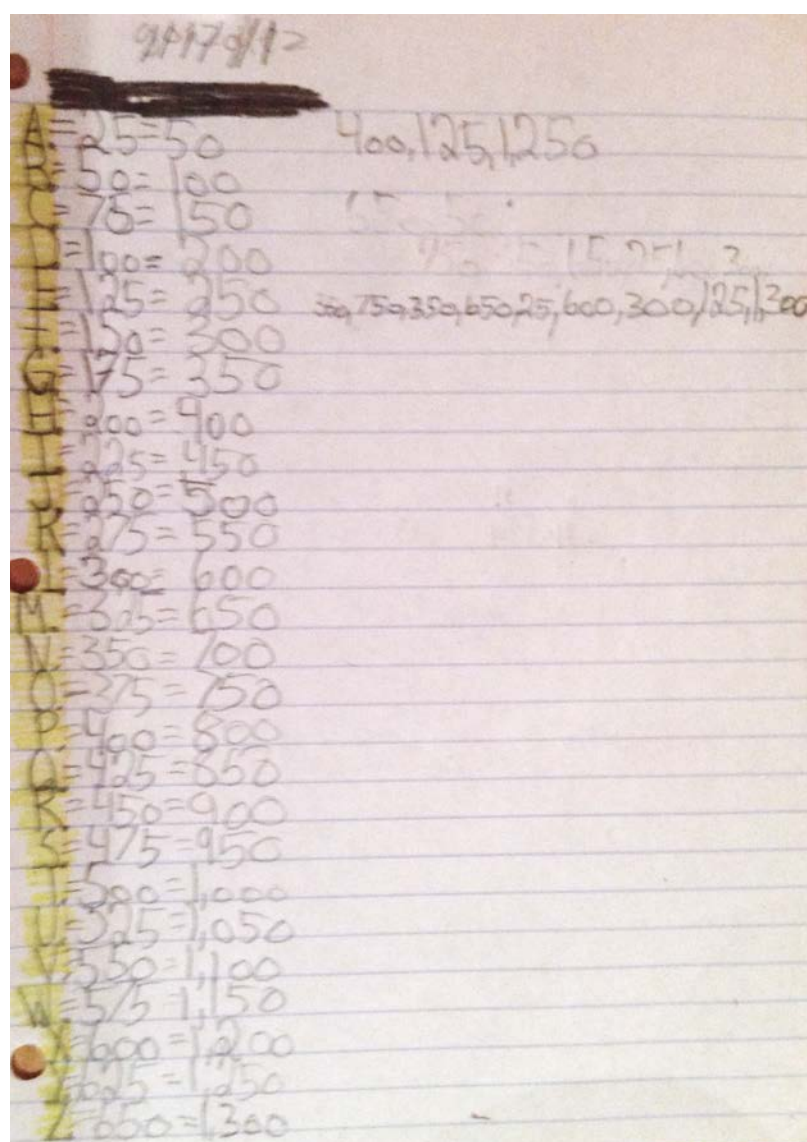
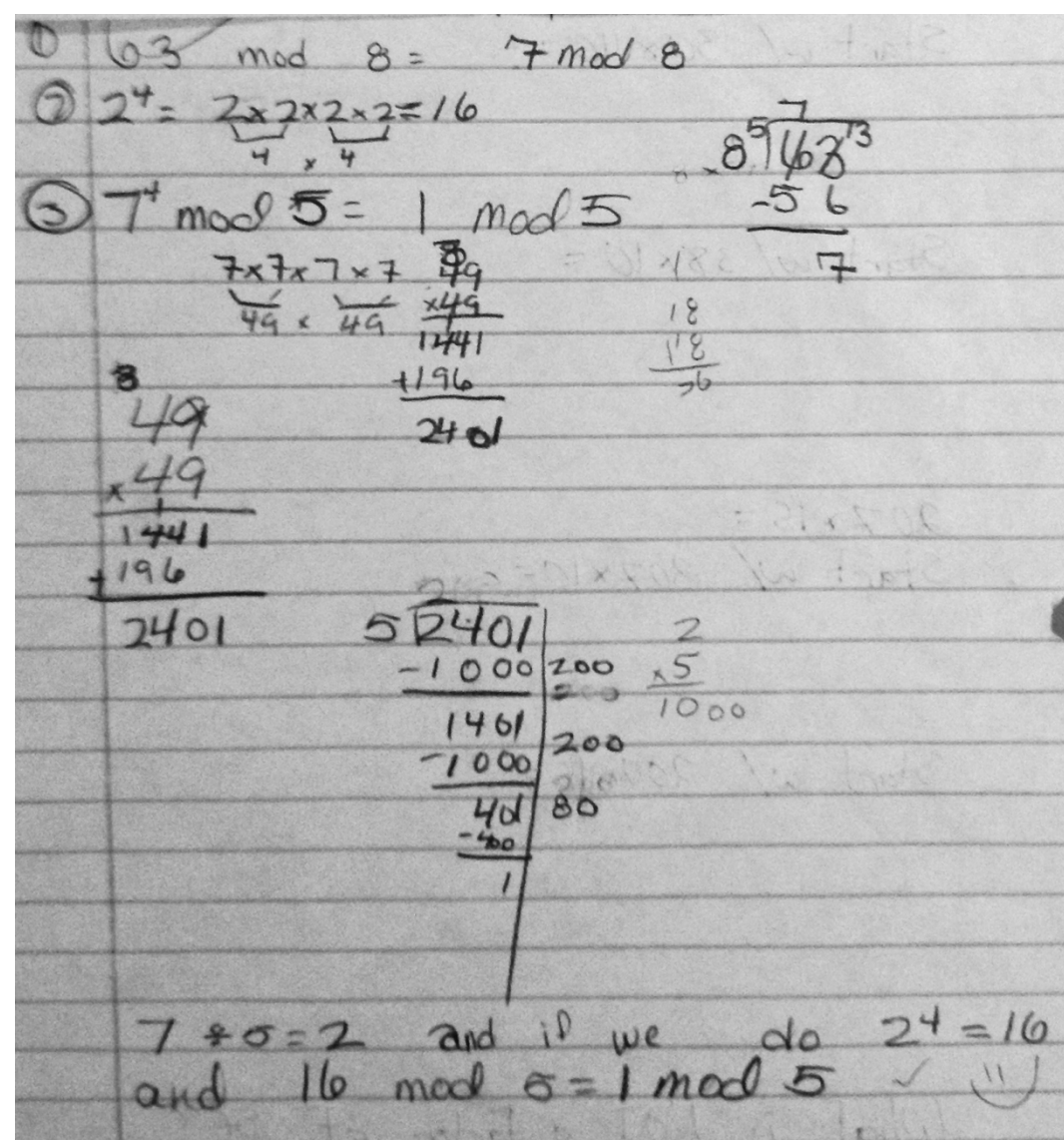


