



Mixed practice questions on radioactivity.

<p>1. Fill in the blanks in the sentences below:</p> <p>The nucleus of an atom consists of _____ and _____</p> <p>Orbiting the nucleus are tiny small particles called _____ they have a negative charge.</p> <p>Atoms consist of mostly empty _____.</p>	<p>2.</p> <p>(a) Which particle in the nucleus has no charge?</p> <p>(b) Which particle in the nucleus has a positive charge?</p>	
<p>3. The number of protons in an atom's nucleus gives the atom's position in what table?</p>	<p>4. Describe what an isotope of an element is?</p>	<p>5. Helium has three isotopes. What is the difference between He-3 and He-5?</p>
<p>6. How do unstable nuclei become stable?</p>	<p>7. Write down three facts about an alpha particle?</p>	<p>10. A lawyer is making a claim against a dentist on behalf of a client who says he was dosed with beta particles sitting two rooms away. Has the lawyer a case?</p>
<p>10. A physics student makes the following statement: "Alpha particles are very ionising; they have a charge of +4. You have to be very careful of them. That is why you need to be about 10 metres away from the source of these particles" Using your knowledge of radiation, discuss the student's statement.</p>		
<p>11. A radioactive nucleus emits radiation which has the highest energy in the electromagnetic spectrum. It can pass through several centimetres of thin metal. State the radiation's name.</p>	<p>12. Radioactive substances can be injected into the bloodstream as a tracer. Special cameras can then follow the blood round the circulatory system. Which radiation: alpha, beta or gamma is most suitable. Justify your answer.</p>	