Giant Textured Beads with Pattern Matching Cards

Giant Textured Beads with Pattern Matching Cards

AMERICAN PRINTING HOUSE

Giant Textured Beads with Pattern Matching Cards

Catalog Number: 1-03778-00

Author: Karen J. Poppe, Braille and Tactile Literacy Product Manager

For information regarding permissions, contact:

American Printing House for the Blind
Research, Evaluation, and Digital Information Services

1839 Frankfort Avenue

Louisville, Kentucky 40206

502-895-2405 • 800-223-1839

aph.org • info@aph.org

Project Staff

Karen J. Poppe
Braille and Tactile Literacy Product Manager

Jeff Williams
Manufacturing Specialist

Andrew Moulton
Technical and Manufacturing Research, Director

Andrew Dakin
Pattern/Model Maker

Dot6 Creative Services Team
Design/Photography

Overview

Giant Textured Beads with Pattern Matching Cards encourages the development of the following concepts and skills:

- Exploring and identifying shapes, textures, and colors
- Sorting and classifying by various attributes
- Recognizing, describing, repeating, extending, and creating patterns that are consistent with the National Council of Teachers of Mathematics (NCTM) Standards for Grades K-3
- Fine motor skills such as stringing beads or inserting beads and matching cards into sorting trays
- Vocabulary expansion related to shapes, textures, colors, and spatial concepts
- Interpreting tactile displays within a purposeful context

The primary target audiences for this product are teachers and parents working with young students in preschool, kindergarten, and the early elementary grades who are blind or low vision. However, because the Pattern Matching Cards reinforce the tactile continuum from real objects (most basic level) to raised-line graphics (most advanced level), students in higher grades will be challenged by the increasing difficulty posed by the "Platform" and "3-D View" matching cards. Therefore, the product is intended to grow with the student.

Instructors and parents are strongly encouraged to tailor the activities to the skill level of each individual student with the understanding that accurate interpretation and pairing of each type of pattern matching card with the Giant Textured Beads may not be fully reached or mastered.

Specific features of this product make it especially appropriate for students with multiple disabilities. For example, the matching cards have a thick, colorful backing for easier handling and manipulation, and a non-skid backing is incorporated on the underside of the sorting trays. Be sure to position the sorting trays within a comfortable distance from the student, either end to end or one in front of the other. A sheet of non-skid shelf-liner material placed under the trays adds extra stability and a defined work area.

Types of Giant Textured Beads

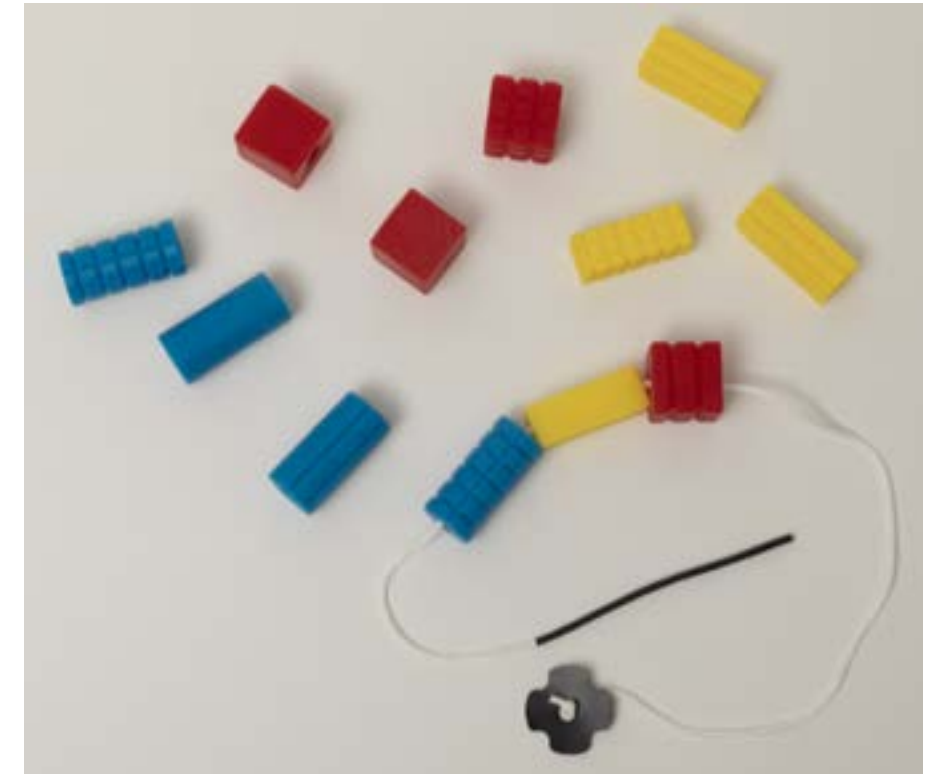The Giant Textured Beads vary by shape, color, and texture.

