

EARLYPOLY COL_117_EN

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Formal / non-formal setting: **Formal**

Most relevant age group (for example 3-5/6-8/8-10): **5–6 years**

Description of the idea / problem / exercise: **Shape Matching Magic**

Competence Area(s): Mathematics (geometry, problem-solving), Arts (visual expression)

Materials: Poly-Universe set – multiple circles, triangles, and squares in red, blue, yellow, green (ensuring a variety of the 72 puzzle-like pieces); a flat surface or tabletop for assembling shapes.

Learning Goals: Familiarize children with basic geometric shapes and colors; develop visual discrimination and mathematical thinking through matching and classifying; practice fine motor and spatial reasoning skills.

Game Description & Rules: This game is adapted from the Polyuniverse shape-matching activity. First, allow children some free play time to explore and combine the shape pieces creatively (to discover how smaller colored shapes form larger patterns). Then introduce a “matching rule” game:

Step 1: The teacher chooses a simple rule for matching pieces (e.g. “Connect pieces so that touching sides share the same color”). Demonstrate a couple of examples so children see how a red edge meets another red edge, etc.

Step 2: Children work individually or in pairs to join as many pieces as possible following the rule, creating a patchwork of shapes. They might form a multicolor mosaic or a symmetrical design as they match sides. Encourage them to talk about what they're making (naming shapes or colors).

Step 3: After a round, introduce a new rule – for example, “Now match pieces by shape instead of color” (triangle to triangle, square to square, etc.), or “Create a large shape using only circles,” and let them reconfigure the pieces accordingly.

Step 4: Invite children to come up with their own matching rules (“Let's put pieces in a red-yellow-blue-green repeating pattern!”) and play again following a child's rule. This empowers them and adds creativity to the challenge.

The game can be replayed many times with new rules or goals (like making a specific picture). It strengthens shape recognition and problem-solving in a playful way.

Formative Assessment: Observe how children approach the puzzle – do they recognize and name shapes and colors correctly? Can they find matches quickly or create intended patterns? Take note of collaboration if in pairs (are they negotiating which piece goes next?). Prompt with questions like “How did you know these fit together?” to assess their reasoning. Document each child's strategy or any difficulties (e.g. struggling to rotate a shape to match) to inform future support. A quick check at the end: have each child proudly “present” their shape creation and describe one thing they learned or enjoyed.