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PLEASE SUBMIT YOUR WORK THROUGH GOOGLE CLASSROOM

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1. What part of atomic structure **defines a chemical element**?
2. What is a **mass number** of an element?
3. What is an **isotope**? Give an **example**. (A sketch would be great!)
4. What makes a **heavy, large** nucleus **unstable**?
- 5\*. Fact #1: A typical **banana** contains about  **$10^{20}$  atoms of unstable radioactive potassium isotope K-40** with a half-life of **1.25 billion years**.  
Fact #2: Scientists predict that the Sun will expand into a Red Giant and engulf the Earth in about 7.6 billion years.  
Question: **Approximately how many radioactive K-40 atoms from a single banana will still be there ready to get swallowed by the Sun 😊?**