



LESSON 1

Recognizing Patterns

Lesson at a Glance

LEARNING GOALS

- Notice and describe a variety of repeating patterns.

LANGUAGE LEARNING GOALS

- Orally describe a variety of patterns.

California Preschool/Transitional Kindergarten Learning Foundations (PTKLFs)

OAT.2.6.LF Recognize, Duplicate, and Extend Patterns:

Explore, extend, and duplicate a variety of repeating patterns (for example, AABBAABB, ABCABC) with adult support. Describe the repeating part of a pattern (pattern unit).

Learning Trajectories (LTs)

Patterner (Age 4–5): Recognizes, describes, and builds repeating patterns, including AB but also patterns with core units such as AAB, ABC, and AABC.

*See the [Scope and Sequence](#) for additional alignment information and lesson details.

Assessment Guidance

Formative Assessment

Formative assessment questions are included in the lesson guidance to gauge student understanding.

Progress Monitoring

Use the [Observation Checkpoints](#) sheet to record student progress along the LTs and PTKLFs.

Social-Emotional Monitoring

Refer to the [SE Monitoring Tool](#) as you observe students engaged in lesson activities, such as *Inquiry Play*.

Lesson Components

DAY 1 Explore	DAY 2 Discover	DAY 3 Build
Students explore a variety of patterns.	Students discover ways to describe a variety of patterns.	Students build on what they know about patterns to identify and describe different types of patterns.
Number Play Question of the Day	Number Play Dot Talk	Number Play Counting Collections
Opening See and Ask: Flower Patterns	Opening Math Detectives: Nature Patterns	Opening Act It Out: Nature Walk Patterns

Centers for All Days

Inquiry Play

- Music/Movement [↻review](#)
- Art
- Library/Books
- Science [↻review](#)

Partner Play

- [Pick and Pair: Patterns](#)
- Optional: [What's Behind My Back: AB Patterns](#) [↻review](#)

Teacher-Led Play

- [Recognizing More Patterns](#)
- Optional: [Pattern Match: More Patterns](#)

Math Play

- [Pattern Match](#) (Day 3 only)

Additional or alternative center options may be selected from the [Centers Library](#).

Closing

Let's Draw!

Closing

Let's Move!

Closing

Let's Talk!

Lesson Materials

DAY 1

Explore

DAY 2

Discover

DAY 3

Build

Lesson Presentation • [Lesson 1 Slides: Recognizing Patterns](#)

Number Play

Question of the Day

- Chart paper

Dot Talk

- [Slides: Dot Arrangements \(animated\)](#)

Counting Collections

- Objects to count

Opening

See and Ask: Flower Patterns

- [Slide: Flower Patterns](#)

Math Detectives: Nature Patterns

- [Slide: Nature Pattern Choices](#)
- [Nature Pattern Choices](#)

Act It Out: Nature Walk Patterns

- [Slide: Nature Walk Story \(animated\)](#)

Centers

Inquiry Play

Music/Movement [↻review](#)

- Variety of soft and hard materials to fill containers (e.g., beads, cotton balls, shredded paper, packing peanuts)
- Containers (with lids) of different sizes

Art

- Watercolor paints
- Paintbrushes
- Pattern sheets (See Preparation.)

Library/Books

- Picture books about patterns and patterns in nature (See [Recommended Books List](#).)

Science [↻review](#)

- [Insect Pictures](#)
- Optional:
 - Magnifying glasses
 - [Shape Cards](#) or [More Shape Cards](#)

Partner Play

Pick and Pair: Patterns

- [More Pattern Block Pattern Cards](#)

Optional: What's Behind My Back: AB Patterns [↻review](#)

- [Pattern Block Pattern Cards](#)
- Pattern blocks (1 set per student pair)
- Connecting cubes (5 per student pair)

Centers

Teacher-Led
Play

Recognizing More Patterns

- Nature items (3 different items, at least 6 of each, e.g., pinecones, leaves, rocks, shells, acorns)

Optional: Pattern Match: More Patterns

- [More Shape Pattern Cards](#)
- Small sticky notes

Math
PlayDAY 3
ONLY

Pattern Match

- [More Shape Pattern Cards](#)

Closing

DAY 1

Explore

Let's Draw!

- Student journal (or paper)
- Pencils or crayons
- [Emotions Pictures](#)

DAY 2

Discover

Let's Move!

- None

DAY 3

Build

Let's Talk!

- None

MATH MOMENTS:

Opportunities to Integrate Math

Opening Community Time (Start of the Day)

- As students are gathered on the rug, say:
 - "I am going to greet each of you. Watch and see if you can figure out my pattern." Greet students, alternating between handshake, fist bump, and high five.
- While students sit in the morning circle,
 - Point to any weather or season patterns displayed. Ask, "What patterns do you see?"

