

Wilson K-8 Middle School: 6th Grade Mathematics

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Who we are

- Jackson Burton is an applied math phd student at the University of Arizona. Currently he is working on modeling malaria infection in red blood cells. Prior to his time in Arizona, he taught math at a public high school in New Jersey.
- Karen Maspero is a veteran K-6 teacher who is currently in her 34th year. She has spent time teaching kindergarten in Thailand as well as 6th grade in Florida.

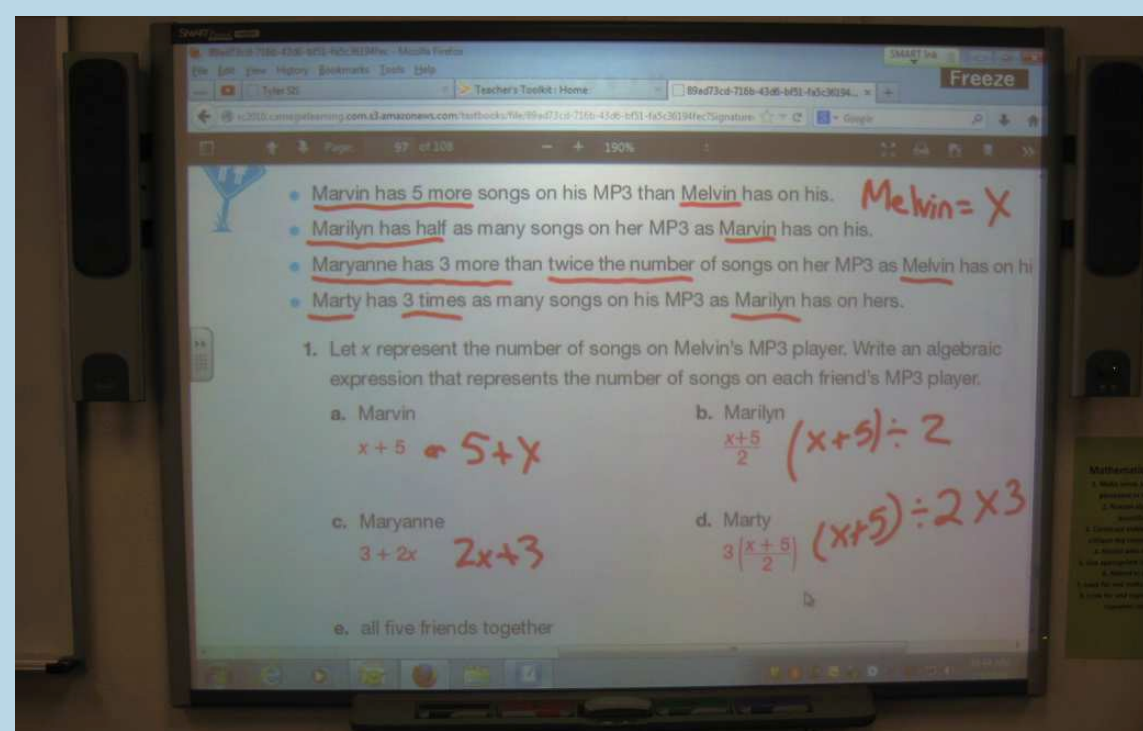


Class/classroom structure

- Karen has two class types: Course 1 (standard 6th grade curriculum) and course 3 (accelerated 6th grade curriculum)
- Students have various seating arrangements ranging from pairs to groups of four

