

## Raising Funds

**CSO: MA.8.2.5** apply algebraic equations and expressions to solve application problems

### Objectives:

- Extrapolate data from a given source.
- Determine an algebraic equation that corresponds to data.

### Materials:

- Mathscape, The Language of Algebra (7<sup>th</sup> grade curriculum)
- Fund-raiser advertisements
- Data tables
- Student work pages

### Vocabulary:

- Profit
- Revenue

### Set:

“Our school is trying to raise money to support our technology fund. One option for fund-raising is to sell candy bars. You have been selected to be on a committee to explore fund-raising options and make a recommendation to Mr. Rodriguez.”

### Procedure:

1. Students will examine candy bar flyer first.
2. Using the candy bar chart, students will fill in data and complete the chart.
3. Students will write an equation that relates the number of items sold to the profit for the school.
4. Discuss results for the Candy Bar fund-raiser.
5. Students will then complete the data tables for the wrapping paper and magazine fund-raisers and then write equations that relate items sold to profit for those also.
6. Group discussion of results.

### Assignment:

The Language of Algebra, lesson 4 Homework (problems 4-8)

### Accommodations:

- Be available to assist special education students who have difficulty reading or in a larger class, group students so that stronger readers can read aloud.
- In the event that a student with underdeveloped fine motor skills is participating, allow one assignment to be completed per group.

### Related Websites:

1. Number Cruncher: <http://www.shodor.org/interactivate/activities/numbercruncher/index.html>
2. What's Next: <http://www.cut-the-knot.org/recurrence/guess.shtml>
3. Number Cracker: <http://www.funbrain.com/cracker/index.html>
4. Fractals (Koch Snowflake): <http://math.rice.edu/~lanius/frac/koch/koch.html>

## **Assessment**

This lesson was informally assessed by a class discussion in which students decided which fundraiser would be most profitable. More formally, the lesson was assessed according to student responses to the assigned homework.

## **Performance Descriptors**

### **■ Distinguished**

The student demonstrates exceptional and exemplary performance with distinctive and sophisticated application of knowledge and skills that exceeds the standard in algebra. The student solves application problems with algebraic expressions. The student selects and applies algebraic equations to solve application problems. He/she explains and justifies solutions in a clear and concise manner.

### **■ Above Mastery**

The student demonstrates competent and proficient performance and shows a thorough and effective application of knowledge and skills that exceeds the standard in algebra. The student solves application problems with algebraic expressions. The student selects and applies algebraic equations. The student formulates a rule from data in a function table and/ or generates an arithmetic, geometric, and algebraic pattern. The student explains his/her solutions.

### **■ Mastery**

The student demonstrates fundamental course or grade level knowledge and skills by showing consistent and accurate academic performance that meets the standard in algebra. The student solves application problems with numerical and algebraic expressions. The student selects and applies algebraic equations. The student formulates a rule from data in a function table and/ or generates an arithmetic, geometric, and algebraic pattern.

### **■ Partial Mastery**

The student demonstrates basic but inconsistent performance of fundamental knowledge and skills characterized by errors and/or omissions in algebra. Performance needs further development. The student completes a function table but has difficulty generating a rule from the developed pattern. The student's ability to solve application problems is inconsistent

### **■ Novice**

The student demonstrates substantial need for the development of fundamental knowledge and skills, characterized by fragmented and incomplete performance in algebra. Performance needs considerable development. The student writes expressions using a variable. Further development is needed with problem solving skills.

(Performance descriptors were adapted from the West Virginia Content Standards)