

What are Fission and Fusion?

Exploration

Use the web links from the Atomic Archive web site (<http://www.atomicarchive.com>) to learn what you can about nuclear fission and fusion. As you proceed through the material, construct a ten item multiple choice quiz. Your quiz should include examples of all of the types of multiple choice items discussed below.

First decide how many distracters you want your test to have. Distracters are the “choices” in a multiple choice test and they’re called distracters for a reason! Normally a test will have either four or five distracters. (Think about the PSAT or SAT.) Generally, the more distracters an exam has, the harder it is, i.e. the more SURE you have to be of the correct answer.

Some multiple choice questions are harder than others. Use at least one of EACH example below. Be sure to check grammar and spelling – some of your questions may be used on the next exam!

1. Close – open ended question: “fill in the blank” The blank can appear at any point in the sentence. Usually used to elicit a definition.

The _____ Theory stated that the universe revolved around the earth.

- a) Geocentric b) Heliocentric c) Astrocentric d) Unicentric

2. The negative question: “which of these things is not like the other, which of these things just doesn’t belong...?”

All of the following elements are metals EXCEPT

- a) tungsten b) mercury c) helium d) indium e) calcium

Which of these is NOT part of the scientific method?

- a) hypothesis b) conclusion c) experiment d) extrapolation

Which of the following scientists is credited with discovering the nucleus?

- a) Dalton b) Archimedes c) Thompson d) none of these

3. Romans: typically the most difficult type of question because you have to “juggle” several bits of information to form an analysis
- I. electron
 - II. proton
 - III. neutron

Particles that are believed to make up the nucleus of an atom are

- a) I only b) II only c) III only d) I and III e) II and III

4. Reference: one or a series of questions which refer to a graph, statement or illustration

Substance	Melting Point (° C)	Solubility in water
NaCl	804	yes
Cornstarch	<20	no
Sucrose	120	yes

Which of the substances above has the strongest bonds?

- a) NaCl b) Cornstarch c) Sucrose

How many of the substances above are electrolytes?

- a) 1 b) 2 c) 3

5. Decide how many distracters you want your test to have and be consistent throughout. Try NOT to have any “throw away” responses. Make all of your choices “sound” as if they could be correct ones!

Who was responsible for the theory of relativity?

- a) Albert Einstein b) Enrico Fermi c) Max Planck d) Al Gore

This is NOT a good question!!!

Once again, you must use ALL four types of questions at least once.