

## 3–5 Years

### Mathematics: Pattern Knowledge

**WHEN INTRODUCED AND EMPHASIZED:** Weeks 14–15, 19–20, and 35

#### BEHAVIORS TO OBSERVE

- Identifying Basic Patterns
- Creating Basic Patterns
- Creating More Complex Patterns

## OBSERVATION OPPORTUNITIES

### Identifying Basic Patterns

In what ways does the child identify basic patterns as he/she:

- copies premade patterns with pattern bears (Week 14, Day 3 center activity)?
- identifies patterns in the room (any free play period after Week 14, Day 3)?
- answers questions about patterns (Week 15, Day 1 group activity)?

### Creating Basic Patterns

In what ways does the child create basic patterns as he/she:

- draws or forms patterns with different materials; creates a pattern with movements or sounds (any free play period after Week 14, Day 2)? Example: stacks Unifix® cubes in an ABAB pattern.
- uses pattern blocks to make a pattern “snake” (Week 14, Day 5 center activity)?
- makes a pattern bracelet (Week 15, Day 2 group activity)?

### Creating More Complex Patterns

In what ways does the child create more complex patterns as he/she:

- forms a pattern with sounds, movement, or materials (any free play period after Week 19, Day 2)? Example: sets up and plays a xylophone, drum, and bell in a rhythmic pattern
- forms a pattern with fish crackers (Week 20, Day 1 group activity)?

## FOLLOW-UP LEARNING SUPPORTS

### Reinforce

*The following activities are designed to support the development of pattern knowledge.*

#### Identifying Basic Patterns

- Play a game of *I Spy* in which children “spy” things that represent or include a pattern.
- Invite children to identify patterns in pictures you display as part of a transition to the next activity.

#### Creating Basic Patterns

- Form a pattern when transitioning to a new activity. Invite children to say who should come next, based on the pattern. Example: Start a boy, girl, boy, girl pattern. Invite a child to say the name of the next child to stand in the line to go outside.
- Encourage children to describe how they know which item would come next in creating a pattern.
- Create a pattern, while children watch, that includes an intentional error that children are invited to detect and correct.

#### Creating More Complex Patterns

- Read books that include patterns. Some options include *Hand, Hand, Fingers, Thumb* by Al Perkins, *Bebop Express* by H.L. Panahi, and *The Very Hungry Caterpillar* by Eric Carle. The pattern in *The Very Hungry Caterpillar* is considered a growing pattern because on each page, one more item is added to the pattern (or eaten by the caterpillar). Invite children to say a pictured pattern with you.
- Make copies of the pictures used for the Creative Expression cube used in Week 11, Day 3. Cut apart the pictures and invite children to form a movement pattern with the pictures. Encourage children to do the movements shown in the movement pattern.

### Reintroduce

*The following activities are designed to support the development of pattern knowledge among children who find it challenging to identify or create patterns. These activities are also appropriate for all children.*

## IDENTIFYING BASIC PATTERNS

- Use the Week 14, Day 1 group activity to point out patterns found in clothing.
- Use the Week 14, Day 3 group activity to help children understand that patterns are all around us. Lead children in identifying patterns in your room.

## Creating Basic Patterns

- Repeat the Week 14, Day 2 group activity to provide practice in creating patterns. Point to each Unifix® cube and say the cube's color as a child makes a pattern. Encourage children to say which color comes next.
- Repeat the Week 14, Day 4 group activity. Slow down the movement pattern if children have difficulty following it.

## Creating More Complex Patterns (for children who demonstrate understanding of basic patterns)

- Repeat the Week 19, Day 4 group activity. Point to each item a child is using to make a pattern and say the item (example: bead). When appropriate, provide prompts for a child to know which color comes next in the pattern.
- Repeat the Week 20, Day 1 group activity to show children how a pattern can be made with more than two items.

## EXAMPLES OF PORTFOLIO ENTRIES

An understanding of patterns (such as red, blue, red, blue) is a valuable part of early math skills promoted in our room. Recently I observed Elijah's pattern skills in a variety of settings on different days. Elijah identified patterns and made both simple and more complex patterns. His skill in creating simple patterns is strong and he appears to be strengthening his understanding of more complex patterns that involve three different items. In a recent staff-initiated activity, Elijah independently created a basic pattern. I have observed Elijah creating basic patterns and more complex patterns during free play periods. We will continue to provide learning experiences for Elijah to strengthen his pattern knowledge.

An understanding of patterns (such as red, blue, red, blue) is a valuable part of early math skills promoted in our room. Recently I observed Santiago's pattern skills in a variety of settings on different days. Santiago is beginning to show awareness of patterns around him. With staff support, Santiago created a basic pattern in a recent group activity. He seems interested in more complex patterns. In free play situations where staff support or visuals were not provided, Santiago started patterns but did not finish them. We are providing learning experiences to help Santiago improve his pattern skills.

An understanding of patterns (such as red, blue, red, blue) is a valuable part of early math skills promoted in our room. Recently I observed Luciana's pattern skills in a variety of settings on different days. Luciana enjoys sorting materials for creating patterns into groups of similar or same items. For example, she independently sorted red and blue beads into their respective color groups as part of an activity focused on creating pattern bracelets with red and blue beads. In a different activity, she formed the beginning of a simple pattern when staff guidance was offered. She watches carefully when staff demonstrate how to make a simple pattern. We are providing individualized learning experiences to help Luciana improve her pattern skills.