Properties of Nuclear Radiation Questions for GCSE Physics

1. What are alpha particles, beta-minus particles and gamma rays?

2. State the relative mass and charge of each of these three types of radiation.

3. Put alpha, beta and gamma radiation in order of increasing ionising power. Explain why ionising radiation can be harmful to living cells.

4. Compare how far alpha, beta and gamma radiation travel through air.

5. What materials can stop alpha and beta radiation? How does thick lead affect gamma radiation?

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6. Radiation spreads out as it travels away from its source. What happens to its concentration?

7. Describe how alpha, beta and gamma radiation behave between oppositely charged plates. Why is beta deflected more than alpha?

8. Alpha radiation cannot pass through skin. Explain why an alpha-emitting source can still be dangerous if it gets inside the body.

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