Secret Messages

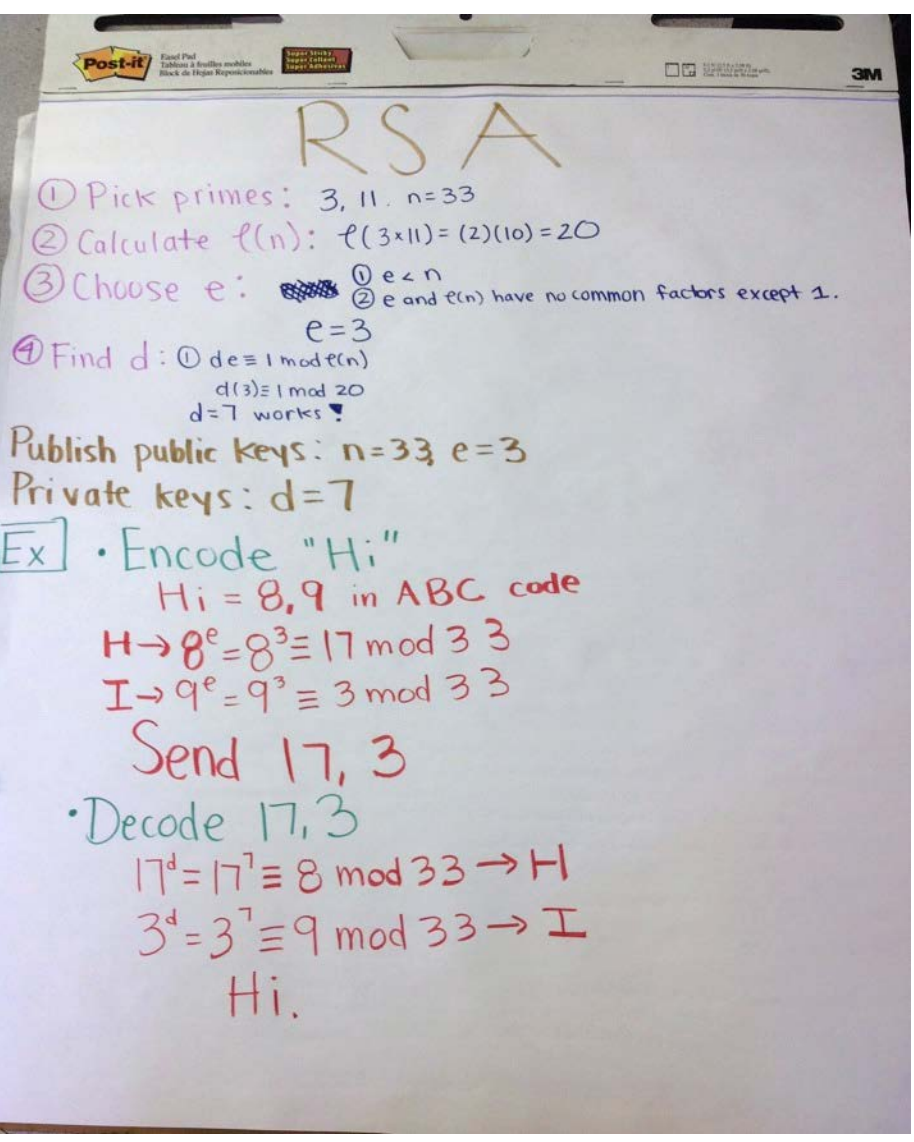
We discussed the importance of pattern recognition, prime numbers, and factoring. The students applied these concepts in a study of elementary cryptography, beginning with a basic cipher and ending with RSA encryption. Students discovered the challenges of factoring. They also learned modular arithmetic.