Shape

- Cube
- Rectangular Prism
- Cylinder

Color

- Red
- Yellow
- Blue

Texture

- Smooth
- Striped
- Grid pattern

Simplify the bead descriptions for younger children, if necessary. For example, a "cube" can be referred to as "square," and "grid pattern" can be referred to as "rough."

Additional sets of the **Giant Textured Beads** (Catalog No. 1-03780-00) are available for separate purchase to facilitate extended pattern matching and sorting activities. Each set of 12 beads comes with a stringing cord in a drawstring bag.

Types of Pattern Matching Cards

The Pattern Matching Cards include three different tactile representations of the Giant Textured Beads. These cards are intended to reinforce the tactile continuum from real objects (actual beads) to representative models (Duplicate Cards) to raised surface shapes (Platform Cards) and finally to abstract depictions (3-D View Cards). Each card type is shown and described below:

Duplicate Cards

These matching cards have the same texture and color as the Giant Textured Beads. The cards have a yellow foam backing and a straight-line diagonal cut at the top-right corner. One corresponding matching card is provided for each bead.


Platform Cards

These matching cards lack both color and texture correspondence to the Giant Textured Beads; only the overall shape of each bead is shown. These cards have a red foam backing and a rounded top-right corner. One corresponding matching card is provided for each bead.

3-D View Cards

These matching cards illustrate a three-dimensional view of the Giant Textured Beads, either with or without hidden lines (dashed or dotted). This assortment of cards exposes students to several 3-D representations of the same object. These cards have a blue foam backing and a concave top-right corner. One corresponding matching card is provided for each bead.
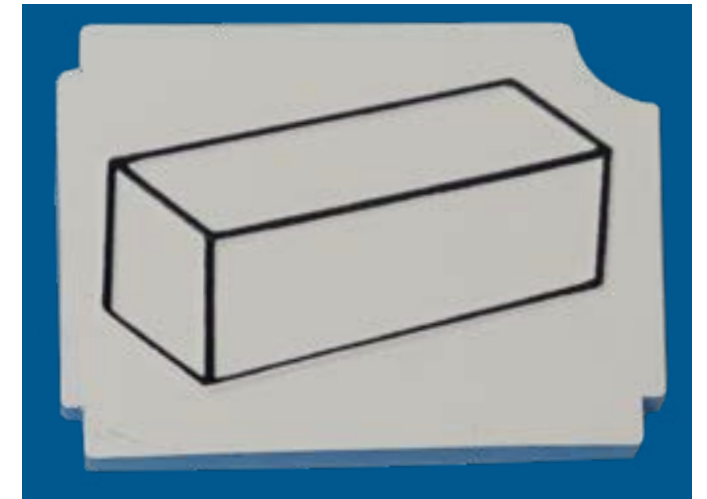
Sorting Trays

Two identical sorting trays are included in the kit. Each tray accommodates six beads and six matching cards arranged side by side. A soft red textured area within the tray provides a visual/tactile cue for the insertion of the Pattern Matching Cards. Place the slanted side of the tray closest to the student.

