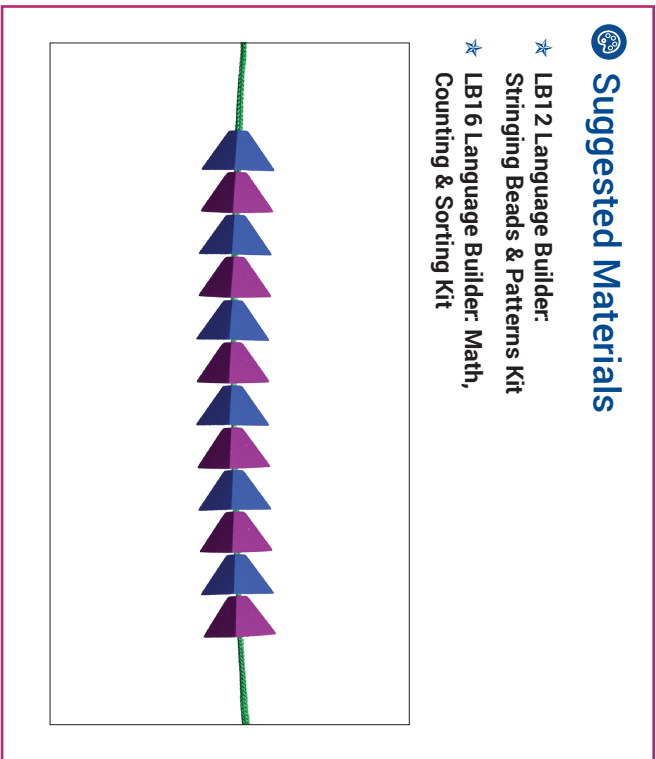


Patterns: Color Patterns

Student will learn to identify, copy, extend, and create patterns that include variations in color.

Suggested Materials

- ★ LB12 Language Builder: Stringing Beads & Patterns Kit
- ★ LB16 Language Builder: Math, Counting & Sorting Kit



Notes

Student:

Projected activities for: ___/___/___ to ___/___/___

Monday	Tuesday	Wednesday	Thursday	Friday

IEP Goals

1. When presented with 6 manipulatives arranged into a simple 2-color repeating pattern (e.g. AB, AB, AB) and asked by an instructor to copy the pattern with a set of identical manipulatives, [Student] will replicate the pattern, in 4 out of 5 trials, with [no more than ## & type, or zero] prompts, as measured by recorded data, over [#] consecutive data days by [date or timeframe].
2. When presented with 6 manipulatives arranged into a simple 3-color repeating patterns (e.g. ABC, ABC) and asked by an instructor to copy the pattern with a set of identical manipulatives, [Student] will replicate the pattern, in 4 out of 5 trials, with [no more than ## & type, or zero] prompts, as measured by recorded data, over [#] consecutive data days by [date or timeframe].
3. When presented with manipulatives arranged into repeating color patterns with 4-6 terms in the pattern core (e.g. ABBCCA, ABBCCA), and asked by an instructor to copy the pattern with a set of manipulatives that contain more pieces that necessary to complete the pattern, [Student] will replicate the pattern, in 4 out of 5 trials, with [no more than ## & type, or zero] prompts, as measured by recorded data, over [#] consecutive data days by [date or timeframe].
4. When presented with 6 manipulatives arranged into a 2-term repeating color pattern (e.g. AB, AB, AB), given a set of manipulatives that contain more than the 2 colors used in the pattern, and asked by an instructor to extend the pattern, [Student] will correctly extend the pattern, in 4 out of 5 trials, with [no more than ## & type, or zero] prompts, as measured by recorded data, over [#] consecutive data days by [date or timeframe].
5. When presented with up to 10 manipulatives arranged into a 3-5 term repeating color pattern (e.g. ABBCCA, ABBCCA), given a set of manipulatives that contain more than the colors used in the pattern, and asked by an instructor to extend the pattern, [Student] will correctly extend the pattern, in 4 out of 5 trials, with [no more than ## & type, or zero] prompts, as measured by recorded data, over [#] consecutive data days by [date or timeframe].
6. When presented with colored manipulatives arranged into a growing pattern (e.g. AB, AB, ABB, ABBB), given a set of manipulatives that contain more than the colors used in the pattern, and asked by an instructor to determine what comes next in the growing pattern, [Student] will correctly extend the pattern, in 4 out of 5 trials, with [no more than ## & type, or zero] prompts, as measured by recorded data, over [#] consecutive data days by [date or timeframe].
7. When presented a selection of colored manipulatives and asked by an instructor to create their own pattern, [Student] will create repeating and growing patterns with up to 5 colors and 5 terms in the core, in 4 out of 5 trials, with [no more than ## & type, or zero] prompts, as measured by recorded data, over [#] consecutive data days by [date or timeframe].

