

Tips for Helping at Home

- Look for patterns in your environment. Where do you see patterns? How are patterns made? Can you find a pattern in music or in a story you read or tell?



- Look at the clothing in your child's closet. Which items have patterns and which do not? You child may want to sort his or her clothes into two groups: those with patterns and those without.

- Make patterns together. Lots of household items are fun to make patterns with: buttons, caps and bottle tops, coins, and keys are just a few. You can also take turns and add on to each other's patterns.



- Try physical pattern routines with motions, such as clapping your hands and tapping your knees in a repetitive pattern. Start the pattern and see if your child can predict what will come next. Then reverse the game, with your child making a pattern for you to extend.

Web Resources

You will find web resources at:

<http://www.dreamsbeginhere.org/static/aboutdcps/departments/acadprog/mathematics/index.asp>

Mathematical Emphasis

Investigation 1— Exploring Patterns

- Observing and describing attributes
- Recognizing and describing a pattern
- Creating and extending patterns
- Predicting what comes next in a pattern

Investigation 2—What Comes Next?

- Recognizing a pattern
- Constructing and extending a pattern
- Reading a pattern
- Predicting what comes next in a pattern
- Identifying the unit of a pattern

Investigation 3—Hopscotch Paths

- Constructing and extending a pattern
- Interpreting a pattern using physical movements
- Recording a pattern
- Representing a physical pattern using materials
- Predicting what comes next in a pattern
- Identifying a unit of a pattern

Investigation 4—Pattern Borders

- Making a linear pattern in a rectangular frame
- Making and comparing patterns that use the same two variables (of color)
- Copying, building, and extending patterns that grow or shrink in some regular and predictable way
- Determining a rule for how a pattern grows or shrinks
- Recording patterns



Duval County Public Schools



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Investigations in Number, Data, and Space



Pattern Trains and Hopscotch Paths Grade Kindergarten

Exploring Patterns

Unit Goals:

- Students investigate what makes a pattern
- Students look at the relationships among the parts of pattern and predict what will come next
- Students copy, create, and extend simple linear patterns
- Students explore patterns that grow or shrink in rectangular and predictable ways.

Proposed Time Frame:

9 weeks

Vocabulary

Pattern - predictable elements that alternate, repeat, increase or decrease in a regular way.

a-b pattern -



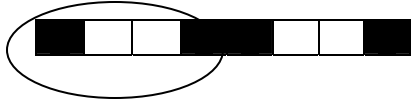
a-b-b pattern -



a-b-b-a pattern -



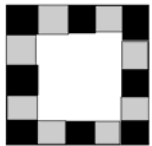
Unit - the element that repeats in a pattern



Staircase pattern



Border pattern



Glossary

<http://www.amathsdictionaryforkids.com/>



Games: The Importance of Playing More Than Once

Games are used throughout the *Investigations* curriculum as a vehicle for engaging students in important mathematical ideas.

The more students play the games the more opportunities they have to practice important skills and to think and reason mathematically. The first time or two that students play, they focus on learning the rules. Once they have mastered the rules, their interest turns to the mathematical content.

For example, when students play *Compare*, they practice counting and comparing quantities. Over time, they become familiar with addition combinations through frequent experience, rather than by rote memorization.

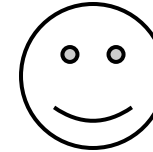
For many students, repeated experiences lead naturally to developing more efficient strategies for combining numbers, to reasoning about numbers and number combinations, and to explore relationships among number combinations.



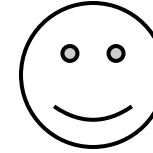
Eston, Rebecca. *Investigations in Number, Data, and Space: Pattern Trains and Hopscotch Paths*. Dale Seymour Publications, 1998.

Game

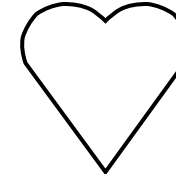
What Comes Next?



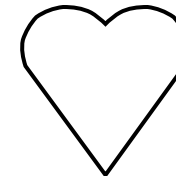
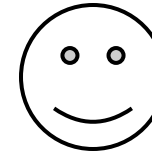
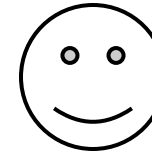
Gather items such as blocks, silverware, keys, buttons, etc.



One player makes a pattern and hides the last six elements of it.



The other player then builds the same pattern, copying as much as is showing, and predicts what's hidden.



What comes next?

