

# *Maximum Cookies*



*Maximum Cookies* is a Problem Based Learning unit that focuses on the use of graphs of linear inequalities to analyze and solve problems. The central unit problem involves a bakery that produces two kinds of cookies: plain and iced. The bakery faces constraints on ingredients, preparation time, and oven space. The two kinds of cookies require different amounts of ingredients and earn different amounts of profit. The task for students is to determine how many of each kind of cookie the bakery should produce to maximize overall profit.

## **Driving Question:**

How can we maximize profits for a small start-up business with limited resources?

## **Culminating Project:**

After students solve the unit problem, they will work in groups to create a web-based business plan for a small business of their choosing. Teams will publish on the internet a plan that analyzes the constraints of their business, designs a plan to optimize the profit, and justifies their optimization plan.

## **Portfolio:**

Students will compile a PBL portfolio documenting and evaluating their learning.