

Problem Solvers Activity 13: Pattern Placemats

CHILDREN ARE LEARNING TO...¹

- Identify or recognize a simple repeating pattern.
- Create a simple repeating pattern or participate in making one.

MATERIALS NEEDED:

Placemat, plate, cup, fork, and spoon (optional)

Large pieces of construction paper, approximately 12x18", one per child and one for teacher

12 paper plates or bowls to hold picture cards

2 trays (optional)

Glue sticks, 1 per child

Handout 1: Placemat Patterns

Handout 2: Picture Cards

PREPARATION:

- Print **Handout 1** in color.
- Print 10 copies of **Handout 2** in color. (You may want to print additional pattern cards and laminate them for future use.)
- Cut out each of the picture cards so you have 10 cards of each image.
- Organize the pictures by image. You should have 12 sets of 10 cards each. Place each set of cards in a bowl to keep them separate.
- Optional: Place 6 bowls on each of two trays.
- Prepare copies of the parent handout for distribution. Note that the parent handout is 3 pages for this activity and the photos benefit from color copies, if possible.
- If you plan on implementing the optional book activity, refer to the preparation instructions in that section.

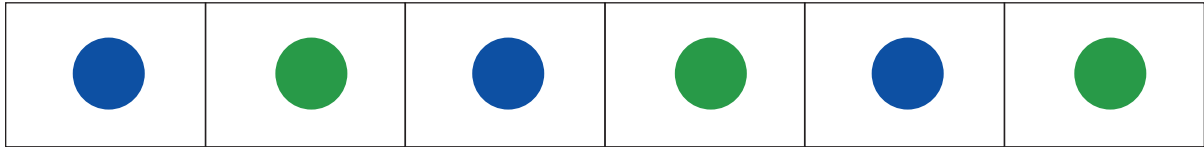
¹ California Department of Education (2008). Preschool Learning Foundations. Retrieved from <https://www.cde.ca.gov/sp/cd/re/documents/pre-school/f.pdf>

Background Information on Teaching Patterns

- Visual patterns are easiest because children can see the items that repeat.

Sound and movement patterns are more challenging because once we hear something or perform a movement, it is gone. This makes it more difficult for children to figure out these patterns.

- Children need to see at least three repeats of a pattern to discover what's happening, like:

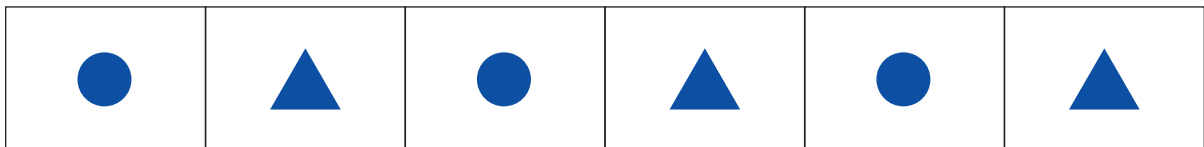


The pattern is blue, green, blue, green, blue, green. This is a two-part pattern. Often two-part patterns like this are called AB patterns. We use A to stand for the blue circle and B to stand for the green circle. (And—it doesn't matter which letters we use. It's more about the letters representing the repeating attributes in the pattern.)

- Children may notice color first, but patterns can be based on other characteristics, like size or shape.

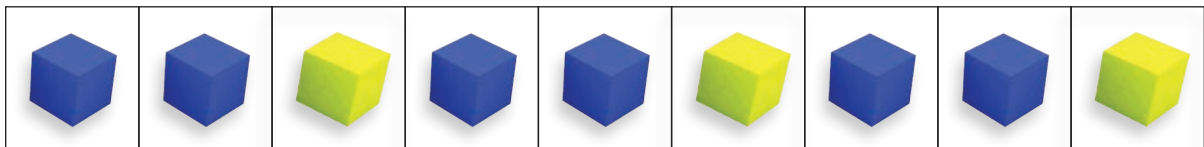


The pattern is little, big, little, big, little, big. This is also an AB pattern.



The pattern is circle, triangle, circle, triangle, circle, triangle. This is an AB pattern, too.

