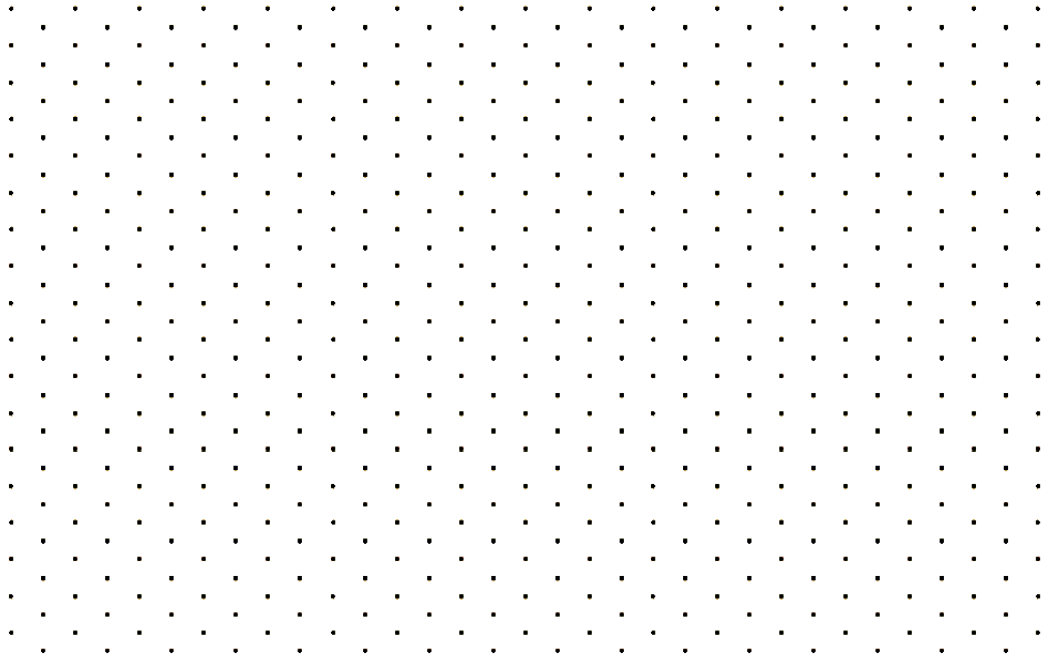


## Scaling Up Block Creatures

1. Pick some number of blocks (1-8) to make your "original" creature. Sketch it below on the isometric grid:



2. Count the number of block faces that are exposed to the outside world of your original block organism (this is the surface area). Don't forget the "bottom" faces that are touching the table. Briefly describe how you counted.
3. Count the number of cubes you used (cubic units). This is the volume of your organism.

4. Next, you will make a "scaled up," similar version of your creature. Think about what it means to be "similar" in two dimensions...what does it mean to be similar in 3 dimensions? Before you build the scaled up version(s), make predictions about how various measures are going to change when you make a "double version," "triple version," etc.

5. Make scaled up versions of your creature using scales factors of 2 and 3. Find the measures of these scaled up versions and make predictions for measures in even larger scaled up versions. Why do your predictions make sense?

Scale Factor	Reference Edge Length	Surface Area	Volume	Surface Area/Volume
1 (original)				
2				
3				
4				
5				

6. What trends do you notice in the table? Try to explain any numeric patterns in terms of where they are coming from.