Basic Cipher



Modular Arithmetic



RSA Encryption

Fractions

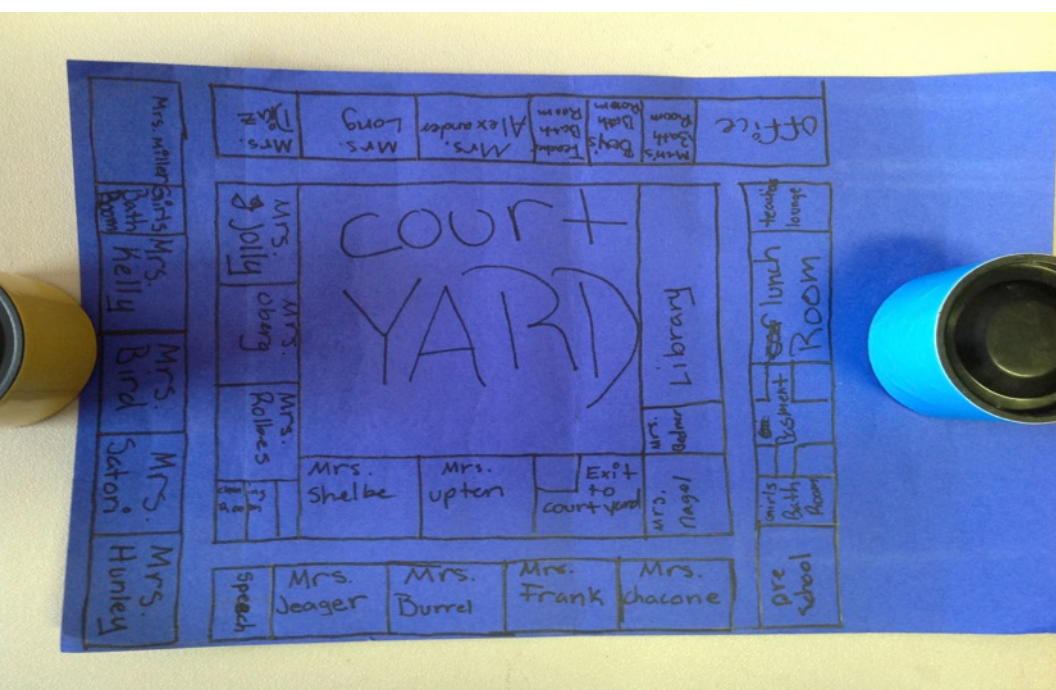
In groups, students were assigned a field of study and asked to write a script for a video in which they incorporated fractions.

Economics



Students explored the relationship between money and fractions.

Engineering



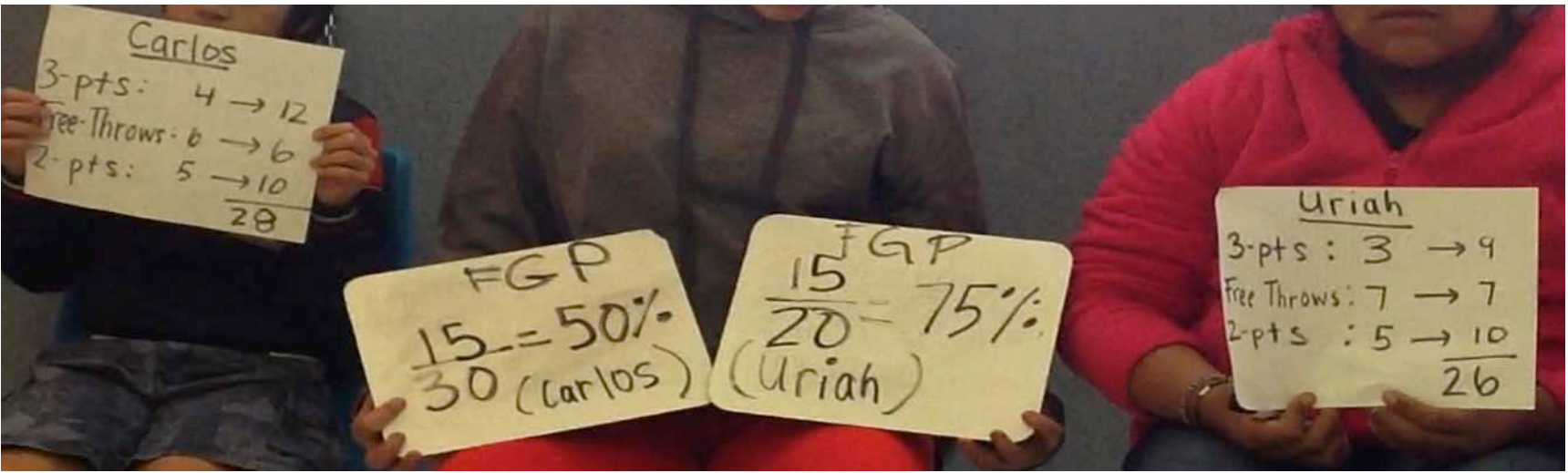
Students applied their knowledge of proportions to create blueprints.

Chemistry



Students measured the materials needed to cause a volcano eruption.

