

Vertical Progression:

3rd Grade	<p>3.G.A Reason with shapes and their attributes.</p> <ul style="list-style-type: none"> ○ 3.G.A.1 Understand that shapes in different categories (e.g., rhombuses, rectangles, and others) may share attributes (e.g., having four sides), and that the shared attributes can define a larger category (e.g., quadrilaterals). Recognize rhombuses, rectangles, and squares as examples of quadrilaterals, and draw examples of quadrilaterals that do not belong to any of these subcategories.
4th Grade	<p>4.G.A Draw and identify lines and angles, and classify shapes by properties of their lines and angles.</p> <ul style="list-style-type: none"> ○ 4.G.2.A Classify two-dimensional figures based on the presence or absence of parallel or perpendicular lines, or the presence or absence of angles of a specified size. Recognize right triangles as a category, and identify right triangles.
5th Grade	<p>5.G.B Classify two-dimensional figures into categories based on their properties.</p> <ul style="list-style-type: none"> ○ 5.G.B.3 Understand that attributes belonging to a category of two-dimensional figures also belong to all subcategories of that category. ○ 5.G.B.4 Classify two-dimensional figures in a hierarchy based on properties.
6th Grade	<p>6.G.A Solve real-world and mathematical problems involving area, surface area, and volume.</p> <ul style="list-style-type: none"> ○ 6.G.A.3 Draw polygons in the coordinate plane given coordinates for the vertices; use coordinates to find the length of a side joining points with the same first coordinate or the same second coordinate. Apply these techniques in the context of solving real-world and mathematical problems.

Students will demonstrate command of the ELG by:

- Recognizing the hierarchy (order or grouping) of two-dimensional figures based on their properties.
- Analyzing the properties of two-dimensional figures in order to place them into categories and/or sub-categories.
- Classifying two-dimensional figures into a hierarchy.
- Explaining and defending the classifications in the two-dimensional hierarchy.
- Explaining how attributes were used to categorize two-dimensional figures.

Vocabulary:

- | | |
|-----------------|------------------|
| • attribute | • pentagon |
| • congruent | • polygon |
| • hierarchy | • properties |
| • parallel | • quadrilateral |
| • perpendicular | • rhombus/rhombi |

Sample Instructional/Assessment Tasks:

1) Standard: 5.G.B.4

Source: Illustrative Mathematics

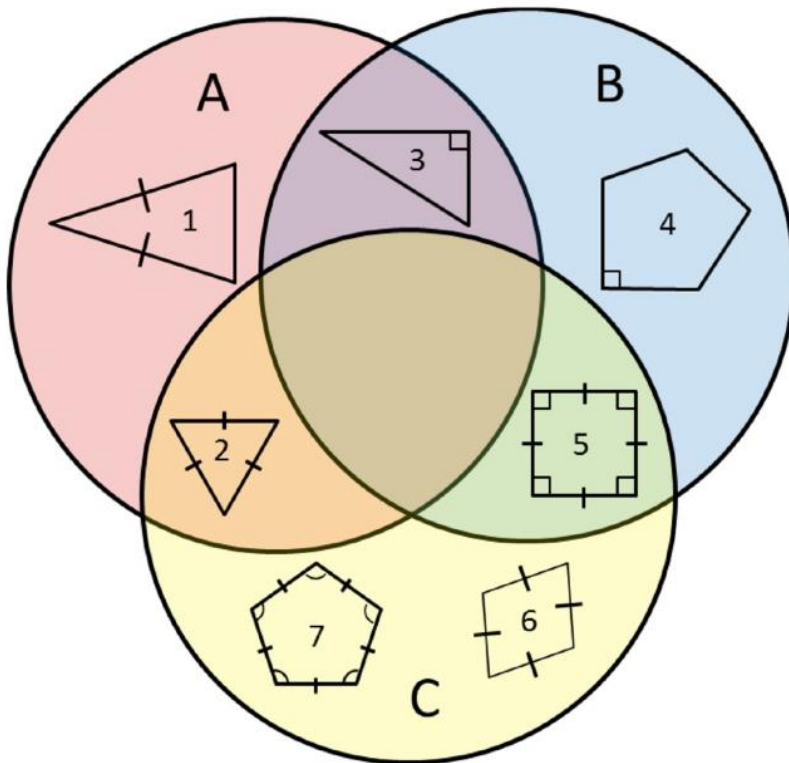
<https://www.illustrativemathematics.org/content-standards/5/G/B/4/tasks/1943>

Item Prompt: What do these shapes have in common?