- It's easiest for children to discover the pattern when only one characteristic (or attribute) is changed at a time. Size can change, or shape can change, but it can get confusing when both change at the same time.
- You can make a pattern more difficult by changing the repeat. Adults would call the pattern of blue and yellow blocks an AAB pattern (or a three-part pattern). Children might describe the "rule" as blue, blue, yellow.



- Patterns can be arranged in different ways and appear everywhere.



Activity Instructions

ENGAGE

Gather a group of 4 children on the floor or at a table.

SAY: Problem Solvers, today we are going to make placemats to use at snack time. Each of you will make a placemat that is just for you. Who knows what a placemat is used for?

Show a real placemat and how it can be used to set the table with a plate, cup, fork, and spoon. Alternatively, show the placemat on **Handout 1** and point out the plate, knife, and fork.

Show the striped placemats on **Handout 1**.

SAY: Let's look at these placemats. What colors do you see? What do you notice? [Confirm that each placemat has red stripes.] How are they different? [Their stripes have different patterns. One has a white/red, white/red pattern. One has patterns only at the edges: thin red, fat red, thin red.]

EXPAND

Put a large piece of construction paper on the table. Take out the picture cards and put them on the table.

SAY: Problem-solvers, can you help me decorate my placemat? I am going to line up picture cards across the top, like a train. When I have a pattern I like, I will glue the cards in place. I will choose two kinds of cards to make my design. [Select a child to pick the first picture to use. Ask a second child to pick the second picture. **Note: Be sure to begin with just two photos, repeated to create an AB pattern.**]

Begin by putting one picture card near the top left corner of the placemat.

Create an AB pattern on your paper, describing what you're doing as you place the cards.

SAY: First, I will put a blue deer here, then a red deer. Next, a blue deer. Then: a red deer, blue deer, red deer.

Continue until you have six deer in a row.



ASK: What do you notice about my picture cards? [See if children point out or describe the pattern.]

If children point out the pattern: Yes, the pictures are in a special order. That's called a pattern.

If children do not point out the pattern: point it out and name the colors, encouraging the children to join you. Explain: "When we see the pictures repeat like this—with a special order like blue, red, blue, red—we call it a pattern."

ASK: What comes next in my pattern? What comes after that?

For older children (3 ½ - 4 years), you might ask a question like: I'd like to put a red deer after the red deer. Is that my pattern? If the children say no, probe: Tell me about why the red deer doesn't belong there.

ASK: What can you tell me about this pattern? How would you describe this pattern?

Listen to see if children begin to describe the “rule” of the pattern (blue/red/blue/red).

SAY: All patterns have a special rule they follow. The rule of this pattern is blue deer, red deer, blue deer, red deer.

ASK children to hide their eyes while you take one red deer away from the middle of the pattern.

SAY: I took one deer away. Can you find the place where a deer is missing? What color deer belongs here? What makes you think that? How do you know?

If children need help, start on the left and name the colors of deer together: blue, red, blue, red, etc. Pause at the missing space and allow children to fill in the missing color. When they do, replace the red deer card.

Repeat by asking children to hide their eyes one more time while you remove a blue deer from the pattern. Once again, ask children to help you figure out which deer is missing and belongs in that space.

Distribute construction paper. **Have each child choose two pictures to work with.** Ask them to choose 4 of each picture.

SAY: Can you make a pattern like mine? Start with one picture card here. [Demonstrate placing a card in the upper left corner.] What will you add next?

As children work, ask them to describe their patterns. Be sure to explore what they think the “rule” of their pattern is: like *tree, car, tree, car*.

When children have completed one pattern, repeat the activity. Ask them to choose two different pictures and create another pattern on their placemat. Repeat the discussion above, asking children to describe their new pattern.

EXPLORE

For children aged 2.5 to 3.5 years, continue creating AB patterns with two new pictures.

For children aged 3.5 and up, create pairs to work together. Have children examine each other’s patterns and select the card that would go next in their partner’s pattern. If time allows, they can create a “friendship pattern.” Each child selects four copies of a picture of their choice (not the same one). They can create a repeating pattern, each taking turns to place their images on the placemat in an AB pattern. When they are done, ask them to tell you the “rule” of their pattern.

