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.
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| 2. What is the name of the centre part of an atom, and what orbits around this?

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|  | **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.
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| 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.
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| 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.
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| 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 |   |
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|   | **Amplitude** | **Wavelength** |
| A). | x | p |
| B). | y | p |
| C). | x | q |
| D). | y | q |

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