Patterns: Color Patterns

Lesson Focus

Student will learn to identify, copy, extend, and create patterns that include variations in color.

Lesson Format

The primary lesson is designed for 1:1 instruction with a teacher or therapist.

Location

This lesson is intended as an indoor activity that requires the teacher and student to be seated across from each other at a table.

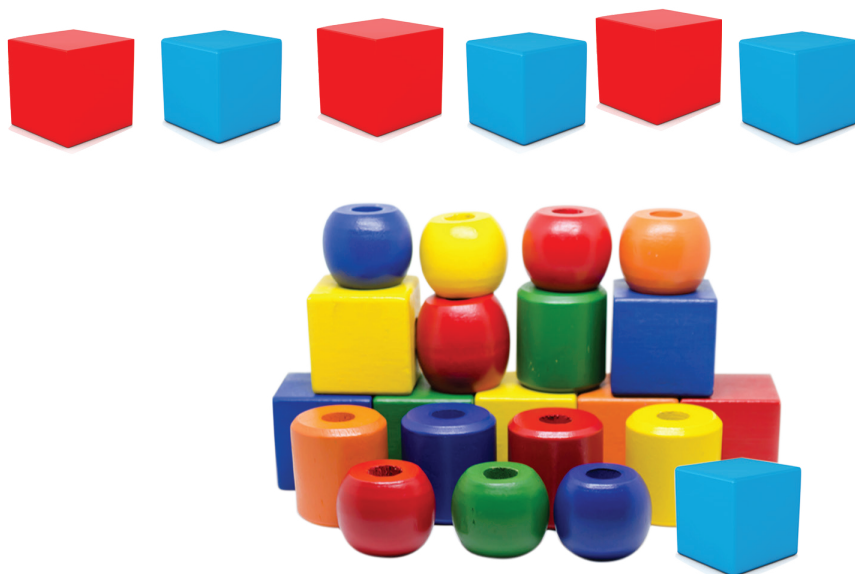
Preparation

Pull colored wooden beads from LB12 Language Builder: Stringing Beads & Patterns Kit.

Or, pull colored plastic sorting toys or cubes from LB16 Language Builder: Math, Counting & Sorting Kit.

Procedures

1. Place 6 manipulatives that are the same in every way except color in front of the student in an AB, AB, AB pattern (e.g., **Red Cube, Blue Cube, Red Cube, Blue Cube, Red Cube, Blue Cube**).
2. Then, place a selection of other manipulatives in front of the student that includes a **Red Wood Cube** and **Blue Wood Cube**.
3. Ask the student: "What comes next?"
4. Prompt if necessary.
5. Wait for the student to respond by correctly selecting the **Red Cube** and **Blue Cube** and placing them in the proper order at the end of the 6 manipulatives in the pattern.
6. Reinforce the student appropriately.



Prerequisites

The student will have the most success with *Color Patterns* if they have a strong understanding of:

- ★ **Lesson 93:** *Object Placement*
- ★ **Lesson 150:** *Ordering Picture Sequences*

Standards

Head Start

- ★ P-MATH 7

Common Core

- ★ N/A

ABLIS-R

- ★ B20
- ★ B22
- ★ B24

VB MAPP

- ★ Ma 15-b

Record Keeping

Data Sheet

- ★ *Skills-Based Lessons*

Home Communication Sheet

- ★ *Emerging & Maintaining Skills*



Teacher Tip

Here's a quick brush up on patterns terminology.