The compartments of the tray are designed to hold the Giant Textured Beads and Pattern Matching Cards securely as they are sorted. Use of a single tray minimizes the work area and number of parts presented to the student. Both trays used together (positioned either end to end or one in front of the other)

facilitates more complex activities. In some cases, the two trays can be used simultaneously by two students working on separate activities.

The sorting trays have a non-skid backing but the use of shelf-liner material beneath the trays adds extra stability.

Suggested Activities

In this section, a variety of activities are suggested in order of most basic to most complex for the combined use of the Giant Textured Beads and Pattern Matching Cards. Select and create activities that are most appropriate for and meaningful to the individual student.

Identifying Shapes, Textures, and Colors

Before introducing bead stringing and sorting activities, encourage open-ended exploration and identification of bead shapes, textures, and colors. Model whole-hand exploration of the bead; feel the sides and locate the stringing holes. Compare the shapes of the beads to real objects in the student's environment—a rectangular table, a paper towel roll, a gift box, etc.

Finding Matching Beads

Ask the student to locate two beads that match with regard to shape, texture, and/or color. Initially limit the number of beads to explore and compare. As a game, have the student pull out a single bead from
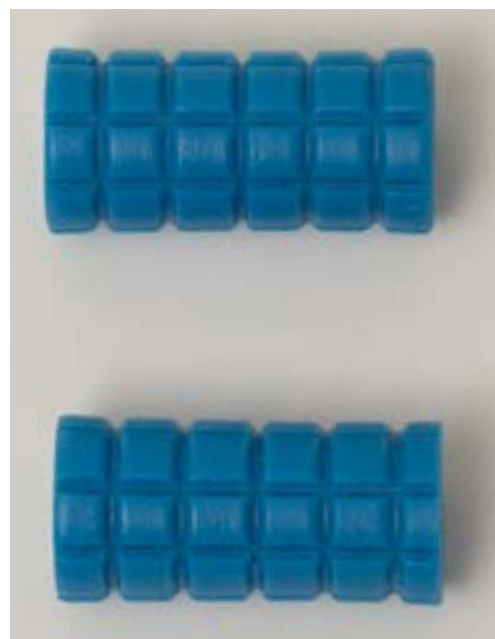
the drawstring bag and then reach back into the bag to search for a bead that has the same texture and/or shape.

Sorting and Classifying

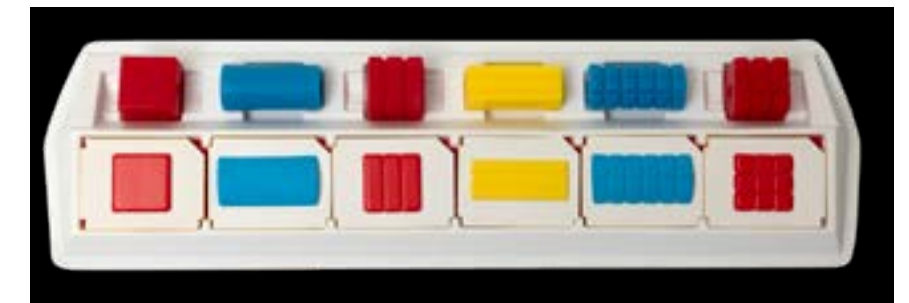Present all twelve beads (or fewer, if necessary) and have the student sort them by color, texture, or shape.

Exploration of Pattern Matching Cards

Acquaint the student with the Duplicate Cards. Because these cards have the same texture, color, size, and overall shape of the Giant Textured Beads, they will likely be the easiest for the young child, or beginning tactile reader, to discriminate. Begin by using only one bead and its corresponding matching card to demonstrate how a real object can be represented by a raised tactile shape. Compare the two side by side and discuss their similarities and differences. For example, whereas the real bead can be completely grasped in one's hand with all sides available for exploration, the Duplicate Card shows only a partial view of the bead. However, most of the real bead's

features—its size, texture, outermost shape, and color—are the same as those shown on the tactile card.

