

Line of Symmetry

Symmetry Map

Visualization/ Mental Rotation

Understanding of equal: what happens to one side of line must happen to other side.

Demonstrating ability of cutting shapes in mind/flip/rotate/
make predictions based on images in your head
"what do you see?"

Demonstrating ability to move further away from line: e.g., stacking shapes out/free floating shapes

Identify multiple lines of symmetry in shapes

"you can fold squares many times to make half"
"Why do some shapes have more than one line?/how can this help us identify shapes?"

Flexibility in quantity of shapes: single shape placement vs. multiple shapes at a time (Quantity vs. composing/decomposing) visual discrimination

Make prediction by only seeing 1/2 design and identifying/visualizing what shapes will be needed

Identifying mistakes in other's symmetry

Understand the property of equidistance: Using squares on graph paper to justify distance

Understanding perspective=change the orientation of line of symmetry: | - / +

Being able to substitute some shapes to compose bigger shape (1 trapezoid=3 green triangles) The bigger shape outline doesn't matter if you use 3 triangles or 1 trapezoid

Understanding that cutting a shape in half there re 2 identical shapes that can be put together to make the bigger shape.

Identifying the difference between colour +shape in symmetry (3 green triangles=a trapezoid) composing/decomposing

Determine location of object based on set of directions

Understand and hold multi-step instructions in head and make predictions of location using visualization skills/counting squares etc.

Understanding the differences between quantity of shapes and bigger shape (When looking at outline of big shape: 1 hexagon + square could be=6 green triangles + Square

Fitting shapes together vs. single shapes along line
(Students could discriminate between whole image/individual shapes: Composing/ decomposing)
square + Triangle="I see a house"

Using properties of shape as landmarks/guides for reflecting "the long side of the trapezoid needs to face the line" or "flat side of triangle needs to touch the line and make an L" (perpendicular)

Identify/use language:
(Directionality)
- left/right
- backwards/forwards
- turn
- up/down
- slide

Use/Write directions/multi-step instructions
- using symbols (arrows)
- gestures
- words

Demonstrate a flexibility in shapes used: Patterning blocks (simple shapes) vs. Pentominoes (complex)

Recognize/Identify basic shapes
- triangles/squares/
circles/rectangles/ovals
(have a vocabulary to discuss)

Recognize/identify differences in
- orientation
- size of shapes
(big square vs. small square; square vs. diamond)
"How does orientation affect line of symmetry?"

Spatial Language

Identify/use language:
over/under
beside
on top/below
inside/out
upside down

Understand that not all triangles are the same: Angles help identify/cutting in 1/2

2D Shapes: