A Gaussian is a function of the form

$$f(x) = Ne^{-\frac{(x-x_0)^2}{2\sigma^2}} \tag{1}$$

Use the applet at Gaussians to explore the role of the parameters N, x_o, and σ in the shape of a Gaussian. Make sure that not only do you know the role of each parameter, but also that you can EXPLAIN this behaviour based on the algebraic expression for the Gaussian function.