Continue to pair the Giant Textured Beads with the Duplicate Cards until the student demonstrates consistent success matching the beads with the tactile cards. Use the tray(s) to keep the parts stationary. Have the student match the beads to cards (or cards to beads) that are pre-positioned by the instructor or parent. Encourage the student to explore the beads and cards positioned on the tray from left to right.
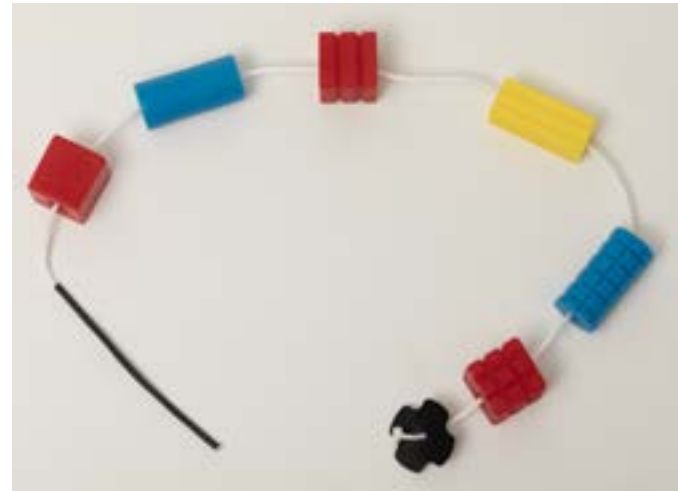
To practice stringing skills, have the student string the beads in the same order as the cards within the tray.

Pattern Making Activities

Use the Duplicate Cards in combination with the Giant Textured Beads to create patterns for the student to recognize, describe, repeat, and extend. Begin by using the beads to make a simple repeating pattern. For example, place the beads in the tray in one of the following orders and ask the student, "What comes next?"
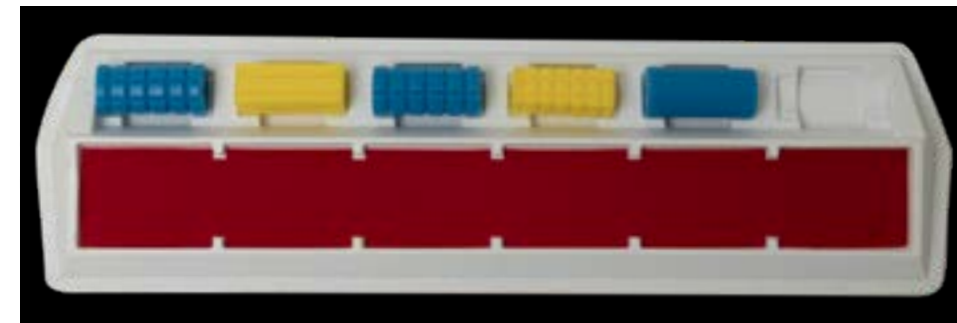
Rectangle, cube, cylinder, rectangle, cube, [?]
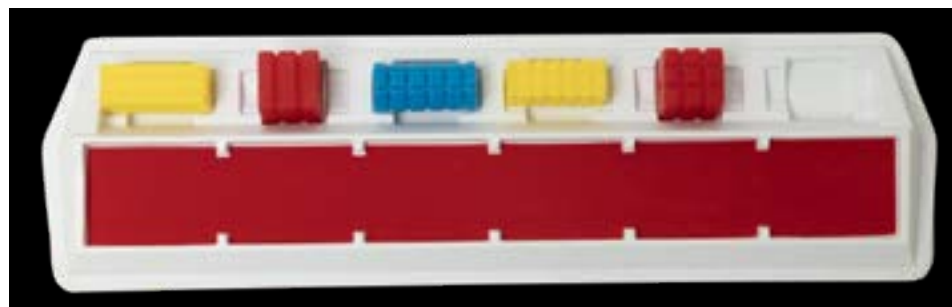
Smooth, smooth, striped, striped, grid pattern, [?]
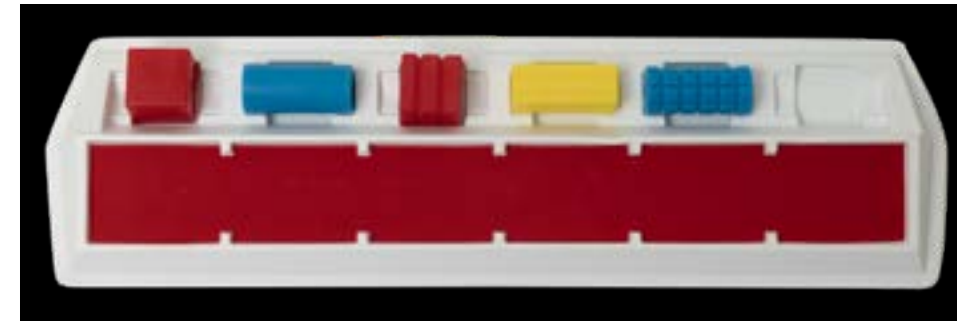
Blue, yellow, blue, yellow, blue, [?]