In a *repeating pattern*, the important elements are the *terms* and the *core*:

- ★ The individual elements that form the pattern are called the *terms*. In an ABC, ABC, ABC pattern, the *terms* are A, B, and C.
- ★ The part of a *repeating pattern* that stays the same and repeats itself is called its *core*. The *core* of the above pattern is one A, followed by one B, followed by one C — ABC is the *core*.

In a *growing pattern*, the important elements are the *terms* and the *rule*:

- ★ The *terms* in a *growing pattern* are each step in the pattern. In the pattern ABC, ABCC, ABCCC, the 3 different *terms* are ABC and ABCC and ABCCC.
- ★ The *rule* is to add a C to the end of the *term* at each step in the pattern.

You can find more details on teaching patterns and the importance of patterns in mathematics understanding in the Mathematics Readiness chapter of the Implementation Guide.

Lesson Progression

Phase I: Repeating Color Patterns

- Copying Patterns:
 - » Start by having the student copy 3D patterns using identical objects.
 - » Start with simple AB repeating patterns.
 - Place 6 manipulatives that are the same in every way except color in front of the student in an AB, AB, AB, AB pattern (e.g., **Red Cube, Blue Cube, Red Cube, Blue Cube, Red Cube, Blue Cube**).
 - Give the student 6 manipulatives that match the ones used in the example pattern. Do not have any additional manipulatives on the table.
 - Give the instruction: "Copy the pattern."
 - The student should place the manipulatives in order below the corresponding manipulatives in the example pattern.
 - ▶ Start with the example pattern very close to the student, so that they are placing their manipulatives immediately below the example pattern.
 - ▶ Gradually move the example pattern further away until the example is about 12 inches from where the student is building the copied pattern.
 - Gradually increase the variety of manipulatives you give the student to choose from to include more than just the 6 items it will take for the student to copy the pattern.
 - ▶ For example, give the student **4 Red Cubes, 4 Blue Cubes, 3 Yellow Cubes, and 2 Purple Cubes**.
 - ▶ Expect the student to select only the cubes they need to copy the pattern.
 - ▶ Work toward the student being able to select their needed manipulatives from a bucket full of similar items.
 - » Increase the complexity of the color patterns that the student can copy.
 - Increase the variety of different terms in the core of the pattern: [ABC, ABC, ABC], [ABCD, ABCD, ABCD], etc.
 - Mix up the arrangements in which the terms appear in the core: [AAB, AAB, AAB], [ABAC, ABAC, ABAC], etc.
 - Increase the number of terms that make up each core: [ABC, ABC, ABC], [ABBC, ABBC, ABBC], [ABCCA, ABCCA, ABCCA], etc.
- Extending Patterns
 - » Have the student determine what comes next in simple, two-term (AB) patterns.
 - » Place 6 manipulatives that are the same in every way except color in front of the student in an AB, AB, AB pattern (e.g., **Red Cube, Blue Cube, Red Cube, Blue Cube, Red Cube, Blue Cube**).
 - » Have the student complete the pattern by selecting the right items and adding another core to the end of the pattern.
 - The student adds **Red Cube, Blue Cube** to the end of the pattern to make a series of 8 items in the pattern.
 - » Increase the complexity of the patterns and the number of items in the selection field, as above.

Phase II: Growing Color Patterns

- Have the student determine what comes next in growing patterns.
 - » Using manipulatives that are the same in every way except color, create a growing AB, AB, AB, AB, AB pattern (e.g., **Red Cube, Blue Cube; Red Cube, Blue Cube, Blue Cube; Red Cube, Blue Cube, Blue Cube, Blue Cube**).
 - » Have the student complete the pattern by selecting the right items and adding another core to the end of the pattern.
 - ▶ The student adds **Red Cube, Blue Cube, Blue Cube, Blue Cube, Blue Cube**, recognizing that the rule is to add 1 more **Blue Cube** to the core with each step in the pattern.
 - » Increase the complexity of the patterns and the number of items in the selection field, as described above.