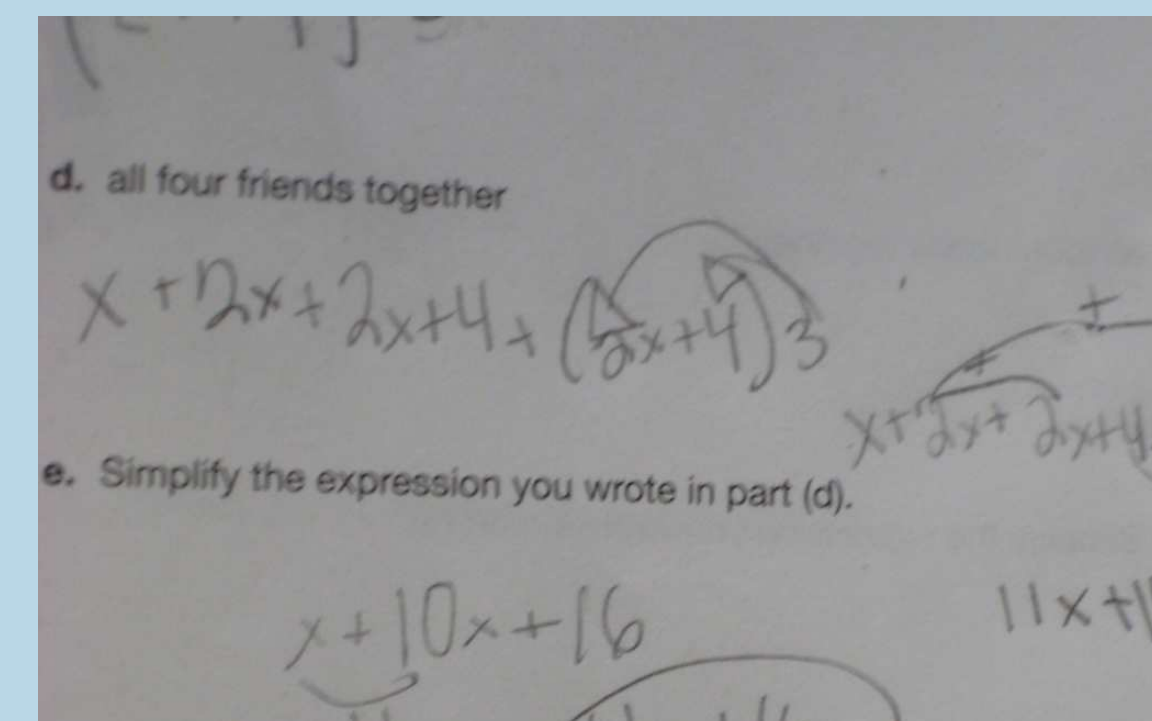


- The classroom has a fully equipped smart-board which is used extensively for classroom lectures



Challenges we face

- First year of common core implementation which
 - has lead to restructuring of lesson planning for teachers
 - is challenging for students without proper background
 - has brought in new text books
- This work shoes an example of modeling a problem with algebraic expressions, which was absent from prior 6th grade curriculum.



- Students occasionally come from different schools entering 6th grade at Wilson
- Class sizes average 32 students

Solutions we've tried

- Student seating that pairs stronger students with struggling students
- Bell work that focuses on problems reviewing previous lessons
- Variety of activities that use manipulatives



- Use of online teaching material such as Kahn Academy and Brain Pop

Some of our activities

Game of Life Throughout the course of the year the students use math skills to manage real life situations. In

- quarter one, the students are given daily allowances which can redeemed for prizes at an auction. Allowances are based on good behavior and completion of work.
- quarter two, the students select their dream job by researching an entry level position of any profession they like. They then calculate their monthly income after taxes
- quarter three, the students purchase a home, car, and are assigned a family size. They create a budget that reflects all income and expenses and are required to put a certain percentage of their income into savings.
- quarter four, the students research and choose several stocks for purchase. Throughout the course of the quarter, they regularly check the price of the their shares and research reasons for price changes.



Algebra tiles Using tiles, students can represent unknown quantities as areas of rectangles and model algebraic expressions. This activity has helped bridge some gaps between abstract and spatial reasoning.

In this activity, the students had to model the distribute property with various geometric forms of a single variable.



Amazing race This activity pairs students in the class and sets them on a race to complete three stations at a time themed to a particular country. Each station requires the pair to solve mathematical problems which could be review, or a new concepts altogether.

At this particular station, the students had to decipher the base and height of an imaginary wall of China by determining what number sets a specific number belonged to.

