



# YALE NATIONAL INITIATIVE

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Curriculum Units by Fellows of the National Initiative  
2010 Volume IV: The Mathematics of Wallpaper

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## **Repeat After Me!**

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by Carol Boynton

We live in a world of patterns. They are all around us in everyday life, something that my first grade students notice and comment on quite frequently. When they recognize a pattern, or at least a perceived pattern by their definition, they become excited for successfully noticing a repeating motif or design.

The goal of this unit is to deepen students' understanding of how patterns work through manipulation of different materials and across the curriculum – art, music, literacy, and science. It is intended to provide experiences for first grade students to learn about and understand patterns through exploration and discovery. Young students observe and experience the world sensorially. From this experience the child abstracts concepts and qualities of things in the environment.

First graders are expected to be able to successfully sort, classify, and order objects by size, number, and other properties; recognize, describe, and extend patterns such as sequences of sounds and shapes or simple numeric patterns and translate from one representation to another; and analyze how both repeating and growing patterns are generated. With these focal points in mind, I would like to use the big idea of symmetry and wallpaper designs to guide my students through a more exciting, meaningful introduction to geometry and patterns.

(Developed for Math, grade 1; recommended for Math, grade 1)

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