**Data Booklet Scavenger Hunt**

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| 1. What does the last equation in sub-topic   5.2 describe? |
| 1. What is the permittivity of free space? |
| 1. Write two equations that describe some   sort of exponential growth or decay. |
| 1. In what subtopic is the average kinetic   energy of a molecule listed? |
| 1. What function describes the velocity of a   simple harmonic oscillator? |
| 1. In which sub-topic can you find the   Heisenberg uncertainty principle? How  many are there? |
| 1. In which sub-topic is the propagation of   uncertainty found? |
| 1. What is the definition of the Coulomb   constant? (not the value) |
| 1. In sub-topic 9.2, what does b stand for? |
| 1. In which sub-topic can you find the   equation for magnetic flux? What variable  is used for flux? |
| 1. What particles experience the weak force? |
| 1. How many meters are in a femtometer? |
| 1. What is the formula for angular   magnification? |
| 1. Define root mean square voltage. |
| 1. How many joules are in one kilowatt-hour? |
| 1. Write the equation for the average power   produced by an AC generator. |
| 1. Write the Rayleigh Criterion. |
| 1. What is the gas constant (R)? |
| 1. Define Kirchoff's Laws. |
| 1. In sub-topic C.1, what do the letters v and   u stand for? |
| 1. In which sub-topic can you find the   relationship between kinetic energy and  momentum? |
| 1. In what sub-topic can I find the definition   of doppler shift? What is f'? |
| 1. What is the double slit equation? |
| 1. What formula describes the kinetic energy of   an oscillating mass on a spring? |
| 1. In the definition for capacitance, what does   the Ɛ stand for? |
| 1. Write Coulomb's Law. |
| 1. In the nuclear decay equations, what does ʎ   stand for? |
| 1. In which subtopic might I find the equation   that won Einstein a Nobel prize? |
| 1. How many formulas for friction are given in   sub-topic 2.2? What do *s* and *d* stand for? |
| 1. What is the definition of the time constant   for a capacitor? |
| 1. What is the definition of the energy found   in a photon? |
| 1. In which sub-topic can you find the   definition of centripetal acceleration?  Write both. |
| 1. In which sub-topic will you find the   definition of internal resistance? |
| 1. What is the formula dealing with the   Space-time interval? |
| 1. List three definitions of power that **don't**   include area. |
| 1. Write the equation for energy stored in a   capacitor. |
| 1. In section 10.1 there is a formula for the   work done by an electric field. In what  other section can this formula be found? |
| 1. In sub-topic 3.2, what is n=N/NA defining? |
| 1. In which sub-topic can you find a definition of   Faraday's Law? What is it? |
| 1. What is the mediating particle in the strong   interaction? |
| 1. In which section can I find an equation for the   schwarzschild radius? |
| 1. What is the symbol for a variable resistor? |
| 1. What is the equation for escape velocity? |
| 1. What is the equation for the Lorentz factor? |
| 1. In sub-topic 2.1, what quantities do the letters   u and s represent? |
| 1. Write Malus' Law for polarizing filters. |
| 1. Write the formula for an object in circular orbit. |
| 1. Write the Stefan-Boltzmann Law. |
| 1. Write Wien's Law. |
| 1. In sub-topic 6.2, what are two things to call the   value "g"? |
| 1. What is the charge and baryon number of a   strange quark? |
| 1. In which sub-topic is the Ideal Gas Law found? |
| 1. In sub-topic 10.2, what is the equation to the left   of Coulomb's Law called? |
| 1. Define albedo. |