Have the student repeat the patterns by placing the Duplicate Cards next to the beads already positioned on the tray so that both the beads and the matching cards are shown in a side-by-side fashion.

To practice stringing skills, have the student transfer the pattern of beads shown on the tray to the string.

Later encourage the student to create repeating patterns of their own using both the beads and the matching cards.

Platform Cards

The tactile and visual presentations of the Platform Cards are typically more difficult to match due to the absence of the bead color and texture cues. Only the silhouette of each bead is retained. Use the Platform Cards for similar matching, sorting, and patterning tasks as described for the Duplicate Cards.
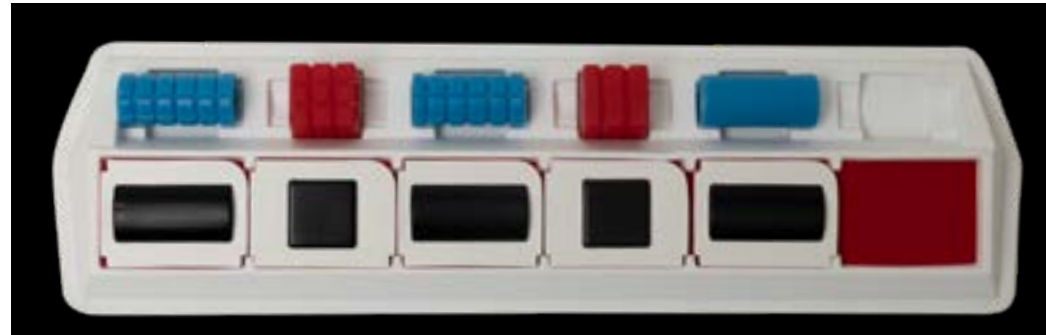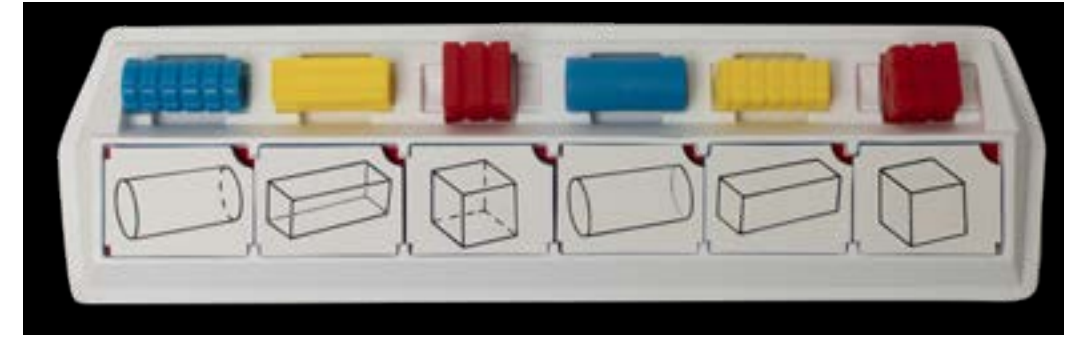

