

NAME:

1. Explain the **difference** between a **chemical reaction** and a **nuclear reaction**.

2. What is **radioactive decay**?

3. What is a **nuclear fusion reaction**?

4*. 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 😊?**