Throughout the Day

- During recess or a nature walk, ask:
 - "What materials can we collect to make patterns?"
- While students line up, say:
 - "Let's turn our line into a pattern." Ask each student to help create an ABC pattern (e.g., put their arms up in the air, out to their sides, or straight down). Ask, "Can you describe the pattern?"
- While students transition between places, say:
 - "While we walk, let's make a pattern with our steps. Do 2 big steps, then 1 little step. How can you describe our walking pattern?"
 - "Be a pattern detective as we walk today. Can you find a pattern in the [hallway, playground]?"

Closing Community Time (End of the Day)

- As students clean up, ask:
 - "Do you see any patterns in the bins or on the shelves when you put items away?"
- As students prepare to go home for the day, ask:
 - "Can you find a pattern in your home?"

DAY 1

Explore

Number Play



5 min

Number Play can be done during morning meeting time or anytime throughout the day.

Reinforce number sense and counting concepts with the *Question of the Day* routine located in the [Number Play Routines](#) list. Or select a different routine from the list.

Opening



10 min

See and Ask: Flower Patterns

The purpose of this activity is to encourage students to explore patterns and to spark interest in this lesson's topic. It's important to invite and welcome all voices. There are no right or wrong responses.

Materials

- [Slide: Flower Patterns](#)

Preparation

- None

Guidance

- Display the image.
- **Ask:** "What do you see? What questions do you want to ask?" Have quiet think time.
- **Say:** "Talk with your partner. Tell them what you think." Share responses. Consider recording them.

Explore

- **Say:** "This picture shows 2 patterns. Remember that a pattern is something that repeats in a special way."
- Ask students to describe each pattern. If needed, demonstrate how to describe each pattern by naming each item in order and then identifying the core unit.
- **Ask:** "How are these 2 patterns the same? How are they different?"
- Highlight that both patterns have flowers, but the top pattern repeats 2 different flowers and the bottom pattern repeats 3 different flowers.
- **Say:** "Today we will explore different kinds of patterns."

Strategies for Enhancing Access

- Before beginning, point to and name each flower (sunflower, rose, daisy) used in the patterns. Lead students to say each name as you point to it. This will help ensure all students can participate in the activity. **English Learners**
- Connect to prior learning by reminding students that they saw patterns like the top one when they explored patterns in music. Consider demonstrating an [AB pattern with sounds](#), such as clap, snap, clap, snap, clap, snap. Explain that students will now explore patterns in nature. **Diverse Learners**

*See the [TK Math Strategies for Enhancing Access](#) for more information about the strategies. For more details about alignments to those strategies in this lesson, see the [Scope and Sequence](#).

Centers

Inquiry
Play

10–20 min

Provide self-directed, unstructured *Inquiry Play* options for students to explore. After a period of uninterrupted play, ask:

- “What are you doing with ____?”
- “How did you decide to ____?”
- “What do you see in/on ____?”
- “Can you tell me more about ____?”

Inquiry Play

**Music/Movement** *Ureview*

Students can notice sound patterns as they fill different-size containers to make shakers.

Technology Integration:
Students can record themselves making music with a shaker.

Materials

- Variety of soft and hard materials to fill containers (e.g., beads, cotton balls, shredded paper, packing peanuts)
- Containers (with lids) of different sizes

Preparation

- Fill 2 containers, 1 with soft materials and 1 with hard materials, and put the lids on. Display for students to explore and use as an example to make their own shakers.

Art

Students can notice and describe patterns. They may identify and discuss their pattern with others in the center.

Materials

- Watercolor paints
- Paintbrushes
- Pattern sheets (See Preparation.)

Preparation

- Prepare pattern sheets by drawing 9 shapes in an AABB or ABCABC pattern in white crayon on white paper. As students apply watercolor, the shape pattern will appear.

Library/Books

Students can find patterns in nature while looking at books.

Technology Integration:
Students can listen to audio books.

Materials

- Picture books about patterns and patterns in nature (See [Recommended Books List](#).)

Preparation

- None

Science *Ureview*

Students can identify shapes and look for patterns in insect pictures.

Materials

- [Insect Pictures](#)
- Optional:
 - Magnifying glasses
 - [Shape Cards](#) or [More Shape Cards](#)

Preparation

- None


Partner Play

Teacher-Led Play
**15–20 min**

Introduce the **Partner Play** options for students to engage in while you work with small groups in **Teacher-Led Play**.

Partner Play



Pick and Pair: Patterns

Students make pairs with 2 cards that show the exact same pattern.

Materials

- [More Pattern Block Pattern Cards](#)

Preparation

- None

Optional: [What's Behind My Back: AB Patterns](#) [↪ review](#)

Students use pattern blocks to recreate the pattern on a card. Then they take turns removing a block.

Note: Students are not expected to name all the shapes in the patterns.