3-D View Cards

The tactile and visual presentation of the 3-D View Cards poses the most difficult interpretation task for the student who is blind or low vision, especially for the young child. However, early instruction and exposure to these types of graphics are strongly encouraged because they become more common as the student progresses through school.
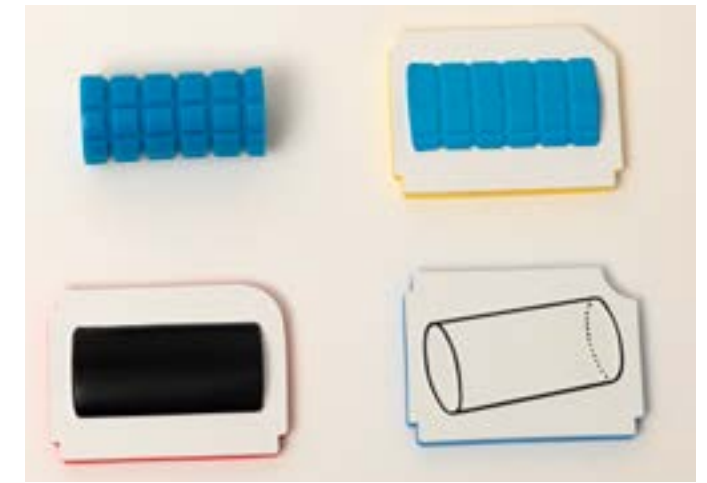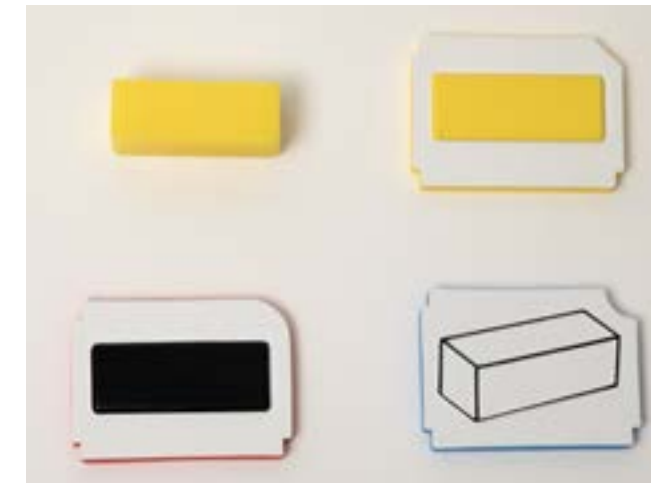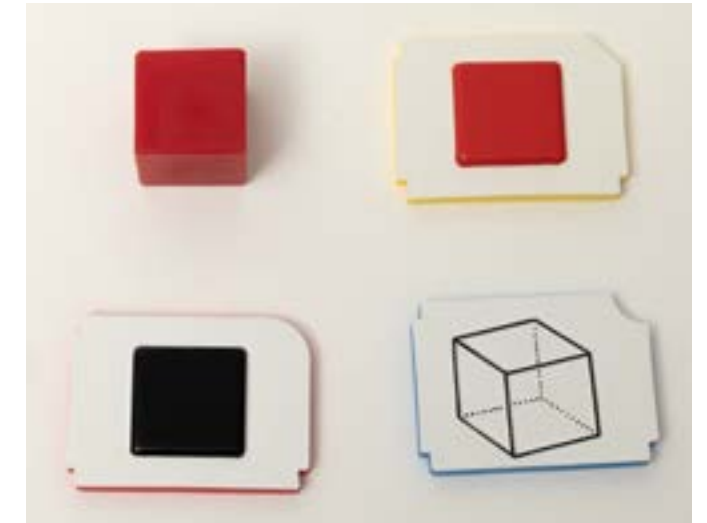