For all children: When children have had the opportunity to explore and create their patterns, let them glue the cards to their placemats. Add each child’s name to the bottom of their placemat. Consider laminating placemats for use at meals or snack time.

REFLECT

SAY: Patterns are all around us! Let’s see what patterns we can find in our classroom. I spy a pattern of [describe something in the classroom, like a shirt with a white stripe/blue stripe]. Who can find the pattern I’m describing? (As each pattern is guessed, invite the guesser to return to the large group.)

Individualizing the Activity

MAKE IT MORE CHALLENGING:

- Create a new pattern using two pictures. For example, you might create an AAB pattern (red deer, red deer, blue deer). Remember that children need to see 3 repetitions of a pattern to understand it. Place these cards on table or placemat and speak the pattern aloud. See if children can describe and extend this new, more challenging pattern.
- Ask your Problem Solvers to help you solve the problem of the missing pattern! Create an AB pattern that has 2-3 spots missing. Ask if children want to figure out what pictures go in the empty spots.
- Give children the chance to create a very long pattern. Make extra copies of the pictures and allow children to choose two pictures for this activity. Give them all the copies of those two images. Invite them to create a "super long" pattern along the floor, until they've used up all the pictures in their stack.

MAKE IT LESS CHALLENGING:

- Children understand patterns in different ways as they develop. For example, they may be able to make a pattern before they can describe it. Repeating the pattern out loud can help—try chanting together to describe the pattern: BIG, little, BIG, little or blue, RED, blue, RED.
- Provide lots of opportunities to try AB patterns.
- Distribute the same two images for all children who are new to patterns. Work as a group to create a pattern on their placemat. Each time, repeat the patter: "We just added another red deer. Now our pattern says: Red deer, blue deer, red deer, blue deer, **red deer**."

MAKING CONNECTIONS ACROSS THE DAY:

- Use a visual schedule to illustrate patterns that happen every day, like snack-story-nap. Use the schedule to talk about "what comes next."
- Take a walk around the school so children can notice patterns in the school environment. Take photos for a classroom pattern book.
- Use children's placemats to help children set the table at snack time, placing a plate, cup, and napkin at each place. Talk about the patterns on placemats during mealtimes.
- Invite families to share items from home that include patterns.



African Kente cloth



Guatemalan fabric



Polish teapot



Native American
blanket

Song: *Let's Make a Pattern*

The lyrics to the song are below. : As children listen to the song, model making the patterns suggested with the picture cards. As children are able, encourage them to make the same patterns with you using the cards. Pause the song as needed to give children time to place their picture cards.

Let's make a pattern
It's easy, you see?
Pick up some cards and
Make one with me!

Green square blue square
Green square blue square
Green square blue square
Pretty as can be!

Let's make a pattern
It's easy, you see?
Pick up some cards and
Make one with me!

Blue deer, red deer
Blue deer, red deer
Blue deer, red deer
Pretty as can be!

Let's make a pattern
It's easy, you see?
Pick up some cards and
Make one with me!

Orange dino, green dino
Orange dino, green dino
Orange dino, green dino
Pretty as can be!

Making Literacy Connections

Share the following book with children as an opportunity to deepen their understanding of patterns. The literacy extension activity below suggests another play-based experience to invite children to explore patterns.

Suggested Book: *Ten Little Rabbits* by Virginia Grossman

Ten Little Rabbits is a simple counting book rich with Native American traditions, patterns, and new vocabulary.

AS YOU READ:

- Before you read the story, pre-teach words that may be unfamiliar to children (for example, nimble, festive mischief-makers, anglers, and weavers).
- Have children join you in counting the rabbits on each page.
- Point out the patterns in the illustrations and ask children to describe them, for example, red stripe/white stripe.
- Describe traditions that may be unfamiliar to children, like tracking animals or fishing.

