

Patterns Here, There, and Everywhere

This lesson was created as a supplement to the *Patterns Here, There, and Everywhere* program at the National Building Museum. It is designed to be used in your classroom independently, or as an activity before or after a school program at the Museum. For more information about and to register for the National Building Museum's school programs, visit <http://www.nbm.org/schools-educators/school-visit/>.

The *Patterns Here, There, and Everywhere* program introduces pre-kindergarten through second grade students to patterns and helps students understand their presence in architecture, in other media, and in their everyday lives. Patterns are found everywhere and can help students make connections and predict what will come next. They help young people make sense of the world by organizing it into groupings that can be easily understood. Recognizing patterns will create a foundation for analyzing problems and designing solutions.

National Building Museum

Created by an act of Congress in 1980, the National Building Museum explores, celebrates, and illuminates achievements in architecture, design, engineering, construction, and planning. Since opening its doors in 1985, the Museum has become a vital forum for exchanging ideas and information about such topical issues as managing suburban growth, designing and building sustainable communities, and revitalizing urban centers. A private, nonprofit institution, the Museum creates and presents engaging exhibitions and education programs, including innovative curricula for school children.

Over the past two decades, the Museum has created and refined an extensive array of youth programming. Each year, approximately 50,000 young people and their families participate in hands-on learning experiences at the Museum: 2-hour-long school programs for grades K–9; major daylong festivals; drop-in family workshops; programs helping Cub and Girl Scouts earn activity badges; and three innovative outreach programs, lasting between 30 and 60 hours, for secondary school students. The Museum's youth programming has won the Washington, D.C., Mayor's Arts Award for Outstanding Contributions to Arts Education and garnered recognition from the National Endowment for the Arts.



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Classic Tales and Patterns

This lesson uses patterns to build language skills and as a means to provide ordered repetition which allows students to anticipate information and identify key features within stories. Many traditional folktales provide patterns of three, thereby teaching students counting, number sequencing, and repetition. Stories such as *Three Billy Goats Gruff* and *Goldilocks and the Three Bears* provide sequences of three, as well as patterns in ascending and descending order. The books recommended for this lesson feature houses, building materials, and bridges—all of which make up the built environment. They also refer to places that students either use or see in their community.

OBJECTIVES

Students will:

- recognize and describe patterns created by shapes, numbers, and objects;
- practice language arts skills through story telling; and
- identify patterns found in the stories they read.

NATIONAL STANDARDS OF LEARNING

Language 3, 4

Mathematics Algebra

Social Studies 3, 4, 9

DURATION

1–2 class periods,
45–60 minutes each,
depending on the number
of stories read

MATERIALS

■ *The Three Little Pigs*

Three pigs build their own houses to protect themselves from a wolf. Present are patterns of three and word repetition.

■ *Goldilocks and the Three Bears*

Three bears find a girl who has used their things and eaten their food. Present are patterns of three, word repetition, and descending patterns.

MATERIALS (CONTINUED)

■ *Three Billy Goats Gruff*

Three goats cross a bridge by tricking a troll who lives underneath it. Present are patterns of three, word repetition, and ascending patterns.

■ *A House is a House for Me* by Mary Ann Hoberman

A boy and other animals are matched with their homes using lively illustrations and rhyme. Present are patterns through word repetition.

LESSON PROCEDURE

1. Discuss and review patterns.
2. Read stories.
3. Discuss patterns found in stories.

TEACHER PREP

- Obtain 1–4 of the recommended books, either from a bookstore or local library

PATTERN VOCABULARY

Alternating Pattern, Ascending Pattern, Built Environment, Descending Pattern, Pattern, Progressive Pattern, Repeating Pattern

LESSON PLAN

1. Discuss and Review Pattern Definitions. (10–15 minutes)

- Explain that patterns are present in many of the stories they read.

2. Read Stories. (15–20 minutes)

- Assemble students in a circle and read one story at a time.

3. Discuss Patterns Found in Stories. (15–20 minutes)

- After each story, discuss patterns found in the stories and ask students a variety of questions about what they read.
- Record their responses on a black board. This will allow students to refer to their answers and begin recognizing patterns in the story.

■ Suggested Questions

- Who are the main characters, and how many are there?
- Do the same characters speak throughout the story, and if so, how many times?
- Do the same characters speak throughout the story, and if so, in what order?
- How are the characters similar?
- How are they different?

Optional Lessons

- Repeat the story and have the students act it out.
- Have the class write and perform a play incorporating architecture and patterns of three, word repetition, and ascending or descending patterns.
- Have students write stories about their families and houses using patterns.

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