Algebra/Geometry Institute Summer 2004

Lesson Plan 3

Faculty Name: Melissa Childress
School: Oakhurst Junior High School
Clarksdale, Mississippi
Grade Level: 7th

Teaching Objective

*The student will collect and organize information to create a table.

Instructional Activities

1. The teacher will ask a student to volunteer for a demonstration. The teacher tells the class to pay close attention and record what takes place. The teacher shakes hands with the volunteer. The teacher asks for another student to volunteer to join them. Now, it is the teacher and two volunteers. They each shake hands. Again, the teacher asks for a volunteer to join them. Now, there are four people, the teacher and three students. The four shake hands. The teacher will ask the class, "How many handshakes was that?" The class should respond with six. Demonstrate the handshakes again, if necessary. Discuss with students what took place–the number of people involved and the number of handshakes per person.

    Teacher – 3 handshakes
    Student A –2 handshakes
    Student B –1 handshake
    Student C –0 handshakes

    There were four people shaking hands, and there were six handshakes in all.

2. The teacher will tell students that the information we now have could be better organized by putting it in a table. Review how to set up a table. The teacher will make a table (on transparency) and work with the students to complete the table. *When there was only one person (teacher), how many handshakes were there? When there were two people (teacher and one student), how many? three

people? four people?

# of People	# of Handshakes
1	0
2	1
3	3
4	6

Tell students to look at the table carefully and see if they notice a pattern developing. (Let them discover it for themselves.)

3. At this point, the teacher will have the students divide into pairs. The teacher will tell the students to make a table that represents the number of handshakes that would occur if everyone in the class shook hands with each other. Also, write a description or pattern to show what is occurring.

   **The students will be allowed to use manipulatives (cubes, tiles, etc.) if they so choose.

4. When students have finished, they will share their findings with the class (tables, description, pattern).

   **This lesson could be extended by having students write number pairs and graph them (coordinate system). They could do this with graphing calculators or graph paper.

Materials

overhead projector, transparencies, manipulatives(cubes, tiles, etc.)

Assessment

The teacher will use a checklist which will include correct/incorrect table, description, pattern, use of manipulatives, and participation in discussion.

Solution for 15 students

# of students	# of handshakes
1	0
2	1
3	3
4	6
5	10
6	15
7	21
8	28
9	36
10	45
11	55
12	66
13	78
14	91
15	104