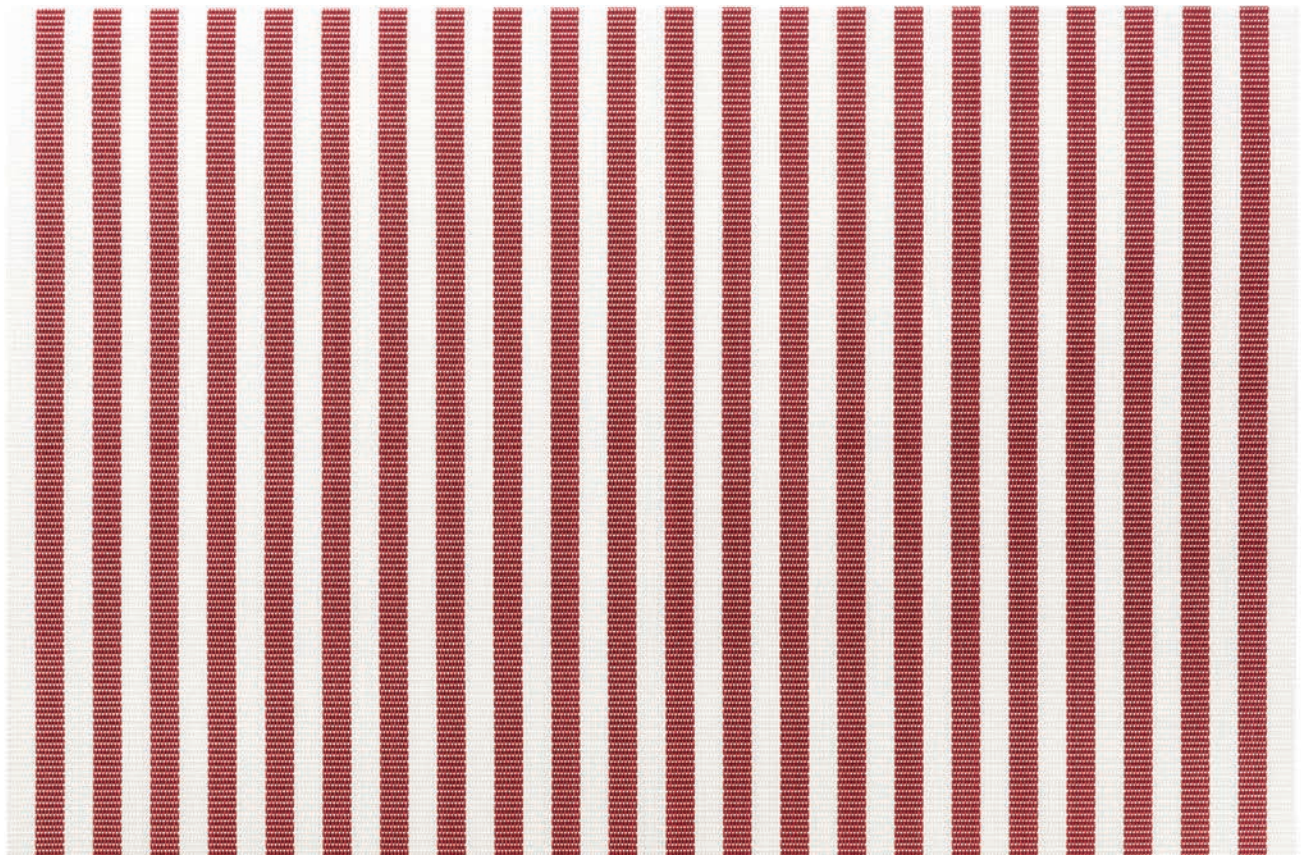
BUILD ON THE BOOK

Materials: construction paper, one sheet per child; one-inch strips of colored construction paper in two colors, cut width-wise; glue sticks.




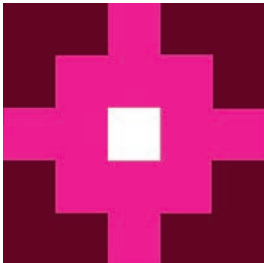






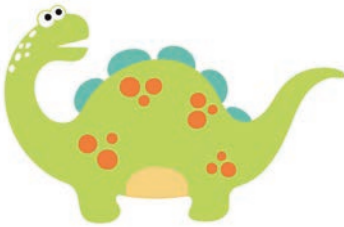
Have children choose two colors of construction paper strips or felt strips and use them to create a blanket pattern on their construction paper. Observe the children's repeated patterns and talk about how they are alike and different.

