

# Title: Party Perimeter

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**Level:** Benchmark 2

**Grade:** 5

**Common Curric Goal:** Measurement

**Core Math:** Perimeter

**Supplies:** graph paper, blank paper, markers, pens, manipulatives

**Task 1:** Billy's parents are throwing him a birthday party. The tables they have rented are square shaped and can sit three people on each side. Due to limited space they are lining up the tables in a row. Tables will be connected in a single file line. Will three tables be enough to seat 26 guests?

**Task 2:**

1. You have five tables set up in a row for the party. What is the maximum number of guests that can be accommodated?
2. You have ten tables set up in a row for the party. What is the maximum number of guests that can be accommodated?
3. How can you find the number of guests that can be seated at any given number of tables?

**Presentation:** Create a poster to share with the class with a picture, diagram, graph, or representation of the problem. Explain your thinking used to solve the problem.

Answers:

Task 1: No. There is not enough seating at the table for 26 guests. Each end table can hold 9 guests. Each table in the middle can hold 6 guests.  $9+6+9=24$  seats.

Task 2:

1. 5 tables =  $9+6+6+6+9=36$  seats
2. 10 tables =  $9+6+6+6+6+6+6+6+6+9=66$  seats
3. One possible answer is to create an equation that represents N for the number of tables. For any number there will be two end tables that can hold 9 seats each. Two end tables will accommodate 18 guests. There are always two less middle tables than N. Each middle table accommodates 6 seats. One possible equation would be  $18+(n-2)6=$  the number of seats possible.