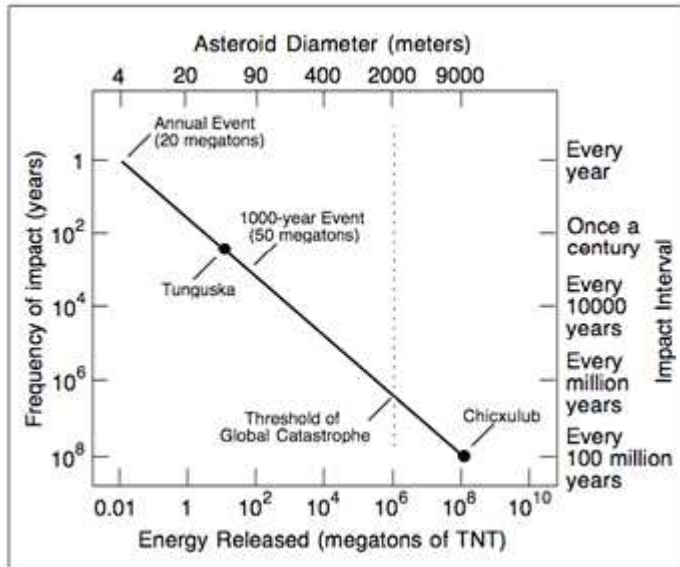

ASTR 220 Spring 2017
Scientific Notation Activity - End

The graph below shows the frequency of near-Earth asteroid impacts as a function of both impact energy and asteroid diameter.



Use the graph to answer the following questions.

1. The Hiroshima atomic bomb released about 15 kilotons of TNT in energy. Mark and label this energy at the appropriate spot on the line above. About how often does an asteroid impact with the same amount of energy occur?
2. Compare the impact frequencies of asteroids the size of the Tunguska impactor and the Chicxulub impactor. Which size object hits more frequently, on average? How many times more frequently? **Show your ratio and work - no calculator.**
3. About how many times more energy does an impactor the size of Chicxulub have, compared to Tunguska? **Show your ratio and work - no calculator.**

4. Compare the diameters of the asteroids that caused the Tunguska and Chicxulub impacts. Which one was larger? How many times larger? **Show your ratio and work - no calculator.**