Sports

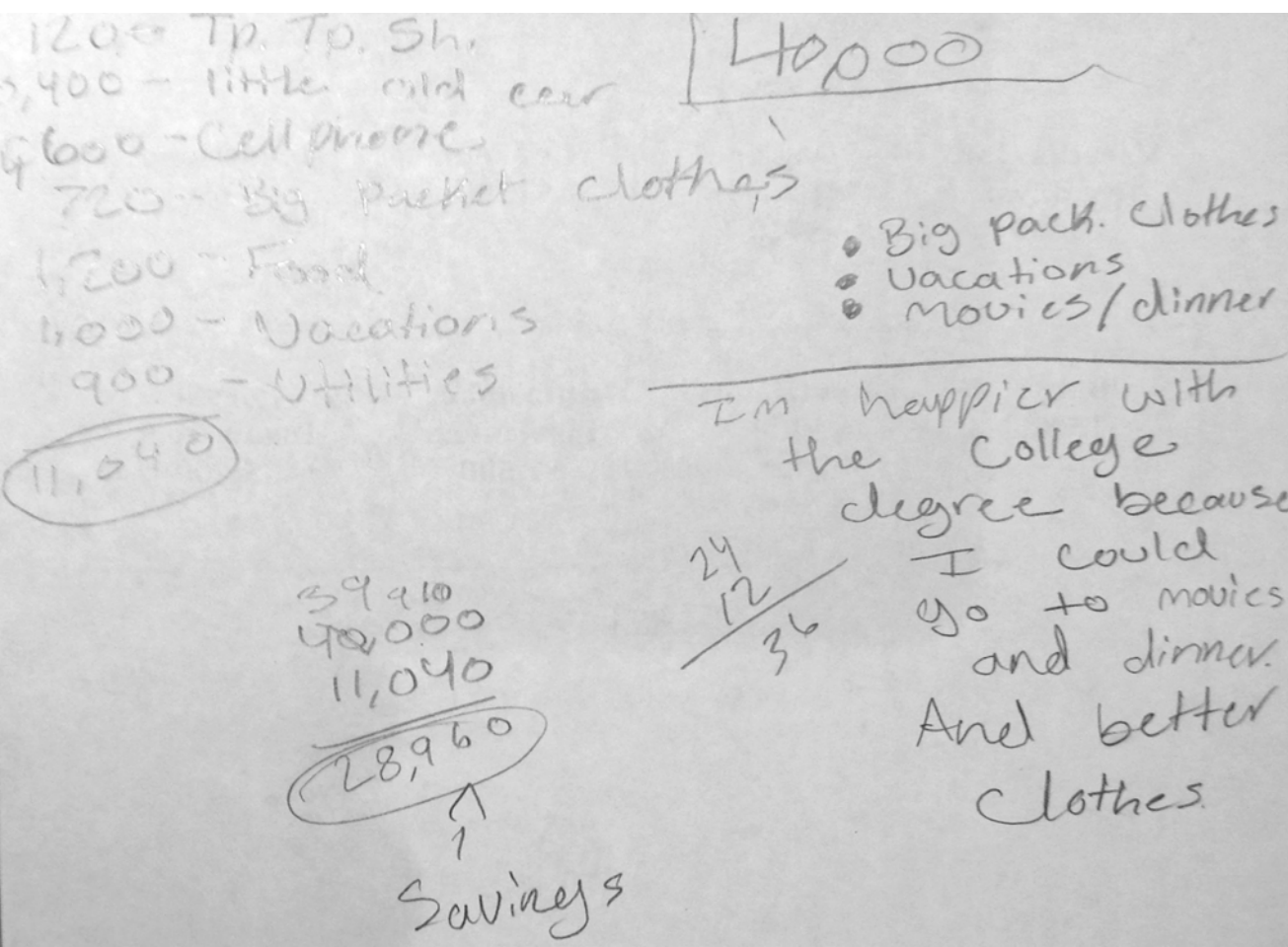
