

## EARLYPOLY OBS\_219\_HU

Author's name and institution: **Dr. Kristóf Fenyvesi**, Experience Workshop, Finland

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

Most relevant age group: **5–6 years**

Description of the idea / problem / exercise: **Mystery Shape Detective**

**Competence Area(s):** Multiliteracy (sensory interpretation, descriptive language), Mathematics (geometry properties), Interaction (listening and reasoning in group)

**Materials:** A drawstring bag or box that is not see-through (the “mystery bag”), and a selection of Poly-Universe pieces inside it. Ensure a good mix of the three shapes. If possible, use pieces made of a material that children can feel the shape of (the plastic pieces are fine; if they're too small, consider enlarging shapes out of foam). Optionally, have a blindfold if you want children to take turns closing eyes and selecting a piece from an open tray instead. You may also prepare a chart with shape pictures for reference.

**Learning Goals:** Sharpen children's observation and sensory discrimination skills by using touch to identify objects – an aspect of multiliteracy as they interpret tactile “information”; reinforce geometric vocabulary (circle, triangle, square, edge, corner, round, straight) as they describe what they feel; build communication and inference skills as peers listen to clues and guess the shape. This game also boosts confidence and patience – children practice waiting for clues and speaking in turns.

**Game Description & Rules:** This game is reminiscent of classic “feely bag” exercises in preschool, aligning with the idea of using concrete objects to learn math concepts. It turns the identification of shapes into a detective adventure:

**Step 1:** Set the Scene – Tell the class: “We have some sneaky shapes hiding in this bag. We need brave detectives to figure out which shapes they are – using only your sense of touch!” Review the three shape types and have children recall distinctive features: a circle is smooth and round, a triangle has pointy corners and straight sides, a square has four corners and feels all sides equal, etc. This primes their geometric thinking.

**Step 2:** Detective Turns – One child at a time becomes the “shape detective.” They will reach into the mystery bag (no peeking!) and grab one shape. Without pulling it out, they should feel it carefully. Instruct them to announce 2–3 clues to the class about what they feel. For example, “I feel something round... it has no corners” or “I feel corners and I think all sides are the same length”. Encourage use of descriptive words; initially you might have to model or prompt: “Can you count how many points you feel?” or “Is it curvy or straight?”.

**Step 3:** Class Guesses – After the detective gives their clues, ask the other children, “What shape do you think it is?” They raise hands or call out guesses. This is a good moment to reinforce active listening – the guess must match the clues. If a child says “triangle” but the detective said no corners, you or peers can gently correct, “Remember, no corners means it can’t be a triangle.” Eventually they usually narrow it to the correct shape. The detective then reveals the piece from the bag to confirm. Applause for solving the mystery! Rotate to the next detective. 17431694

**Step 4:** Reverse the Roles (optional): For an extra challenge, do a reverse game where the teacher describes a shape in the bag and the children collectively guess. Or have one child hide a shape behind their back (seeing it) and describe it to others – this works on verbal skills even more since they aren’t feeling but articulating known attributes.

**Step 5:** Extension: Ask detectives to also note the color segments of the shape by touch if possible (this is very hard without seeing, so it usually isn’t feasible – but a fun discussion can be had on how we mostly need sight for color, whereas shape we can sense by touch). This brings awareness to how we perceive different properties.

**Formative Assessment:** Through this game, you assess children’s understanding of shape characteristics and vocabulary. If a child struggles to articulate (“It’s... um... I don’t know what I feel”), you know they need more experience with describing shapes; you might then scaffold by asking guided questions. Track whether children correctly use terms like side, curve, corner. When guessing, see if they logically rule out options based on clues – a sign of reasoning. Socially, note who listens to others’ clues or who impulsively shouts guesses without listening. You can gently coach better listening by revisiting the detective’s clues systematically. This is also an opportunity to spot any sensory integration issues – if a child cannot identify even obvious differences by touch (like round vs. angular), it’s worth engaging them in more tactile play to build those skills. Overall, the enthusiasm and accuracy of their guesses will tell you how well they know their shapes in a multi-sensory context. A successful outcome is when children cheerfully use shape language among themselves, e.g. “I knew it was a circle because he said no corners!” – indicating internalization of geometric concepts through play.