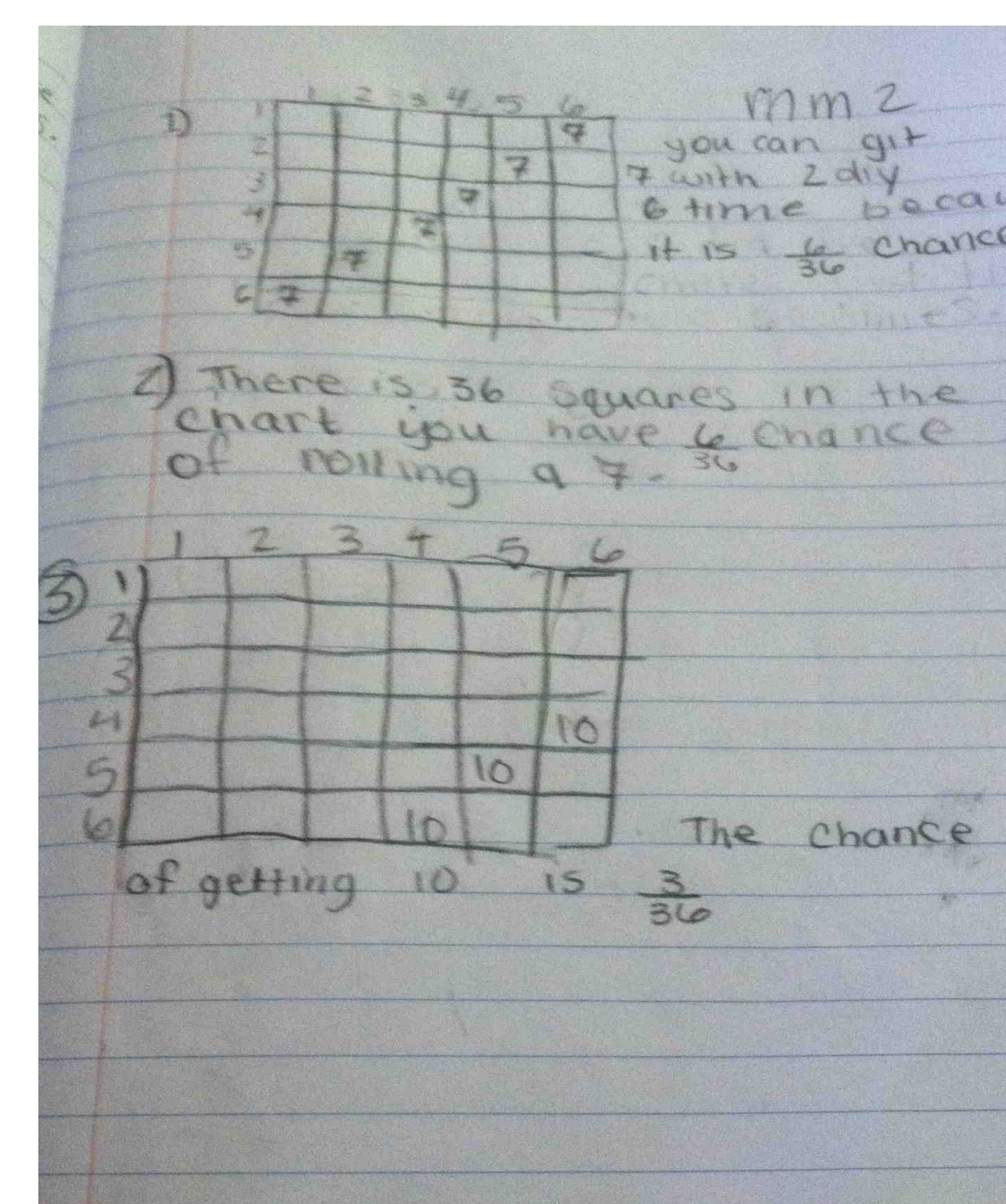
Make a table with all of the possible two-pile arrangements going down one column. In the next column, record what you think the result will be for the player whose turn it is, assuming both players play perfectly.

Problem 3

In the full game of *Min*, would you rather go first or second? What is your strategy to ensure victory? (Test it by playing!)



- Marathon Math Journal Problems - Week 3
- Name: _____
- How many ways can you roll a 7 with two dice? Make a chart with die 1 on the side and die 2 across the top to help answer this question. Explain your thinking.
 - How many ways are there to roll two dice? (Hint: how many squares are in your chart?) If you roll two dice, what is the chance that you will roll a 7? Explain your thinking.
 - If you roll two dice, what is the chance that you will roll a 10? Explain your thinking.



