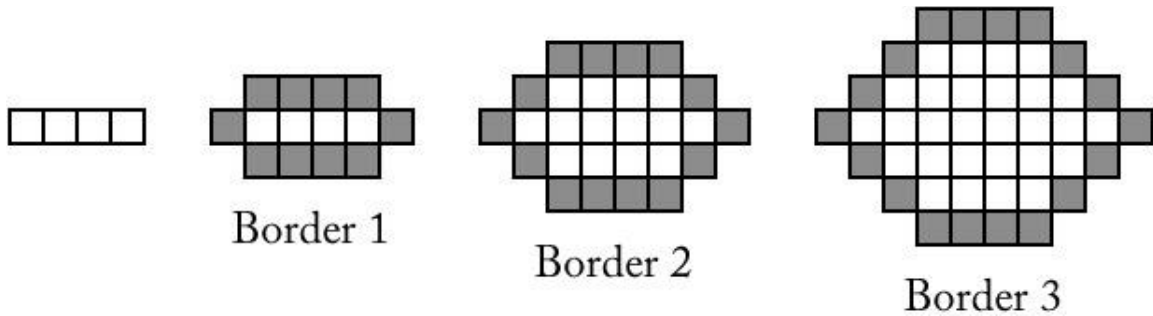


Borders Everywhere

Your task is to determine an explicit formula for the n^{th} step for each of the following:

- The number of white tiles in the n^{th} step;
- The number of gray tiles in the n^{th} step; and
- The number of total tiles in the n^{th} step.



Be prepared to justify each aspect of your formulas with respect to the pictorial representation.

When you have solved this problem, go to Room 2066 to present your solution to the Master Teacher.