Materials

- [Pattern Block Pattern Cards](#)
- Pattern blocks (1 set per student pair)
- Connecting cubes (5 per student pair)

Preparation

- None

*See the [Centers Library](#) for additional *Partner Play* options to meet classroom or student needs.

Teacher-Led Play



Recognizing More Patterns

Students recognize and describe a variety of repeating patterns.

Materials

- Nature items (3 different items, at least 6 of each, e.g., pinecones, leaves, rocks, shells, acorns)

Preparation

- None

Optional: [Pattern Match: More Patterns](#)

This center prepares students for *Math Play* on Day 3.

Materials

- [More Shape Pattern Cards](#)
- Small sticky notes

Preparation

- Cut out the individual shapes students will use to fix the patterns.

Record observations in the [Observation Checkpoints](#) sheet and provide differentiation as needed.

Closing



5 min

Let's Draw!

The purpose of this activity is for students to reflect on their time in centers. Students respond to a journaling prompt by drawing.

Materials

- Student journal (or paper)
- Pencils or crayons
- [Emotions Pictures](#)

Preparation

- Display the Emotions Pictures.

Guidance

- **Say:** “Today we explored patterns. We explored as a class and in centers.”
- **Ask:** “How did you feel working with partners in centers today? Draw a picture in your journal to show how you felt.”
- **Say:** “Show or tell your partner what you drew.” Share responses.

Strategies for Enhancing Access

Emphasize the importance of learning together as a community. Hearing each other's ideas and collaborating is central to the learning process. Encourage students to share experiences during centers today when they helped or supported another student or vice versa. Ask students to describe how it felt to help or be helped. [Diverse Learners](#)

Teacher Reflection Questions

Each day, take a moment to reflect on the teaching and learning in your classroom.

1. What unfinished learning or misunderstandings do your students have about patterns? How did you leverage those misconceptions in a positive way to further the understanding of the class?
2. Check in with your norms and routines. Are they promoting engagement from all of your students? Are there any adjustments you might make so that all students feel included in the class community?

DAY 2

Discover

Number Play



5 min

Reinforce number sense and counting concepts with the *Dot Talk* routine located in the [Number Play Routines](#) list. Or select a different routine from the list.

Opening



10 min

Math Detectives: Nature Patterns

The purpose of this activity is for students to use clues to identify a pattern. Students use their funds of knowledge and logic to eliminate choices until only one choice remains.

Materials

- [Slide: Nature Pattern Choices](#)
- [Nature Pattern Choices](#)

Preparation

- Display each choice in a different location in the classroom.

Guidance

- Show the 3 choices on the slide. **Say:** “I saw 1 of these nature patterns on a poster. Which do you think it is? I will give you clues to find the pattern.”
- Point out where each choice is displayed. Tell students to choose 1 and go stand by it.
- Give Clue 1. **Say:** “There are only pinecones and trees in the pattern.”
- Groups discuss and decide if their pattern matches the clue.
- Students from each group tell why their pattern does or does not match the clue.
 - *Match:* Students stay where they are.
 - *No Match:* Students move to a different pattern.
- Repeat for Clue 2. **Say:** “The pattern repeats: pinecone, pinecone, tree.”

Discover

- Return to the carpet area and point to the 3 patterns.
- Review how each clue eliminates a choice.

Clue 1: There are only pinecones and trees in the pattern.

Eliminates C because it has flowers.

Clue 2: The pattern repeats: pinecone, pinecone, tree.

Eliminates A because the pattern is pinecone, tree, tree.

- “What is the same about these patterns? What is different?”
- **Say:** “Today we will discover more about patterns.”

Strategies for Enhancing Access

- To ensure all students can participate in discussions, point to and name each image in the patterns. Lead students to say each name as you point to it. [English Learners](#)
- Throughout this lesson, collect and display the language students use to describe patterns, such as “pattern,” “repeat,” “first,” “next,” and “then.” Use visuals, gestures, and acting it out to help students understand the words. [English Learners](#) [Diverse Learners](#)

*See the [TK Math Strategies for Enhancing Access](#) for more information about the strategies. For more details about alignments to those strategies in this lesson, see the [Scope and Sequence](#).

Centers

Inquiry Play



10–20 min

Provide the same *Inquiry Play* options for students to continue their exploration.

Inquiry Play



- Music/Movement [review](#)
- Art
- Library/Books
- Science [review](#)

Partner Play

Teacher-Led Play



15–20 min

After *Inquiry Play*, transition to *Partner Play* while you work with small groups in *Teacher-Led Play*.

Partner Play



- [Pick and Pair: Patterns](#)
- Optional: [What's Behind My Back: AB Patterns](#) [review](#)

Teacher-Led Play



- [Recognizing More Patterns](#)
- Optional: [Pattern Match: More Patterns](#)

Record observations in the [Observation Checkpoints](#) sheet and provide differentiation as needed. Additional or alternative center options may be selected from the [Centers Library](#).

