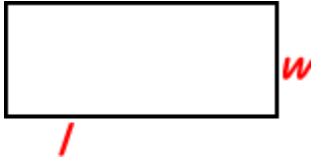
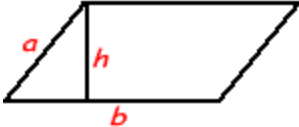
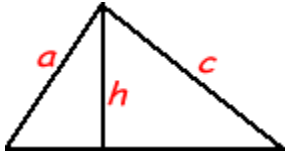
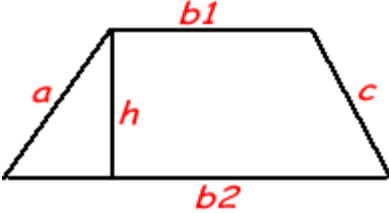
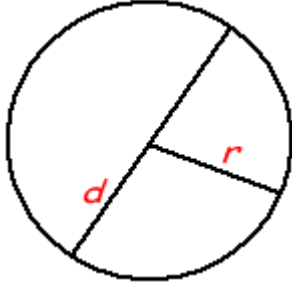
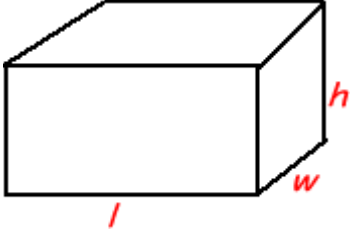
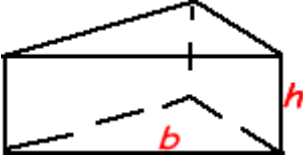
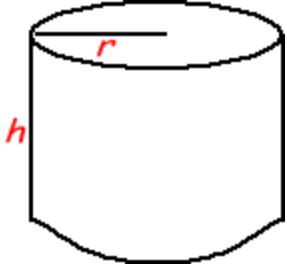
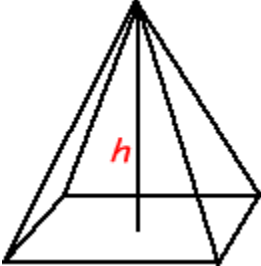
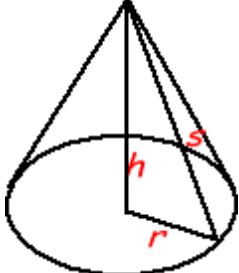
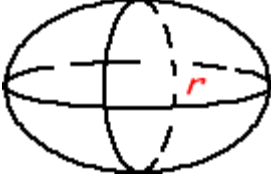


BAE 103
Energy in Biological Systems

Area and Volume Formulas

Shapes	Formula
	<p>Rectangle: Area = Length X Width $A = lw$</p> <p>Perimeter = 2 X Lengths + 2 X Widths $P = 2l + 2w$</p>
	<p>Parallelogram Area = Base X Height $a = bh$</p>
	<p>Triangle Area = 1/2 of the base X the height $a = 1/2 bh$</p> <p>Perimeter = $a + b + c$ (add the length of the three sides)</p>
	<p>Trapezoid $A = \left(\frac{b1 + b2}{2}\right)h$</p> <p>Perimeter = $a + b1 + b2 + c$ $P = a + b1 + b2 + c$</p>
	<p>Circle $d = 2r$ $c = \pi d = 2 \pi r$ $A = \pi r^2$</p>
	<p>Rectangular Solid Volume = Length X Width X Height $V = lwh$</p> <p>Surface = $2lw + 2lh + 2wh$</p>

	<p>Prisms Volume = Base X Height $v=bh$ Surface = $2b + Ph$ (<i>b is the area of the base P is the perimeter of the base</i>)</p>
	<p>Cylinder Volume = $\pi r^2 \times$ height $V = \pi r^2 h$ Surface = 2π radius x height $S = 2\pi rh + 2\pi r^2$</p>
	<p>Pyramid $V = 1/3 bh$ <i>b is the area of the base</i> Surface Area: Add the area of the base to the sum of the areas of all of the triangular faces. The areas of the triangular faces will have different formulas for different shaped bases.</p>
	<p>Cones Volume = $1/3 \pi r^2 \times$ height $V = 1/3 \pi r^2 h$ Surface = $\pi r^2 + \pi rs$ $S = \pi r^2 + \pi rs$ $= \pi r^2 + \pi r \sqrt{r^2 + h^2}$</p>
	<p>Sphere Volume = $4/3 \pi r^3$ $V = 4/3 \pi r^3$ Surface = $4\pi r^2$ $S = 4\pi r^2$</p>