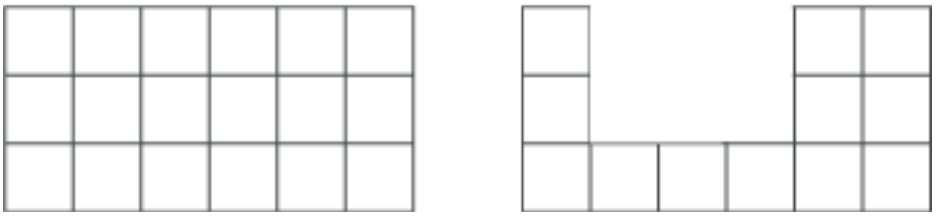
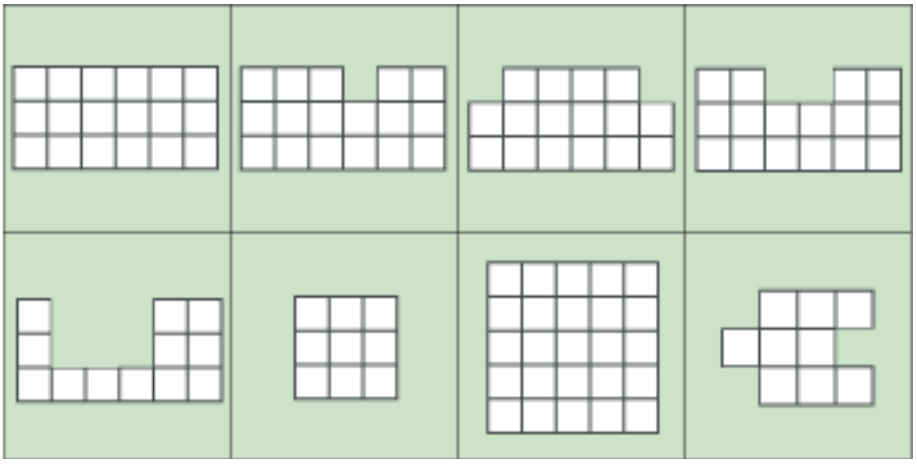
SHQ: How can we change a shape's area and perimeter?

What can you say about these two shapes?



What is the area of each one? What is the perimeter of each one?

What can you say about the shapes below?



Now have a go at the challenges below: It might help to use squared paper to try out your idea *(you can use the squared paper on the resource for worksheet 6).*

Can you draw a shape in which the area is numerically equal to its perimeter? And another?
Can you draw a shape in which the perimeter is numerically twice the area?
Can you draw a shape in which the area is numerically twice the perimeter?
Can you make the area of your shape go up but the perimeter go down?
Can you make the perimeter of your shape go up but the area go down?

Can you draw some shapes that have the same area but different perimeters?
Can you draw some shapes that have the same perimeter but different areas?

Key questions to consider:

How will you find out the perimeter?
How will you find out the area?
Tell me about that shape.
How could you make the area of that shape bigger/smaller? How will that affect its perimeter?
How could you make the perimeter of that shape bigger/smaller? How will that affect its area?

Draw pictures of the shapes you find that meet each challenge and save them so we can compare our ideas.