**Backwards Design Project**

**Name of lesson/unit:**

Classroom remodel

**Grade Level: 6th**

**Subject Area: Math**

**Stage 1:**

**Content standards:**

6.G.1., 6.G.2, 6.G.3,6.G.4

6.NS.2, 6. NS. 3, 6.EE.2, 6.EE.2c, 6.EE.6, 6.EE.9

**Understanding(s):**

Students will be able to calculate surface area, area, and volume of a classroom while considering pre-existing structures.

**Essential Question:**

How much will it cost to remodel a classroom and fill it with balloons?

**Stage 2: Acceptable Evidence**

**Performance Task(s)**

How do the students prove they understand the concept?

Students will obtain accurate measurements of the classroom.

Show that they can accurately determine formulas for surface are, area, and volume

Correctly calculate surface area, area and volume

They will compare different products after performing research of different products that are of interest.

Determine cost per square unit of each product needed

Determine cost per cubic unit to fill the room with balloons

Other Evidence and Formative Assessment works:

Practice problems

Hands on measurements

Small group presentations on products of choice with estimated cost

Start filling the room with balloons for 20 min, then estimate how long it would take and how many balloons we will need to fill entire room. (volume)

Determine cost to fill rooms with balloons

**Rubric:**

**Stage 3: Learning Plan**

**Learning Activities:**

Day 1

Practice accurate measuring (desks, doors, etc)

Day 2 and 3

Accurately measure the room

Research formulas for area, surface area, and volume

Practice calculating area, surface area, and volume

Day 4

Determine square footage and volume of room

Compare measurements with other students

Day 5

Research and calculate costs and products in small groups

Day 6

Present findings and vote on a plan of action for product

Day 7

Finalize calculations

Day 8

Balloon activity and calculation (volume)

Wrap up

**Lesson Contributors: Names and schools**

**Lib Whiteaker – Sheridan GS**

**Colleen Perez- Serena GS**

**Brittany Heimann – Northbrook**

**Melissa Einhaus – Lostant**

**Tonya Ahearn – Milton Pope**

**Julie Hamilton – Seneca GS**