The picture below is called a Venn Diagram. Each circle (A, B, and C) contain shapes that all share at least one characteristic. Some shapes are contained in more than one circle because they share more than one characteristic. For example, shape 3 fits the rule for circles A and B, but not circle C. It lies within circles A and B, but not circle C.

a. What are the characteristics shared by shapes within circle A? Within circle B? Within circle C? Double check to make sure that any shapes that have that characteristic are contained within the circle and any shapes that don't lie outside of the circle.

b. Where would you place a rectangle that does not have four sides of the same length? Why?



Correct Answer:

a. All shapes in circle A are triangles. All shapes in circle B have a right angle. All shapes in circle C have equal side-lengths.

b. The rectangle without 4 equal side lengths must be placed in the circle for shapes with right angles. Since it does not have 4 sides with equal length and is not a triangle, it must not be in the overlapping section of other circles.

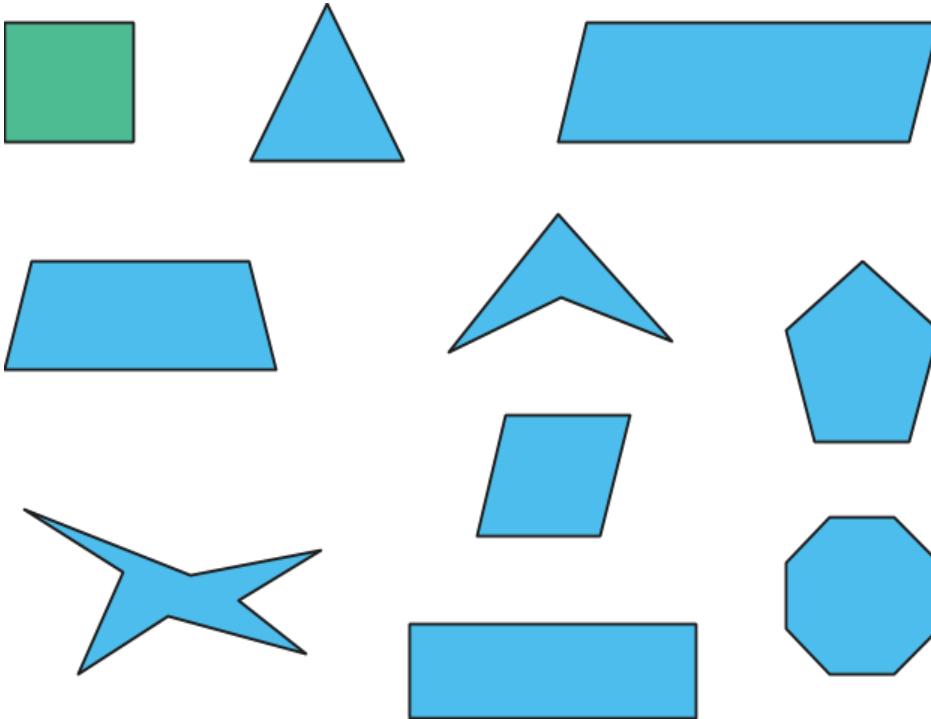
2) **Standard: 5.G.B.4**

Source: Learn Zillion

https://learnzillion.com/lesson_plans/1007#fndtn-lesson

Item Prompt: Classifying Shapes in a Hierarchy

Organize the shapes below in a way that shows their relationships to each other and tells what their possible names are.



Correct Answer(s)

Possible solutions can be found in the link above.