

Algebra/Geometry Institute Summer 2004

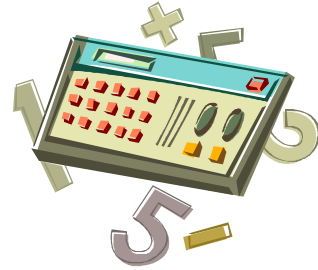
Lesson Plan One

Faculty Name: Myra Bradfield

School: Shelby Middle School

Shelby, MS 38762

Grade Level: 6th - 8th



1 Teaching objective(s)

- ❖ The students will find the perimeter, area, and volume of different polygons.

2 Instructional Activities

- ❖ Place a geoboard on the overhead with a design of a rectangle, and demonstrate how to use a geoboard to find the area and perimeter.
- ❖ Give the area and perimeter.
- ❖ Allow students to form their own shape on geoboard, then give the area and perimeter of the shape, and give formula that would work for their figure.
- ❖ Ask students to take twelve toothpicks, and 8 marshmallows and form a square prism.
- ❖ Allow time and check each figure.
- ❖ Explain that the amount of space in their prism is considered its volume.
- ❖ Ask student the volume of the prism.
- ❖ The volume should be 1 cubic unit.
- ❖ Ask students to form a 3 by 2 by 2 rectangular prisms.
- ❖ Ask students to give the volume.
- ❖ Ask students for the volume using the formula.

Group Activity

- ❖ Give each student two small buckets.
- ❖ Students will sit four to a group to complete the following exercises.
- ❖ Each group will estimate the number of cubes that will fit in container 1, justifying their answer.
- ❖ Estimate the amount of rice that will fill certain container 2.
- ❖ Students will combine their toothpicks and gumdrops to build the largest polyhedron possible.
- ❖ They will name their polyhedron; give its length, width, and height.
- ❖ They will give the area and perimeter of the base, and the volume of the polygon itself.

3 Materials and Resources

- ❖ Gumdrops
- ❖ Toothpicks
- ❖ Geoboard
- ❖ Small plastic buckets

4 Assessment

- ❖ Oral response- listen to student's response on questions asked while they are working.
- ❖ Class assignment- see attachment