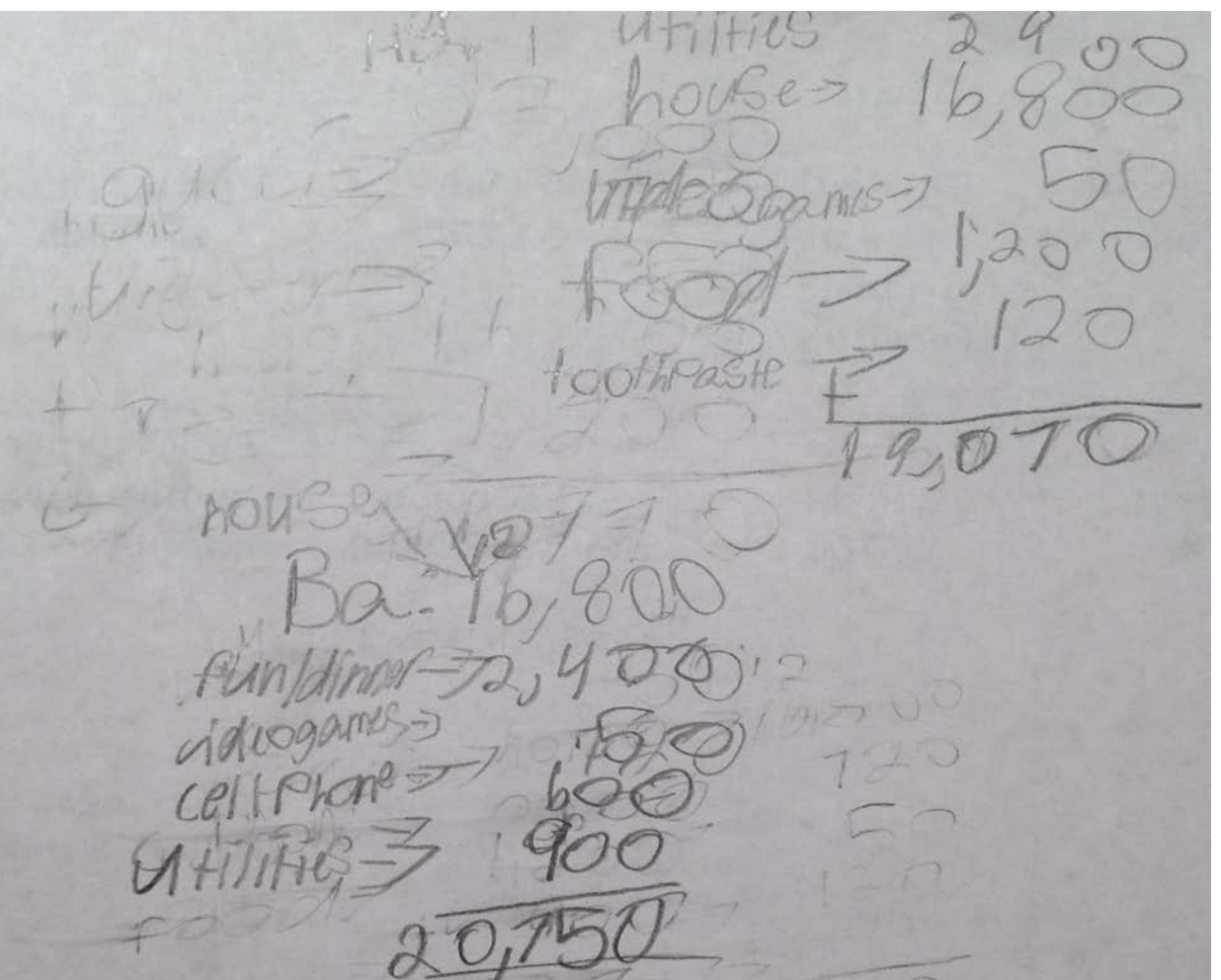
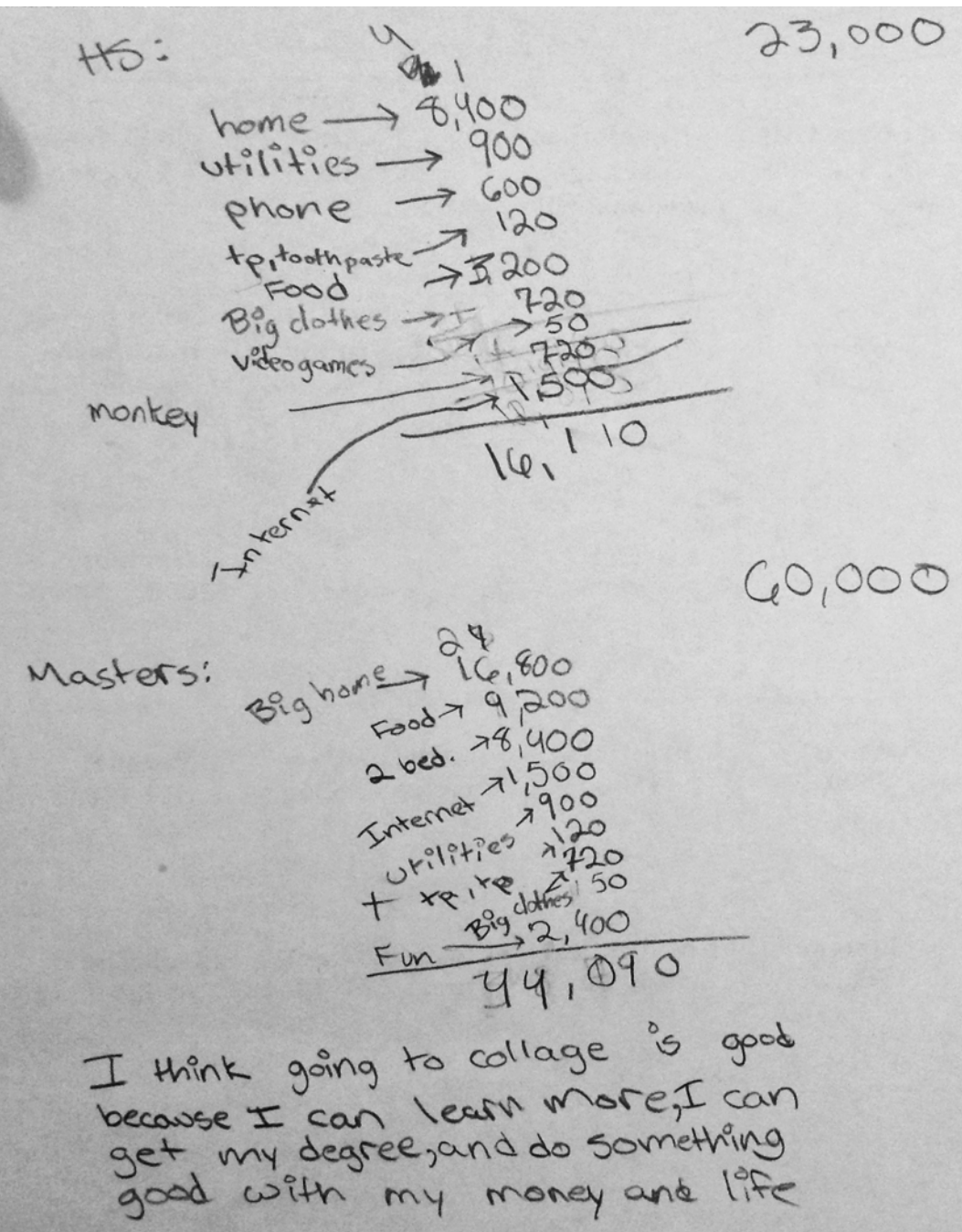


