

{ May 23 - Victoria Day (Monday) }
{ May 27 - Professional Learning Day (Friday) }

Physics 112

Wednesday, May 18/16

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Explain That Stuff - May 20/16

1. Marks -> Assignment: U3-S1 - Work
2. Check -> Worksheet: Textbook - Page 238, PP #19-21
Textbook - Page 245, PP #22-25
3. Potential Energy
4. Gravitational Potential Energy
5. Work-Gravitational Potential Energy Theorem
6. Worksheet - [Textbook: Page 250, PP # 27, 29 -> HW](#)

[Textbook: Page 254, PP # 30-33](#)
7. Hooke's Law
8. Elastic Potential Energy

Science 122

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1. Check -> Worksheets: Half-Life, Activity and Decay Constant (2)
 2. Quantization of Energy - Planck
- Einstein
 3. Photoelectric Effect - To Be Continued
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4. Worksheet: Energy of Photons, Work Function, Etc.

Sheet #1

#6. I-131

$$m = 532 \mu\text{g} = 532 \times 10^{-6} \text{g}$$

a) $A_0 = ?$

$$M = 130.9061 \text{g/mol}$$

$$T_{1/2} = 8.04 \text{d} = 6.947 \times 10^5 \text{s}$$

$$\cancel{A_0 = \frac{\Delta N}{\Delta t}} \quad A_0 = \lambda N_0 \quad A = \cancel{A_0 e^{-\lambda t}}$$

$$\lambda = \frac{\ln 2}{T_{1/2}} \quad \left(\frac{\cancel{N}}{N_A} \right) \frac{m}{M}$$

$$n = \frac{m}{M}$$

$$n = \frac{N}{N_A}$$

$$N_0 = \frac{N_A m}{M}$$

$$A_0 = \left(\frac{\ln 2}{T_{1/2}} \right) \left(\frac{N_A m}{M} \right)$$

$$A_0 = 2.44 \times 10^{12} \text{ Bq} \quad \left[\frac{\text{decays}}{\text{s}} \right]$$

b) A 1.0h later

$$A = A_0 e^{-\left(\frac{\ln 2}{T_{1/2}} \right) t}$$

$$A = 2.43 \times 10^{12} \frac{\text{decays}}{\text{s}}$$

Sheet #2.

$$\#3. \quad \frac{t}{T_{1/2}} = \# \text{ of half lives.}$$

$$N = N_0 e^{-\lambda t}$$

$$\frac{N}{N_0} = e^{-\lambda t}$$

$$\ln \left(\frac{N}{N_0} \right) = -\lambda t$$

$$\ln \left(\frac{N}{N_0} \right) = - \frac{\ln 2}{T_{1/2}} t$$

$$\ln \left(\frac{N}{N_0} \right) = \frac{t}{T_{1/2}} \cdot (-\ln 2)$$

$$-\ln 2$$

$$\frac{10 \text{ yr} = 5}{2.04}$$

Sheet # 2.

$$\begin{array}{l} \# 6. \quad A_0 = 398 \text{ d/min} \\ \quad \quad A = 285 \text{ d/min} \\ \quad \quad t = 2.0 \text{ days} \\ \quad \quad \boxed{A} = A_0 e^{-\lambda t} \\ \quad \quad \lambda = 0.16698 \text{ days}^{-1} \end{array} \left| \begin{array}{l} A = A_0 e^{-\lambda t} \end{array} \right.$$

Science 10

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Roller Coasters - Deadline: Thursday, May 26/16

1. **Article - Pass in for Marking**
 2. Classifying Organisms
 3. Energy Movement in Ecosystems
 4. Trophic Levels (Feeding Levels)
 5. Food Chains
 6. Food Webs
 7. Assignment - Oh What a Tangled Web We Weave
- **Due - Friday, May 20/16**
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Explain That Stuff - May 20/16

1. **Test - Unit 2**
 2. Worksheet: Charge and Coulomb's Law (2 Charges)
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