Phase III: Creating Color Patterns

- As the student becomes better at recognizing, copying, and extending a wide variety of patterns, have them experiment with creating their own color patterns.
 - » Place a variety of colored manipulatives in front of the student.
 - » Give the instruction: "Make your own pattern," and encourage the student to select items to create their own patterns.
 - ▶ Start with simple repeating AB patterns, and work toward more complex repeating patterns and growing patterns.

Generalization

As the student's ability to copy and extend patterns improves:

- Increase the variety of items the student can use to create patterns, including various art materials, toys, etc.
- Practice copying and extending patterns throughout the day with different staff and in different areas of the school.
- Take care to recognize natural patterns, such as days of the week, hours on the clock, colors in the rainbow, etc.
- Incorporate patterns into art projects, encouraging patterns in drawing and coloring, cutting and pasting, creating clay projects, etc.
- Visit blog.stageslearning.com/teaching-patterns-autism-education for fun pattern teaching activities.
- Use the *Emerging & Maintaining Skills Home Communication Sheet* to share with the student's family the variety and complexity of patterns the student can recognize, copy, extend, and create. Make sure to provide the family with examples of how they can practice patterns at home with the student.

Whole-Child Lesson Ideas

Pattern Pathways

For this gross motor/patterning activity, tape colored construction paper to the floor in a path to form a pattern. For example, red-blue-red-blue-red-blue. Keep extra paper of each color, so you can finish the pattern. Have the student jump from one color to the next in the pattern-path. When they reach the end, ask the student what should come next. When they select the correct color, place it next in the path and have them jump. Continue for several more jumps, repeating the pattern. If the student is successful with this pattern pathway, you may want to set up several different paths and let them choose in which order they want to complete the paths.

Prompting

When encouraging the student to select the next correct item in a pattern, you can rely on typical prompts:

1. Glancing or pointing at the correct item.
2. Placing the correct item closer to the student.
3. Handing the next correct item to the student.
4. Hand over hand guiding the student to place the correct items next in the pattern.

The lesson progression builds in prompts, such as placing on the table only the items that the student needs to finish the pattern. You can initially place the items in exactly the order the student needs to select them, and gradually move the items to a more random placement.

When teaching the student to extend a pattern, you can go back and ask the student to point to each item and say them in order. Adding in a rhythm or sing-songy intonation to the way you encourage the student to recite the pattern is a good prompt. Make sure to fade this prompt, so you are not inadvertently giving the student a clue with your voice.

Next Steps

Once the student has mastered color patterns, you can move on to:

- ★ **Lesson 166:** *Shape Patterns*



Skills-Based Lessons DATA SHEET



LESSON NUMBER

LESSON TITLE

STUDENT'S NAME

DATE

Prompt Codes				Notes
V	Verbal	FP	Full Physical	
PV	Partial Verbal	PP	Partial Physical	
M	Model	G	Gesture	
PM	Partial Model	L	Location	

Command: _____

Desired Response: _____

Circle + (correct), - (incorrect), NR (no response), or P (prompted) and fill in Prompt Code.

Date: _____ Staff Initials: _____ Notes: _____
 Time Started: _____
 Time Finished: _____ % Correct: _____

Trial	1	2	3	4	5	6	7	8	9	10
Response	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P
Prompt Code										

Date: _____ Staff Initials: _____ Notes: _____
 Time Started: _____
 Time Finished: _____ % Correct: _____

Trial	1	2	3	4	5	6	7	8	9	10
Response	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P
Prompt Code										

Date: _____ Staff Initials: _____ Notes: _____
 Time Started: _____
 Time Finished: _____ % Correct: _____

Trial	1	2	3	4	5	6	7	8	9	10
Response	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P
Prompt Code										

Date: _____ Staff Initials: _____ Notes: _____
 Time Started: _____
 Time Finished: _____ % Correct: _____

Trial	1	2	3	4	5	6	7	8	9	10
Response	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P	+ - NR P
Prompt Code										