

Joseph Specht

Quiz 2

1. My favorite unit is probably the newton just because it is a nice shorthand for $\text{kg}\cdot\text{m}/\text{s}^2$.
2. The base units all have interdependencies because they are all related to the physical world, and they all depend on the speed of light. These units are all relative and all (except the mole I believe) change depending on how fast you are going to where there is not a consistent base unit in every reference frame.
3. 5g nature Tellurium, find atoms of ^{122}Te .

$$\frac{5\text{g Te}}{1} * \frac{1 \text{ mol Te}}{127.60 \text{ g Te}} * \frac{6.022*10^{23}\text{atoms Te}}{1 \text{ mol Te}} * \frac{2.55\% \text{ } ^{122}\text{Te}}{100\% \text{ Te}} = 6.017 * 10^{20} \text{g}^{122}\text{Te}$$

4. How many gigawatts are in 1000 megawatts?

$$\frac{1000 \text{ megawatts}}{1} * \frac{1 * 10^6 \text{ watts}}{1 \text{ megawatt}} * \frac{1 * 10^{-9} \text{ gigawatts}}{1 \text{ watt}} = 1 \text{ gigawatt}$$

5. I am hoping to learn the basics of becoming a nuclear engineer and if I truly want to pursue this path.
6. I am worried about nothing because worrying is wasted effort.