



Student Worksheet #3

Exploring the Universe with Powers of Ten

Go to the following websites to explore the universe using the Powers of Ten. After exploring, answer the questions below.

1. <http://micro.magnet.fsu.edu/primer/java/scienceopticsu/powersof10>
2. <http://www.eamesoffice.com/the-work/powers-of-ten>
3. <https://www.khanacademy.org/math/cc-fifth-grade-math/powers-of-ten/imp-comparing-decimal-place-values/v/comparing-place-values-in-decimals>
4. <http://www.kokogiak.com/megapenny/default.asp>
5. <http://vimeo.com/5108749>
6. <http://htwins.net/scale2/>
7. <http://nanozone.org/how.htm>

Answer the following question as you explore the web sites above. Each question is linked to the numbered website.

1. What were you able to see at 10^0 _____ 10^{10} _____ 10^{-5} _____
2. What year was Power of Ten film produced and what book was used as a basis of the film? _____
3. Write down one problem that you tried and the answer. _____
4. What would the width, height, thickness, total weight and height of a billion pennies be? _____
5. What instrument was used to make the images shown? _____
6. A humming bird is _____ meters in size.
7. How tall are you in nanometers? _____

Overall, which was your favorite website for helping to understand the size of the universe. Why?

