# Poster Method

The poster method is another strategy to implement Standards of Mathematical Practice and student engagement. It has students solve a problem, make a poster, and share it with the class. It should be used in the beginning of the year to build student capacity to solve problems. The teacher will not tell or hint how to do the problem. Instead, use effective questions that foster thinking about what they have, what they need to know, if they see a pattern, if their answer seems reasonable, etc.

Steps
1. Students work in small groups (4)
2. There is a brief period (1-2 minutes) of individual work to paraphrase, plan, or make sense of the task.
3. Group discusses and agrees on a solution. (There may be multiple ways to solve the task.)
4. Group finalizes answer and puts it on a poster showing the work, models, etc.
5. Group creates written explanation and writes these on the back of the poster.
   How did your group solve the problem?
   How does your group know your solution is correct mathematically?
6. Circle discussion: One student from each group will take the poster and go with the other groups to encircle the class, holding the poster toward the class. That student must explain to the class their group's solution. (Note: Now the written explanation is on the back to help the student.)
7. Class determines solution from those presented.

Consider the 8 Standards for Mathematical Practice. This activity can utilize each of them in various ways.

Data Sheet _____
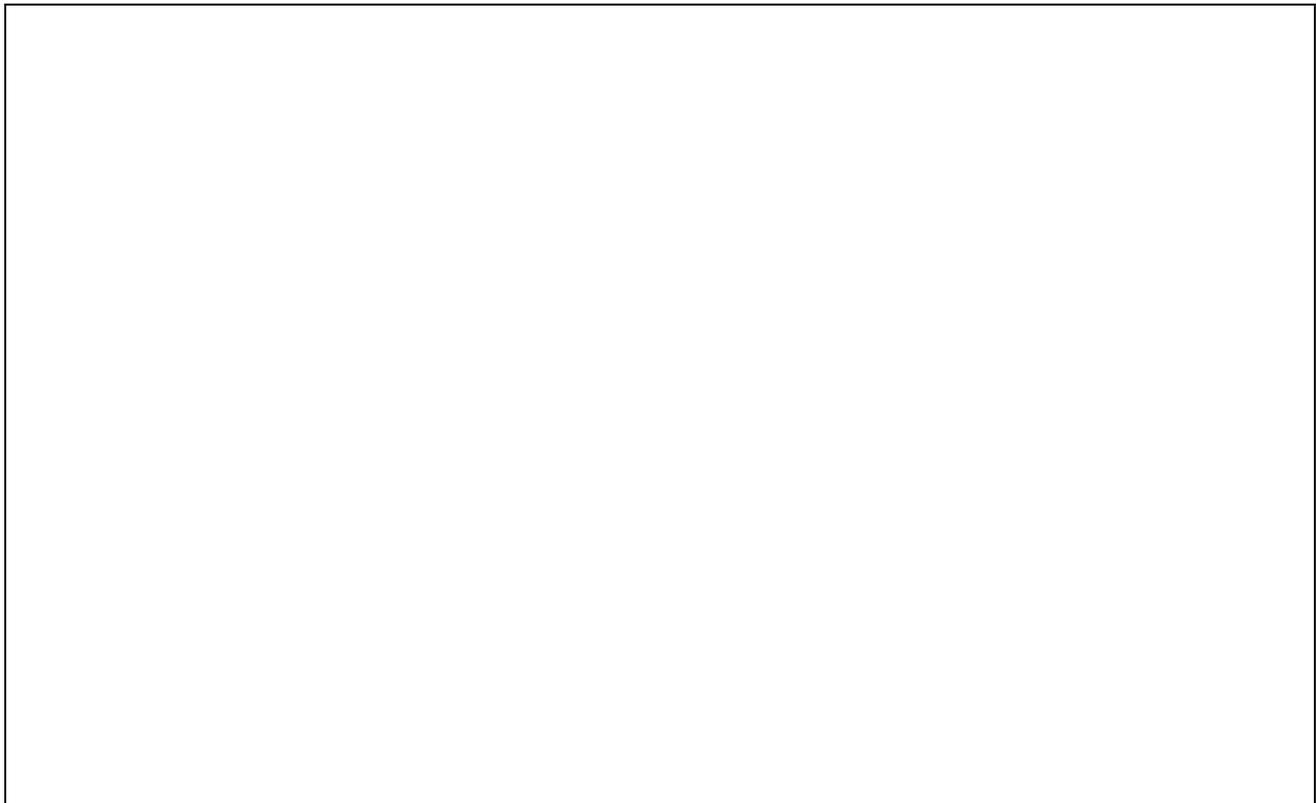
Examples of activities

Lawn Mowing Chore
At my house, summer vacation means added chores for my three sons.
Every Saturday, the lawn must be mowed. Mark starts the mower and completes 1/3 of the lawn. Sam takes over and mows exactly ¼ of the lawn. Josh finishes off the last 700 square feet of the lawn. What is the area of my lawn?

Meeting with Friends
Janet and Sally live 540 miles apart. They decide to drive to meet each other.
Janet drives 40 miles per hour and leaves at 1 p.m. Sally drives 60 miles per hour and leaves at 2 p.m.
What time will they meet?

Finding balance
A slab of soap on one pan of a scale balances ¾ of a slab of soap of equal weight and a ¾ pound weight on the other pan. How much does the slab of soap weigh? (Solve the problem both with an algebraic equation and by direct arithmetic reasoning.

Fuel for Thought
Which of the following would save more fuel?
   a) Replacing a compact car that gets 34 miles per gallon (mpg) with a hybrid that gets 54 mpg?
   b) Replacing a sport utility vehicle (SUV) that gets 18 mpg with a sedan that gets 28 mpg?
   c) Both changes save the same amount of fuel.

Letting it all out
A water tank can be filled by hose in 4 hours.
The drain valve at the bottom can drain the tank in 6 hours.
If the drain valve were mistakenly left open, how long would it take to fill the tank from empty?

An Age Old Problem
This year your brother Jack will be 2 years from being twice as old as your sister Jan. The sum of Jack's age and three times Jen's age is 66. How old is Jen?

Colorful Fence
Dana needs 300 lights for her colorful picket fence. She wants equal amounts of each of her 4 selected colors. She already has 32 red, 26 green, 9 yellow, and no blue. How many more of each color does Dana need to buy? If the bulbs cost 25 cents and you get 20% off if you purchase 50 or more of the same color and 30% off if you purchase 60 or more of one color, how much does Dana need to spend?

Florida Vacation
Your family is planning a 7-day trip to Florida. You estimate that it will cost $275 per day in Tampa and $400 per day in Orlando. Your total budget for the 7 days is $2300. How many days should you spend in each location.

Sports Equipment
For 2002 through 2011 the sales S (in millions of dollars) of gym shoes and sneakers can be modeled by
$$S = -0.982t^5 + 24.6t^4 - 211t^3 + 66t^2 - 318t + 1520$$
where t is the number of years since 2002. Were there any years in which sales were about $2 billion?