Closing



5 min

Let's Move!

The purpose of this activity is to reflect on patterns. Students respond using movement.

Materials

- None

Preparation

- None

Guidance

- **Say:** “Today we discovered more about patterns.”
- Show students an ABAB pattern using movements, such as “clap, stomp, clap, stomp.”
- **Ask:** “Did I show you a pattern? How do you know?”
- Repeat the pattern for a few more iterations. Name each action as you perform it. Encourage students to join you in making the pattern.
- **Ask:** “What is the pattern?”
- Repeat with a variety of patterns, such as ABC, AAB, ABB, AABB, and AABC.

Strategies for Enhancing Access

Use the [Sound and Movement Pictures](#) to provide additional methods for receiving information. Place copies of the movement cards in a row to show the patterns you demonstrate. Students can refer to it to describe the pattern. [Diverse Learners](#)

DAY 3

Build

Number Play



5 min

Reinforce number sense and counting concepts with the *Counting Collections* routine located in the [Number Play Routines](#) list. Or select a different routine from the list.



Opening



10 min

Act It Out: Nature Walk Patterns

The purpose of this activity is to gain a deeper understanding of patterns by acting out a story that involves that topic. Students use objects to represent a pattern in the story and identify how to change the objects to show a pattern.

Materials

- [Slide: Nature Walk Story \(animated\)](#)
- Nature set (1 per student pair)

Preparation

- Prepare nature sets that include 4 of each item: leaves, rocks, and sticks.

Guidance

- **Say:** “I am going to read a story. Listen closely because we will act it out. We will pretend to do what is described in the story.”
- Display the images as you read the story aloud. See the slide’s Teacher Notes for when to click to animate the image.

“A class goes on a nature walk. They collect objects to make a pattern. Then they put their objects in a row. The first object is a leaf. The next object is a stick. The next object is a rock. The rest are leaf, stick, rock, leaf, rock, stick. Are the objects in a pattern?”

- **Say:** “Let’s act out the story to see if the objects are in a pattern!”
- Give each student pair a nature set. Explain that we will use this set to show the objects the class put in a row.
- Read the story at least 1 more time, pausing as needed to give students time to place their objects in a row. For the last read, point to each object as you say its name.
- **Ask:** “Are all of the objects in a pattern? Talk with your partner. Tell them what you think.” Share responses.

Build

- **Ask:** “How can the class change the row so all of the objects are in a pattern?” [Switch the order of the last 2 objects.]
- Invite partners to make that change with their objects.
- **Ask:** “How do you know your objects show a pattern now?”
- **Say:** “Today we will build on what we have learned about patterns.”

Strategies for Enhancing Access

Before beginning, show students each of the materials used to ensure all students can participate in the activity. Point to and name each material (leaf, stick, rock). Lead students to say each name as you point to it. [Diverse Learners](#) [English Learners](#)

*See the [TK Math Strategies for Enhancing Access](#) for more information about the strategies. For more details about alignments to those strategies in this lesson, see the [Scope and Sequence](#).

Centers

Inquiry Play



10–20 min

Provide the same *Inquiry Play* options for students to continue their exploration.

Inquiry Play



- Music/Movement [review](#)
- Art
- Library/Books
- Science [review](#)

Partner Play

Math Play



15–20 min

After *Inquiry Play*, provide the same *Partner Play* options and assign students to work on *Math Play* independently.

Partner Play



- [Pick and Pair: Patterns](#)
- Optional: [What's Behind My Back: AB Patterns](#) [review](#)

Math Play



Pattern Match

Match More Patterns (LF)

Students recognize and describe patterns to match pairs of pattern cards.

Materials

- [More Shape Pattern Cards](#)

Preparation

- None

Additional or alternative center options may be selected from the [Centers Library](#).

Closing



5 min

Let's Talk!

The purpose of this activity is for students to reflect on what they have learned about patterns. Students respond to discussion prompts with a partner.

Materials

- None

Preparation

- None

Guidance

- **Say:** “Today we learned more about patterns. Tell your partner something you learned about patterns that you want to share with someone at home.” Share responses.
- Point out that many of the patterns we saw in this lesson involved nature. Ask students to share what they think nature is.
- If needed, explain that nature is everything that is not made by people. It's things like trees, the ocean, flowers, animals, rocks, and the sky.
- Tell students that we will explore patterns in nature over the next few weeks.
- **Ask:** “What is your favorite part of nature? Tell your partner.”

Strategies for Enhancing Access

Give students access to [More Pattern Block Pattern Cards](#), pattern blocks, or other manipulatives and invite them to show their partner what they learned about patterns. [Diverse Learners](#)