

7.1 – Discrete energy and radioactivity

Listed below are the main pieces of content that you need to have in these pages.

Understandings:

- Discrete energy and discrete energy levels
- Transitions between energy levels
- Radioactive decay
- Fundamental forces and their properties
- Alpha particles, beta particles and gamma rays
- Half-life
- Absorption characteristics of decay particles
- Isotopes
- Background radiation

Content is only as valuable as the understanding that goes with it. These concepts coincide with the above content.

Applications and skills:

- Describing the emission and absorption spectrum of common gases
- Solving problems involving atomic spectra, including calculating the wavelength of photons emitted during atomic transitions
- Completing decay equations for alpha and beta decay
- Determining the half-life of a nuclide from a decay curve
- Investigating half-life experimentally (or by simulation)

Guidance:

- Students will be required to solve problems on radioactive decay involving only integral numbers of half-lives
- Students will be expected to include the neutrino and antineutrino in beta decay equations

These pages in the data booklet are very necessary and important.

Data booklet reference:

- $E = hf$
- $\lambda = \frac{hc}{E}$

The links below should assist you with your understanding.

https://www.youtube.com/watch?v=czgiZoH7_Ac&list=PLPsx331rqafVoXHzhlg1Um3KU3yWuQm6o&index=2&t=0s

<https://www.youtube.com/watch?v=0Ehao8XUx8&list=PLPsx331rqafVoXHzhlg1Um3KU3yWuQm6o&index=3&t=0s>

<https://www.youtube.com/watch?v=jGDcPad3TuQ&list=PLPsx331rqafVoXHzhlg1Um3KU3yWuQm6o&index=4&t=0s>

<https://www.youtube.com/watch?v=UoBSxzHuKQQ&list=PLPsx331rqafVoXHzhlg1Um3KU3yWuQm6o&index=6&t=0s>

Finally, assignments(aka your favorite...PDFs!!)
will be placed in our NEW GOOGLE
CLASSROOM!!

In order to join, use this code:

Class code

htgq64

Everyone must be part of the class July 8th!