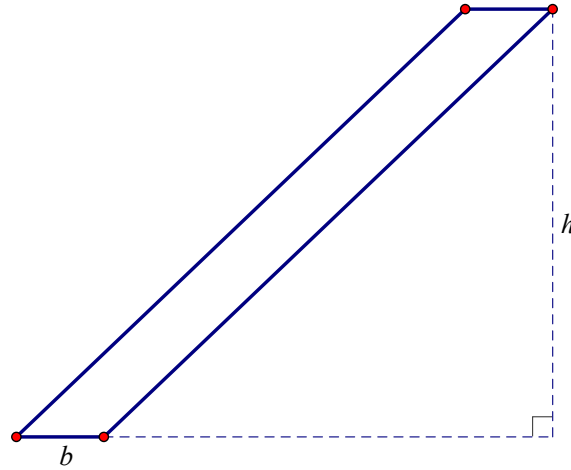


Dissection Activities for [GeoSlice](#)

For each of the activities below, it's important to not only find a dissection method that works, but to also explain *why* the dissection works.

1. Construct a square and make a copy of it. Slice one square and rearrange/join its two pieces to form an isosceles triangle. Drag the triangle onto the other square. How do their areas compare?
2. Construct a square and make a copy of it. Slice each square along its diagonal to form four right triangles. What shapes can you build from these triangles?
3. Construct square and make a copy of it. Slice one square and rearrange/join its two pieces to form a rectangle. Drag the rectangle onto the other square. How do their areas compare?
4. Slice a rectangle and rearrange/join its two pieces to form another rectangle. How do the dimensions of the two rectangles compare?
5. Start with a square. Slice it to make two isosceles right triangles. Continue slicing those triangles to make more isosceles right triangles.
6. Slice a square and rearrange/join its two pieces to form a right triangle. Do the same for a rectangle.
7. Slice a trapezoid and rearrange/join its two pieces to form a triangle.
8. Find two ways to slice a square and rearrange its two pieces to form a parallelogram. Do the same for a rectangle.
9. Construct a square. Find a way to slice it so that some of its pieces can be rearranged to form a square with half the area of the original square.
10. Slice a square into the seven tangram puzzle shapes.
11. Slice a triangle into two pieces that can be rearranged to form a new triangle, none of whose angles are congruent to the angles of the original triangle.
12. Construct a triangle and make a copy of it. Join the two triangles to make a parallelogram.
13. Construct a triangle and make multiple copies of it. How many copies of the triangle do you need to make a larger triangle that's similar to the original triangle?
14. Construct a triangle and make multiple copies of it. Find as many ways as you can to slice the triangle into four smaller triangles, all with equal area.
15. Slice a parallelogram and rearrange its two pieces to form a different parallelogram.

16. Slice a parallelogram into two pieces that can be rearranged to form a rectangle. How does knowing the area formula for a rectangle allow you to derive the area formula for the parallelogram?
17. Construct a “skinny” parallelogram that looks like the one below. Then slice and rearrange its pieces to form a rectangle with the same base, b , and height, h . You will need to make multiple slices.



18. Slice a random quadrilateral into pieces that can be rearranged to form a rectangle.
19. Slice a triangle into two pieces that can be rearranged to form a parallelogram. If you know the area formula for a parallelogram, how can you use it to derive the area formula of a triangle?
20. Construct a trapezoid and make a copy of it. Join the two trapezoids to make a parallelogram. If you know the area formula for a parallelogram, how can you use this to derive the area formula for a trapezoid?