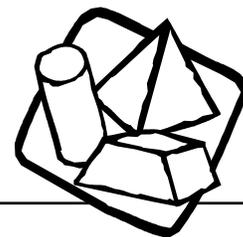# Family Reunion

Get the tables ready for a big family dinner with everyone sitting at the same table. Use the least number of tables in an arrangement to seat the most people.

What you need
Square blocks or tiles (or copies of the table)
Small play figurines (or something else to represent people)
Copy of recording sheet

What to do
1. Look at the chart and choose one situation to start (ex. 5 people to find seats).
2. Use the squares to make table arrangements for this number of people.
   - To make one big table you will have to push several small tables (squares) together.
   - The small tables (squares) have enough room for 4 people (one person per side).
   - Be sure to line up the edges so that they are exactly matched up.
   - Remember when two tables are pushed together, no one will be able to sit at the places that are now pushed together.
   - Use the least number of tables that you can.
3. Use the play figurines or other objects to represent the family members if you want.
4. Use the chart to record the number of tables you will need and the number of empty seats.
5. Try another situation or make up your own.

What to ask
- What other arrangements can you make with the same number of tables?
- Which arrangement allows the most people to sit?
- Which arrangement allows the least people to sit?
- Do you see any patterns that can help you predict the amount of seating certain table arrangements will make?

Did you know?
Through this activity, connections can be made between counting tables and area as well as counting people (one per side) and perimeter. Children will probably notice that the number of tables can be the same but the number of seats changes, and that there are minimums and maximums for each particular number of tables.

The Children's Museum of Houston

ExxonMobil Math Path
Magnificent Math Moments
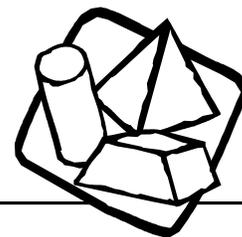
What's next?

• What if you allowed people to sit at the corners?
• Take 5 tables. Place them in as many table arrangements as possible. Use the grid paper to record your arrangements. Each time count the number of seats. How many possible arrangements are there? Are there any arrangements that look different, but seat the same number of people? What do you notice about these arrangements?

To learn more

Spaghetti for All
by Marilyn Burns

In this silly story written specifically to think about math, the table arrangements get all mixed up as more guests arrived and more tables and chairs are added.

Family Reunion
by Marilyn Singer

These delightful poems about family reunions are especially fun for the younger ages.

The Relatives Came
by Cynthia Rylant

Relatives come for the summer and make for a busy, happy time. This story can provide a different context for placing people in an arrangement of rooms for sleeping. Like "How many different ways can 10 people sleep in three rooms?" and so on.

How it helps with school

Texas Prekindergarten Curriculum Guidelines
Number and Operations, Geometry and Spatial Sense, Classification and Data Collection

Texas Essential Knowledge and Skills (TEKS) Standards
Patterns Relationships and Algebraic Thinking: K.5; 1.4A; 2.6B-C
Geometry and Spatial Reasoning: K.7; 1.6C; 2.7
Underlying Processes and Mathematical Tools: K.13, K.15; 1.11, 1.13; 2.12, 2.14

National Council of Teachers of Mathematics (NCTM) Standards
Algebra, Geometry, Measurement, Data Analysis and Probability, Problem Solving, Connections, Representation

Activity inspired by: "Using area representations to explore perimeter and area," Teaching Children Mathematics, September 2001.

Family Reunion

Number of people	Number of tables needed	Number of empty seats
4		
5		
6		
8		
10		
15		

Family Reunion