In a mock newscast, students used fractions to recap a basketball game.

Budgeting

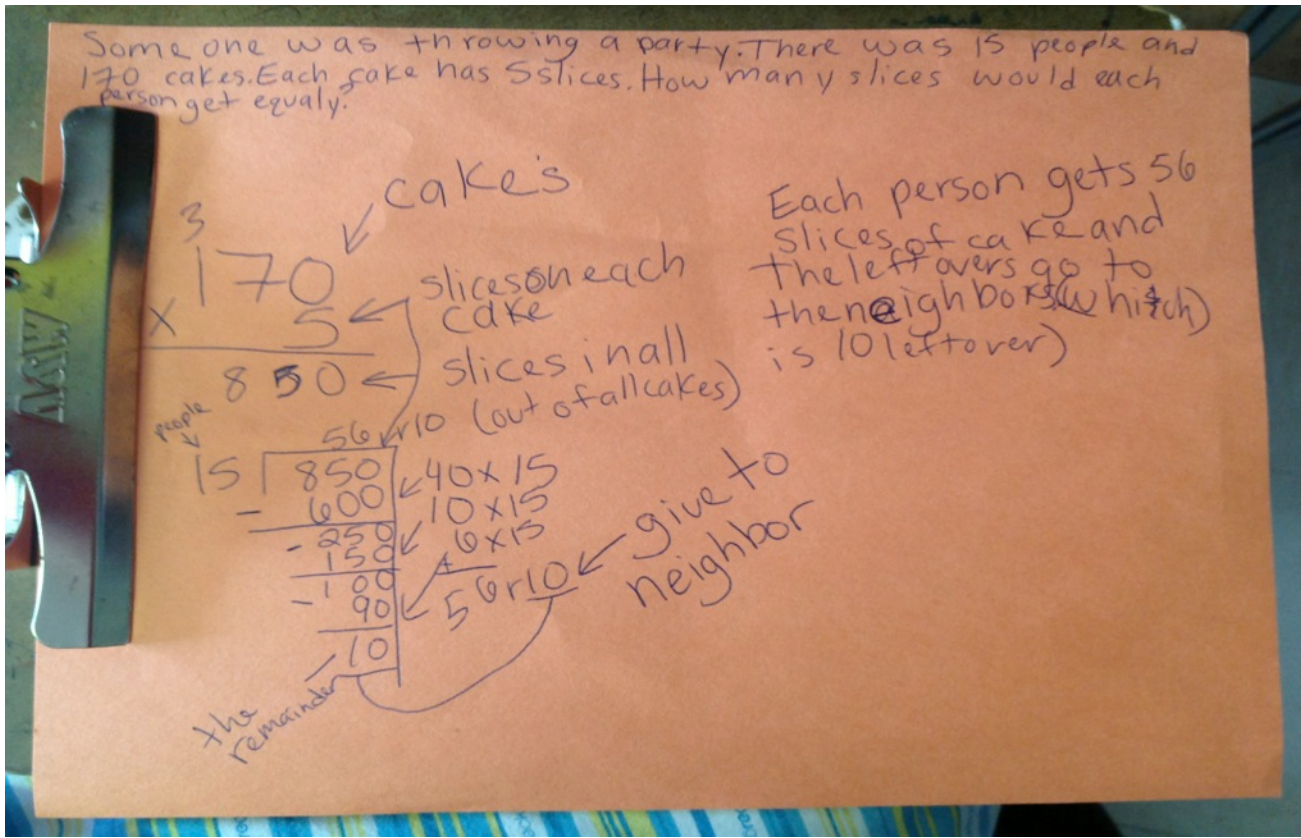
As part of a lesson on adding and subtracting multi-digit numbers, students created budgets. We also included a classroom discussion on the importance of higher education.

Big house with pool: \$16,800	Big clothes package (Jordans, Nike, Gucci): \$720	Food: \$1,200	Video games: \$50 each
Jewelry: \$1,200	Fish: \$160	2 bedroom house: \$8,400	Toilet paper, toothpaste, shampoo: \$120
other	other	other	Savings: \$1000 - \$4000
Savings: \$500	Investment: \$5000	Little clothes package: \$360	Phone: \$14,400
Cellphone: \$600	Little old car: \$5,400	Fun (movies, dinner): \$2,400	Utilities: \$900