Use the 3-D View Cards for similar matching, sorting, and patterning tasks as described for the Duplicate Cards.
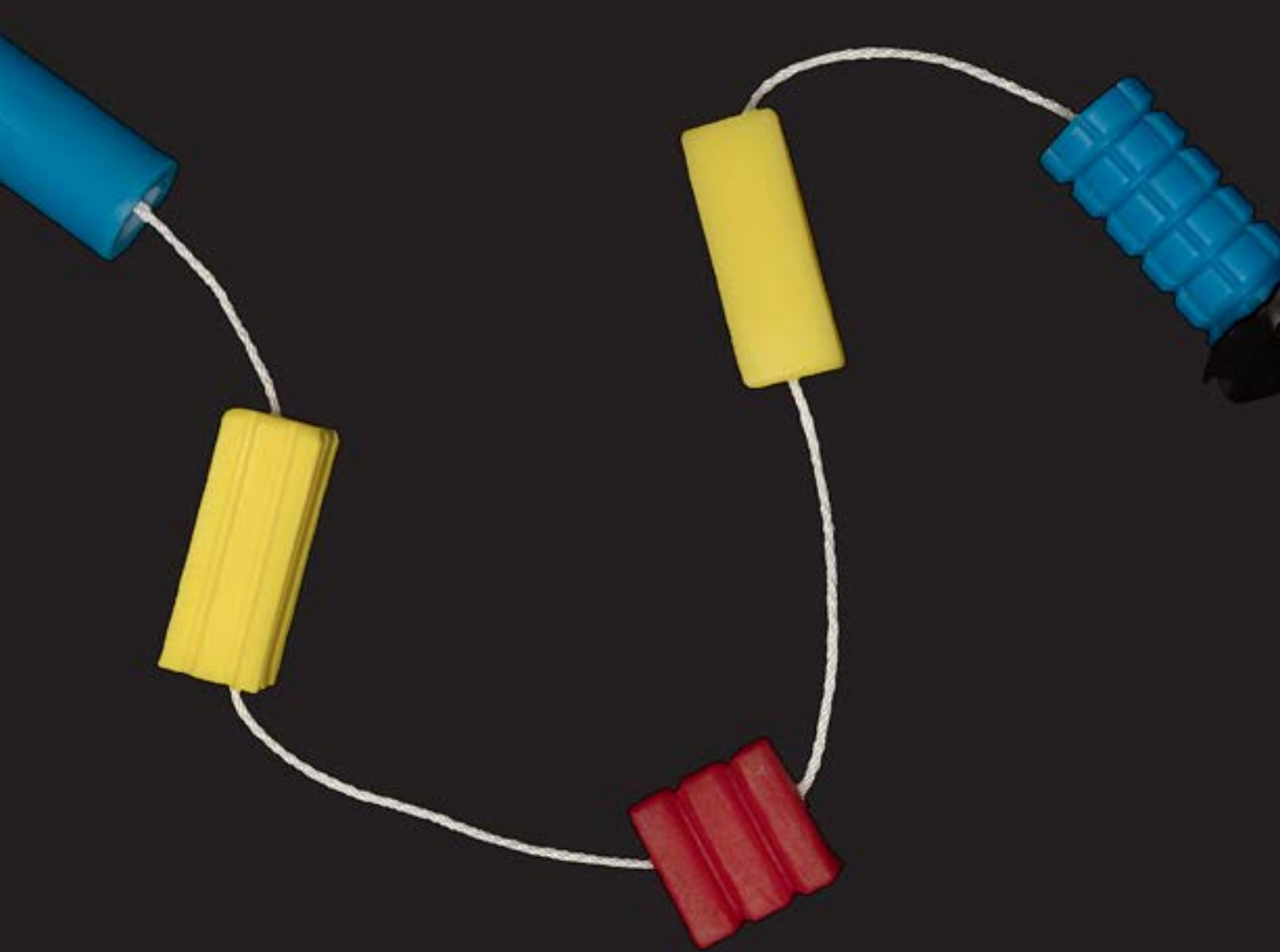

Grouping Related Cards

Reinforce the transition from real object to tactile representations by having the student locate all of the Pattern Matching Cards—that is, Duplicate, Platform, and 3-D View—that correspond to a specific bead.

Notes

Giant Textured Beads with Pattern Matching Cards
Catalog No. 1-03778-00