Name:

**Physics homework**

Use your GCSE notes/book to help you answer these questions

**The nucleus:**

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| 1. Which particles are in the centre of an atom?   * A. protons and electrons. * B. neutrons and electrons. * C. neutrons and protons. * D. protons, neutrons and electrons. | |  |
| 2. What is the name of the centre part of an atom, and what orbits around this?   |  |  |  | | --- | --- | --- | |  | **Centre part** | **In orbit** | | **A** | A nucleus | protons | | **B** | B nucleole | electrons | | **C** | C nucleus | electrons | | **D** | D nucleole | protons | | |  |
| **Q3-6. Which of these particles**  **A Electron, B Proton, C Neutron or D None of these…….** |  | |
| 3. ..has a negative charge. | |  |
| 4. ..has a mass of 1 atomic unit and a positive charge. | |  |
| 5. ..has a neutral charge. | |  |

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| **Here is a diagram of an atom of Beryllium.** **It has the symbol:**  **http://gradegorilla.com/micro/atomic/Beryllium.gif**http://gradegorilla.com/micro/atomic/atom_1.gif |  | |
| 6. What does the **top** number represent?   * A. The number of protons. * B. The number of protons plus electrons. * C. The number of neutrons. * D. The total mass of the nucleus. | |  |
| 7. What does the **bottom** number represent?   * A. The number of protons. * B. The number of protons plus electrons. * C. The number of neutrons. * D. The total mass of the nucleus. | |  |
| 8. The symbol for the radioactive isotope strontium 90 is shown here. How many protons (p) and neutrons (n) does it have?   * http://gradegorilla.com/micro/atomic/Strontium.gifA. 90 p, 90 n * B. 38 p, 90 n * C. 52 p, 38 n * D. 38 p, 52 n |  |  |
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| **Waves:**  What region of the electromagnetic spectrum (Radio, microwaves, Infra red, Visible light, Ultra Violet, Gamma rays)….. | | |
| 3. has the most energy? | |  |
| 4. is used in remote controls for televisions? | |  |
| 5. can be used to kill cancer cells? | |  |
|  | |  |
| Which **colour of visible light** in the spectrum... | |  |
| 6. Has the longest wavelength? | |  |
| 7. Has the highest frequency? | |  |
| 8. All electromagnetic waves have similar properties. Which one of these is NOT a property of electromagnetic waves?   * A). All travel at the same speed * B). They all can pass through a vacuum * C). They can all be reflected * D). They all have a longer wavelength than sound waves. | |  |
| 9. Which one of these is a longitudinal wave?   * A). Water (surface) waves * B). Sound wave * C). Radio wave * D). X ray wave | |  |
| 11. Which of these is the correct term for a wave where the individual particles move **at right angles** to the direction of the wave energy transfer?   * A). Transverse * B). Longitudinal * C). Refracted * D). Propagated | |  |
| 12. Which of these arrows correctly shows the amplitude and wavelength?  http://gradegorilla.com/AQA/AQAwaves/wave_drawing.gif |  | |
| |  |  |  | | --- | --- | --- | |  | **Amplitude** | **Wavelength** | | A). | x | p | | B). | y | p | | C). | x | q | | D). | y | q | |  | |