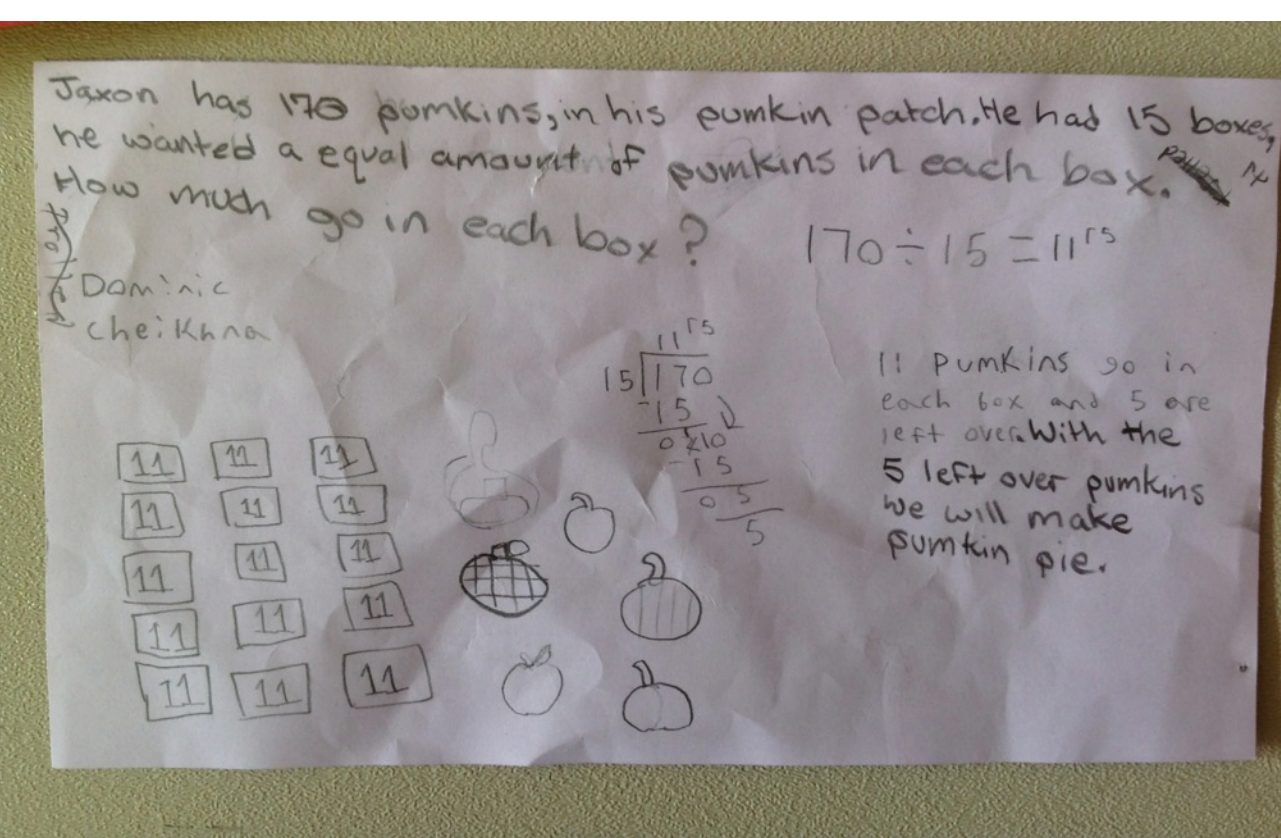


In the Classroom

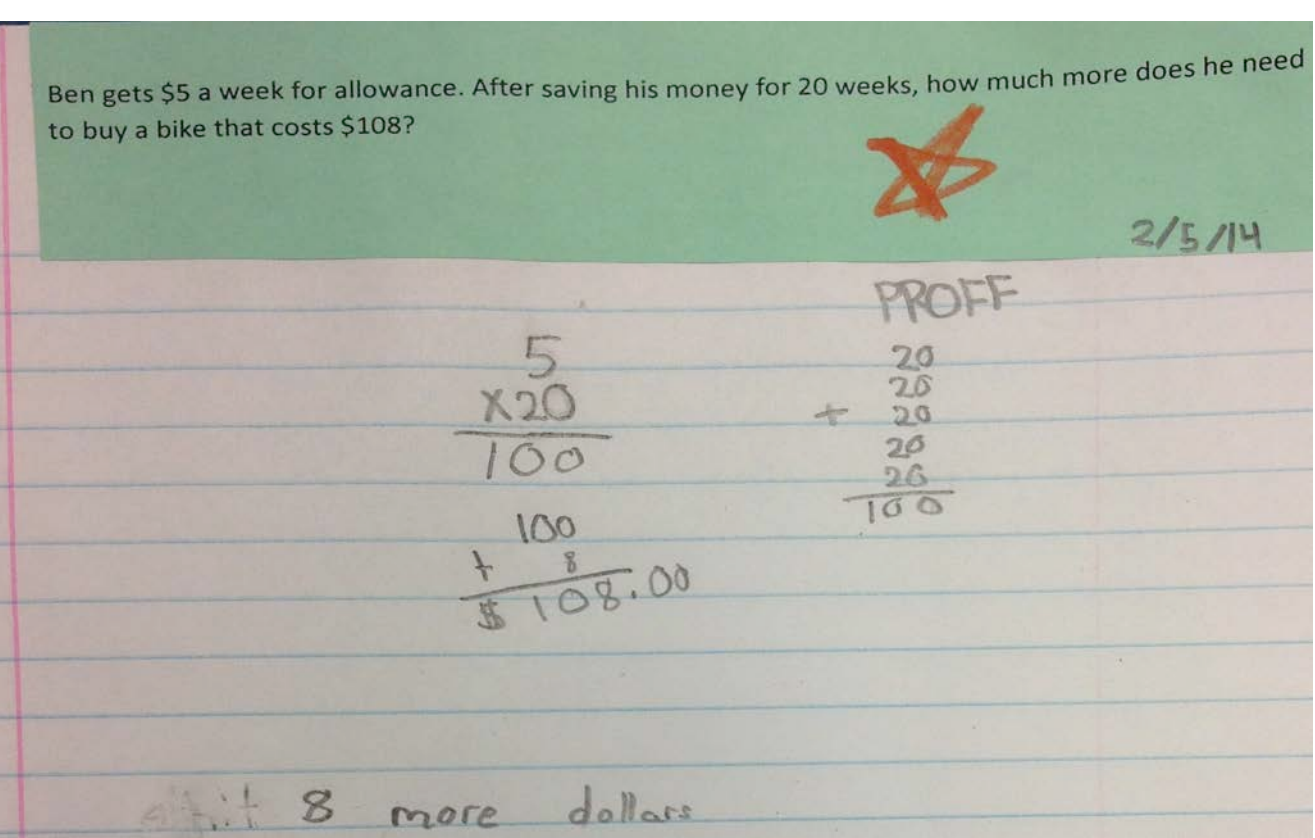
In both schools, conceptual knowledge is always emphasized. We explore the fundamental ideas of numbers, geometry, and early algebra through exploratory activities.



