TEXAS ADULT EDUCATION STANDARDS LESSON PLAN

Before you begin

Title: Using *Wheat Thins* to find the Area of a Square and Rectangle

Setting: ABE/ASE

NRS Level(s): Level 4: High Intermediate Basic Education

Open entry/exit: Yes

Context: Academic

Standard(s): Use Math to Solve Problems and Communicate

Benchmark(s): 7.4

Objective: To determine the size of a room in square feet.

Materials: Ceramic floor tiles (any size), rulers, *Wheat Thins* crackers, GED formula page, calculators

Estimated time needed to prepare for this lesson plan: 30 minutes, plus time to gather the tiles and *Wheat Thins* crackers

Estimated time needed to complete this lesson plan: 1 hour

The Lesson Plan

Introduce the lesson:
Geometry is a subject that can easily be used in every day life. For example, let's say you just moved into a new apartment and the landlord said that you could put new floor tiles down in the dining room. Great, you say, but then you realize you don't know how many tiles to get. The landlord says, "Just figure out the square footage." Today we will determine how to find the square footage in a room using tiles and Wheat Thins, and then the geometric formulas.

Teach the lesson:
Using the tiles as a model of a room and the *Wheat Thins* as a measuring tool, point out to the class that the number of *Wheat Thins* they used to cover the "room" equals the square footage of the room. They will discover that the number of *Wheat Thins* on two sides of the tile, multiplied together will also determine the square footage. Using this knowledge they will be able to determine which formula to use and solve for the area of any size room on worksheets or teacher made tests. They can then know exactly how much flooring to order with out running out or having too much left over.

Practice the lesson:
Split the class into small groups. Give each group 2 floor tiles and a small box of *Wheat Thins* and a ruler. As students realize the *Wheat Thins* are all about 1 inch around, discuss this as a fact that a *Wheat Thin* is one square inch. As a group, cover the tile with *Wheat Thins*. Count the number of *Wheat Thins* it took to cover the tile. Discuss that the number of *Wheat Thins* on the tile matches the area of the tile. Ask if there would be an easier way to determine area. Show the formula for the area of square. Discuss how s^2 is the same as the number of *Wheat Thins*. Show the formula for the area of a rectangle and discuss how the length x width is the same as the number of *Wheat Thins*.

Assess the lesson:
Teacher observation during the lesson; classroom materials on area to practice and determine mastery of the formulas.

Apply the lesson to the real world:
Using area in different real life situations might apply to putting down carpet in a room, painting a wall, spreading fertilizer, etc. Students could use a tape measure and measure a room in their home to determine the square footage. Being able to make these calculations, students can determine how much flooring or paint, or other materials to purchase.

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