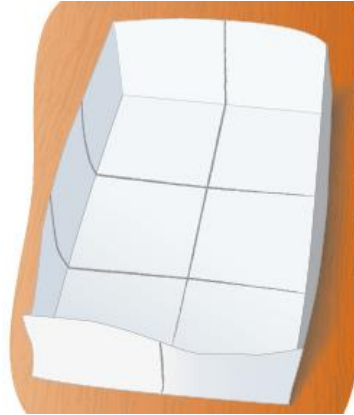


Unit 7: Filling and Wrapping
Investigation 1.4 Compost Containers

Name _____

- A. Use grid paper to make a scale model of the 1-2-3 box that will decompose 0.5 pounds of garbage each day.

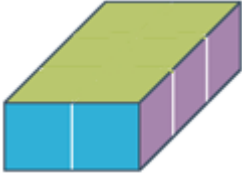
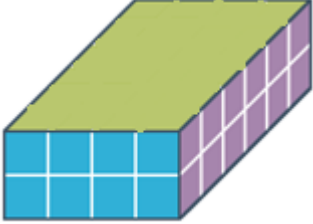


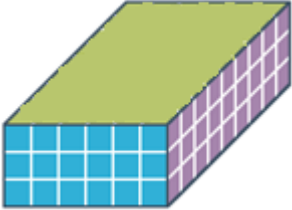
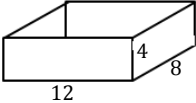
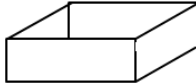
- B. Assume that the number of worms used increases to match the increase in box volume. What changes in the dimensions of the basic design would produce a box that could compost 1 pound of garbage each day?

2 pounds of garbage each day?

5 pounds of garbage each day?

C. The Science Club wants to scale up the basic 1-2-3 design to a larger box that is similar in shape. Complete the table that shows that cost and capacity of several larger boxes.

Open Box (h-w-l)	Sketch	Scale Factor	Surface Area (ft^2)	Volume (ft^3)	Amount of Garbage Decomposed in a Day (pounds)	Worms Needed
1-2-3						
2-4-6						
How do the side lengths of the 2-4-6 box compare to the original?		How does the surface area of the 2-4-6 box compare to the original?		How does the volume of the 2-4-6 box compare to the original?		

Open Box (h-w-l)	Sketch	Scale Factor	Surface Area (ft^2)	Volume (ft^3)	Amount of Garbage Decomposed in a Day (pounds)	Worms Needed
3-6-9						
How do the side lengths of the 3-6-9 box compare to the original?		How does the surface area of the 3-6-9 box compare to the original?		How does the volume of the 3-6-9 box compare to the original?		
4-8-12						
How do the side lengths of the 4-8-12 box compare to the original?		How does the surface area of the 4-8-12 box compare to the original?		How does the volume of the 4-8-12 box compare to the original?		
		f				