Stock Market Project

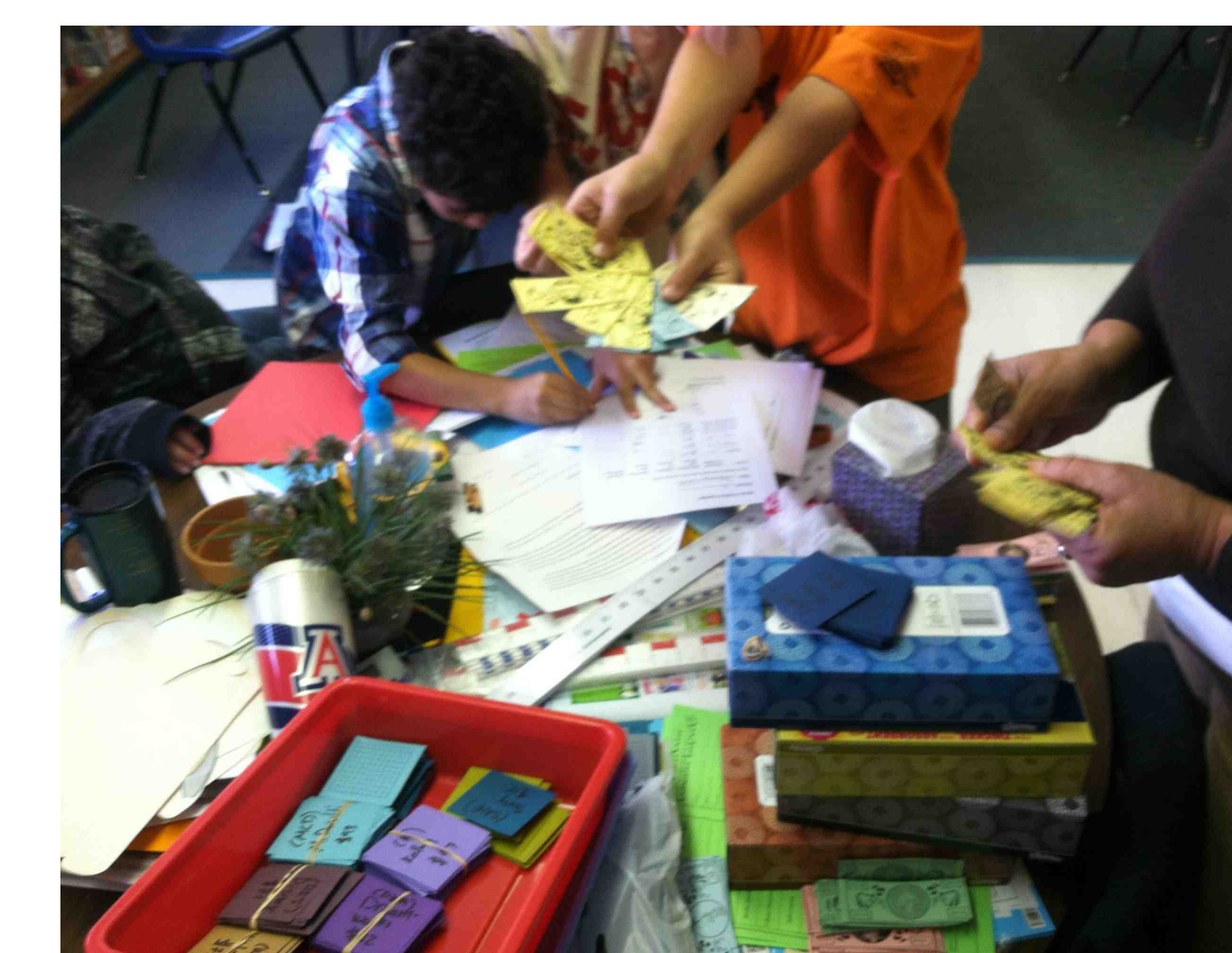
Groups of 2-4 students were given “\$1000” to create a stock portfolio. The students bought shares from ten available stocks to create the portfolio. The shares were “hundred grids” so students were able to purchase fractions of shares as well. This project is ongoing, with students updating their portfolios several times a week, using real time stock prices.



The play-money and stocks at their initial prices.

A 4th-grader calculating what her group can afford to spend.

You can see our classroom stock-ticker at the top of the board.



Students hard at work on the trading floor. Things got pretty intense!