

# Geometric Games

---

**Reporting Category** Geometry

**Topic** Describing the location of one object relative to another regardless of their positions and orientations in space

**Primary SOL** K.12 The student will describe the location of one object relative to another (above, below, next to) and identify representations of plane geometric figures (circle, triangle, square, and rectangle) regardless of their positions and orientations in space.

**Related SOL** K.11a, b

## Materials

- Set of cut out geometric figures (circles, squares, triangles, and rectangles) in different sizes and colors
- Paper bag

## Vocabulary

*shape, square, rectangle, circle, triangle, trace, compare, alike, different, smaller, larger, describe, above, below, next to*

## Student/Teacher Actions (what students and teachers should be doing to facilitate learning)

1. Review the geometric figures circle, square, triangle, and rectangle, discussing the characteristics of each figure. Be sure to display different examples of each figure in different positions and orientations in space.
2. Using a bag full of cut out geometric figures, have each student pull a figure out of the bag and place it, according to teacher direction, in a specific place in the classroom (e.g., put circles *next to* the chair; put squares *below* the window sill, put rectangles *above* the bookshelf). Then, have the students put the figures back in the bag, and repeat with different directions.
3. Place a different geometric figure in each corner of the room. Review the rules for playing a game of “Four Corners.” Count out loud to 10 while the students distribute themselves among the four corners of the room. Call out “small triangle”: the students in that particular corner are now out of the game and must sit down. The remaining students then redistribute themselves into all four corners. Continue to play the game until only one student is left.

## Assessment

- **Questions**
  - “When a shape is moved, what changes? What stays the same?”
  - “Where is something in the room that is *above* another object? Where is something in the room that is *below* another object? Where is something in the room that is *next to* another object?”

- **Journal/Writing Prompts**
  - Have students choose a figure from a set of provided two-dimensional figures. “Write or draw two interesting things about your shape.”
  - “Draw a shape that is not a circle. Tell why your shape is not a circle.” Repeat with other shapes.
- **Other**
  - Have students describe something that is *above* the chalkboard. Repeat with other positional words.

**Extensions and Connections (for all students)**

- Work with students to create an “Orientation Book,” as follows. Have students trace a rectangle on a left-hand page of their books. Then, have them rotate the rectangle a little and trace it on the opposing right-hand page. Direct them to turn the page and repeat the process, using another geometric figure. Continue until all figures have been traced.
- Have students work in pairs to create shapes on a geoboard. Have student pairs explain how they created their shapes and how they know what each shape is.
- Have students create drawings according to directions you give for positioning geometric figures in their drawings (e.g., “Draw a square *in the middle* of the page.” “Draw a triangle *next to* the square.” “Draw a rectangle *below* the square and triangle.” “Put a circle high *above* the triangle.”). Allow students to turn their drawings into works of art by continuing to draw and color, using the four drawn geometric shapes as a basic structure on which to build. (If students need guidance, point out that the triangle might become something like a tree or bush, the square could be a table, the rectangle a swimming pool or patio, and the circle the sun or a cloud.)