Staircase Task

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Staircase 1 Staircase 2 Staircase 3 Staircase 4

The staircases below are made with toothpicks. It takes four toothpicks to build staircase number one. If the staircases continue in this manner, determine the number of toothpicks in staircase #10.

What is the number of toothpicks for any staircase?

Write an expression to describe this.

What is the number of toothpicks in the *perimeter* of each staircase?

What is the number of toothpicks in *n* staircases?

Write an expression for this.

How do you expressions compare for these?

How can you prove that your expressions will always work?