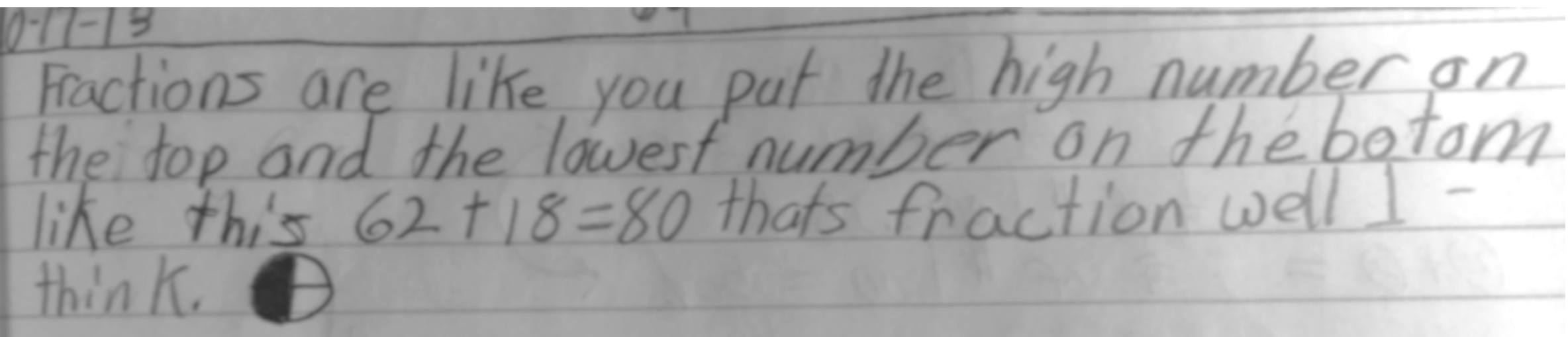
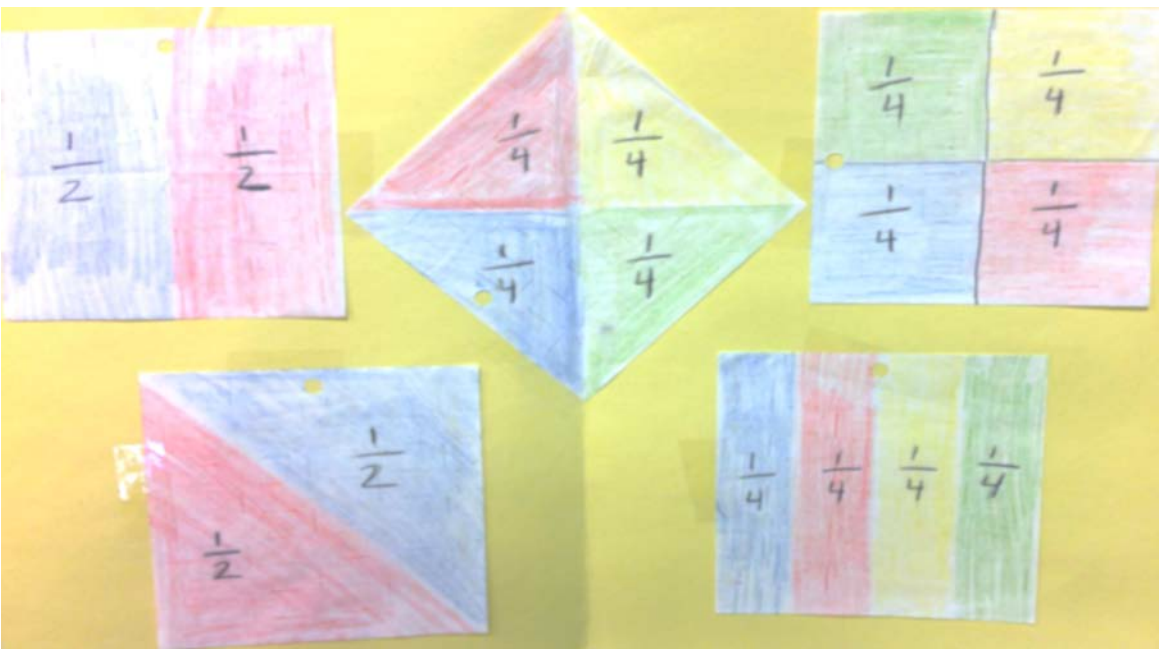
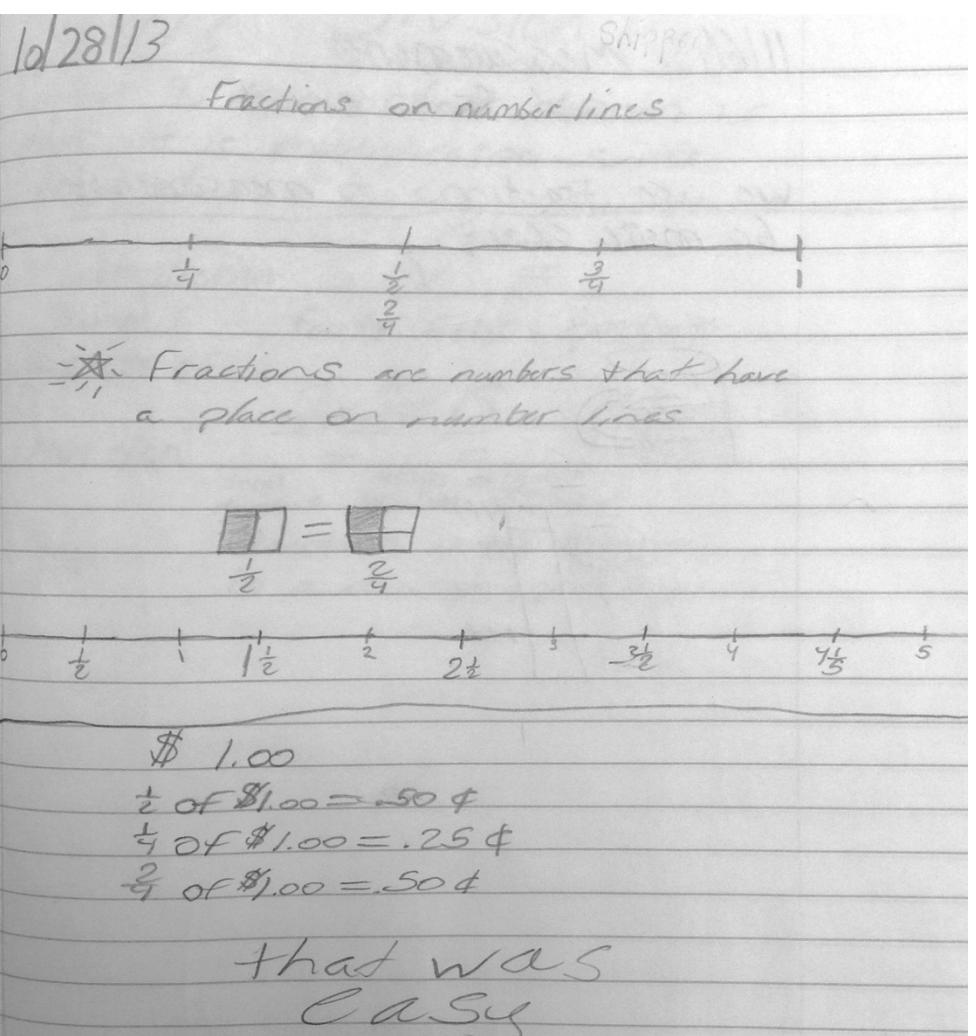
Students were asked to write a story about a division problem.



Math manipulatives are encouraged if the students find them helpful.



Students are asked to show their work by being asked to give a proof.



Students are exposed to many different interpretations of fractions.

