**Scaling a Figure Wrap-Up**

During the scaling-a-figure investigation, you figured (get, it?) out how the characteristics of a design change when it is enlarged or reduced. You discovered that when a shape is enlarged or reduced…

* + The perimeter changes by the scale factor,
  + The area changes by the square of the scale factor, and
  + The angles do not change.

**Learning goal:** *Why does a figure change when we enlarge or reduce it?*

Below is the bed from our investigation:

When we enlarge the figure by a scale factor of 2, the sides double. Therefore, the area quadruples; notice that 4 beds fit inside this enlarged shape!

When we reduce a figure to half the size, the sides are multiplied by 1/2. Therefore, the area is one-quarter the size; notice that you would need 4 of these shapes to fit inside the original bed.

**Question:** *Why does the area change by the square of the scale factor?*  
(If you need more room, write on the back of this sheet.)