



Find the angle that the bat swings through by taking the ratio of the area swung over the total area in a circle:

$$\text{Ratio} = \text{area} / (\pi * L^2)$$

Multiply the ratio by  $2\pi$  radians and divide by time to get angular velocity:

$$\text{Vel} = \text{ratio} * 2\pi / \text{time}$$