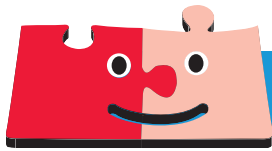
Handout 1: Placemat Patterns





Handout 2: Picture Cards



Patterns: Bedtime Routines

Anything that repeats is a **pattern**. The stripes on a blanket. The beeping of a car alarm. The steps of your favorite dance.

Even our days have patterns—routines that happen at about the same time and in the same way, day after day. Patterns help children make sense of the world. Knowing what comes next makes them feel safe and secure.



You might already have a routine (a kind of pattern) that helps your child wind down and get ready for bed at night. If not, a picture schedule is a great way for toddlers and preschoolers to figure out what comes next with fewer reminders from you. Here's how it works:

- Figure out the steps you want to include to get your child ready for bed. 3 to 6 steps is a good number.
- Put the steps in the order you want them to happen. For example:
 1. Get a bath
 2. Put on PJs
 3. Brush teeth
 4. Read a story
 5. Say goodnight
 6. Go to sleep
- Now, you need a picture that shows each step. You can take pictures of your child and print them. Or leave them on your phone, arranged in the order you want each step to happen. Or cut apart the pictures on the next page and tape them to the handout in order. (If you want, you can add a few words to each picture. Like "Put on PJs" or "Get a bath".)
- When it's time to get ready for bed, point to the first picture and ask your child what comes first. When that's done, ask what's next. Continue until all the steps are done. The chart lets your child take charge of the process, maybe with fewer arguments and meltdowns. And it's a pattern!

What do you do to get ready for bed? Draw or paste pictures here.

1.

2.

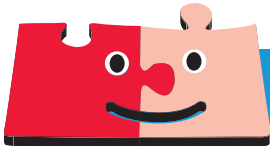
3.

4.

5.

6.





Solo para familias

Rutinas a la hora de acostarse

Cualquier cosa que se repita es un **patrón**. Las rayas en una manta. El pitido de la alarma de un coche. Los pasos de su baile favorito.

Incluso nuestros días tienen patrones, rutinas que ocurren aproximadamente a la misma hora y de la misma manera, día tras día. Los patrones ayudan a los niños a tener sentido del mundo. Saber lo que viene después, los hace sentir seguros y protegidos.



Es posible que ya tenga una rutina (una especie de patrón) que ayude a su hijo a relajarse y prepararse para acostarse por la noche. De lo contrario, un horario con imágenes es una excelente manera para que los niños pequeños y preescolares descubran lo que viene a continuación con menos recordatorios de usted. Así es como funciona:

Averigüe los pasos que desea incluir para que su hijo esté listo para acostarse. 3 a 6 pasos es un buen número.

- Ponga los pasos en el orden en que desea que sucedan. Por ejemplo:
 1. Báñate
 2. Ponte ropa de dormir
 3. Cepíllate los dientes
 4. Lee una historia
 5. Di buenas noches
 6. Vete a dormir
- Ahora, necesita una imagen que muestre cada paso. Puede tomar fotos de su hijo e imprimirlas. O déjelos en su teléfono, organizados en el orden en que desea que ocurra cada paso. O corte las imágenes en la página siguiente y péguelas en el folleto en orden. (Si lo desea, puede agregar algunas palabras a cada imagen. Como "Ponte PJ" o "Báñate".)
- Cuando llegue el momento de prepararse para acostarse, señale la primera imagen y pregúntele a su hijo qué es lo primero. Cuando eso haya terminado, pregunte qué sigue. Continúe hasta que se completen todos los pasos. La tabla le permite a su hijo hacerse cargo del proceso, tal vez con menos discusiones y colapsos. ¡Y es un patrón!

¿Qué haces para prepararte cuando vas a la cama? Dibuje o pegue las imágenes aquí.

1.

2.

3.

4.

5.

6.

