SCIENCE 2022/2023 **HOMEWORK #13**

NAME:

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 😊?**