

Hierarchy of Quadrilaterals

There are many different types of quadrilaterals. We can use the attributes of the quadrilaterals to classify them and identify them. The attributes we mostly use are the lengths of the sides and the number of parallel sides the quadrilaterals have. A hierarchy can be used to classify quadrilaterals and show how the different types compare. Let's take a look. We start with quadrilaterals. For the level below, we can classify by the number of parallel sides. We have kites which have no pairs of parallel sides, and trapezoids that have at least one pair of parallel sides. At this level of the hierarchy, we see that all kites and trapezoids are quadrilaterals.

We can continue classifying by number of parallel sides. Since kites have no parallel sides, we have nothing to put under them. Under trapezoids, we have parallelograms, which have two pairs of parallel sides, and isosceles trapezoids. At this level of the hierarchy, we see that all parallelograms are trapezoids. Below parallelograms, we can classify by angles. We have the rhombus, which has no specific angle measurement but does have four equal side lengths. A rectangle has four 90-degree angles. At this point in the hierarchy, we know that rectangles and rhombi are parallelograms, trapezoids, and quadrilaterals. Lastly, we can place the square. The square is classified by having four 90-degree angles, which makes it a rectangle, and four equal side lengths, which makes it a rhombus. At this point in the hierarchy, we see that a square is a rhombus, a rectangle, a parallelogram, a trapezoid, and of course, a quadrilateral.
