

Atomic Structure Review

Quiz Objectives

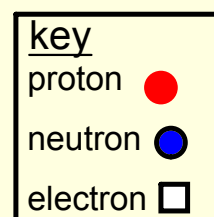
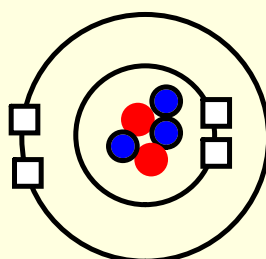
1. I can name, list the charge/location/mass of each subatomic particle.
2. I can draw a Bohr & e-dot model of an element.
3. I can calculate subatomic particles from a Chemical symbol or write a Chemical symbol from subatomic particles.
4. I can define an isotope and determine its atomic mass by the subatomic particles.

Review:

1. Draw a Bohr **orbital** Model of Mg, #12 2. Draw a Lewis e dot diagram of Sr, #38
 Use the periodic table to estimate neutrons.

3. Use the follow diagram and key to determine:

- a. the atomic number _____
 b. the mass number _____
 c. the element name _____
 d. the isotope symbol _____



4. Use the periodic table and the information that follows to write the nuclear symbol for each isotope described.

- a. atomic number =3, mass number =8 _____

Write a nuclear symbol of an isotope of your answer above _____

- b. protons =20, neutrons =21 _____

Write a nuclear symbol of an isotope of your answer above _____

5. What is the mass of an electron? _____ proton? _____ neutron? _____

6. What number identifies an element? _____

7. Isotopes of a particular element have the same _____

But have different _____

8. In the nuclear symbol, $^{58}_{26}\text{Fe}$, identify:

the atomic number: _____ the element name: _____

the mass number: _____ the number of neutrons: _____

Atomic structure

④

Name _____ hour _____

1. What number identifies an element? atomic # / proton #
2. What are isotopes? atoms of same element, different #^{n^o}
 How are the isotopes of a particular element alike? same # p⁺ and e⁻ *same name*
 How are they different? different # n^o, different masses

3. Complete the following table:

isotope	Number of protons	Number of Electrons	Number of neutrons
Si-28	14	14	14
Si-29	14	14	15
Si-30	14	14	16

4. What is the atomic number of an element? # p⁺
5. What is the mass number of an isotope? # p⁺ + # n^o

6. In the nuclear symbol of deuterium,

${}^2_1\text{H}$, identify:

the atomic number 1
 the mass number 2

7. Use the periodic table and the information that follows to write the hyphen notation and nuclear symbol for each isotope described.

- a. atomic number = 1, mass number = 1 H-1 and ${}^1_1\text{H}$ *← fix*
- b. atomic number = 6, mass number = 14 C-14 ${}^{14}_6\text{C}$
- c. atomic number = 92, mass number = 207 U-207 ${}^{207}_{92}\text{U}$
- d. atomic number = 7, mass number = 15 N-15 ${}^{15}_7\text{N}$
- e. atomic number = 2, mass number = 4 He-4 ${}^4_2\text{He}$

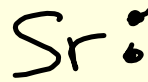
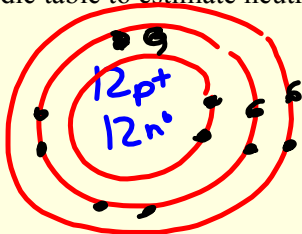
8. Write a nuclear symbol for an isotope of
- 7a. H-2 ${}^2_1\text{H}$
 - 7b. C-12 ${}^{12}_6\text{C}$
 - 7c. U-208 ${}^{208}_{92}\text{U}$
 - 7d. N-14 ${}^{14}_7\text{N}$
 - 7e. He-5 ${}^5_2\text{He}$
- Handwritten notes in red:* ${}^3_1\text{H}$, ${}^4_2\text{He}$, ${}^{11}_5\text{B}$, ${}^{13}_6\text{C}$, ${}^{13}_6\text{C}$

9. What is a nuclide?(look it up) _____

Nuclide definition, an atomic species in which the atoms all have the same atomic number and **mass number**.

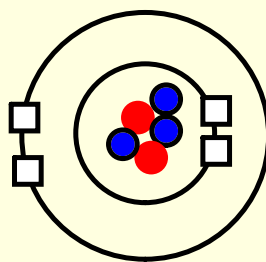
Review:

1. Draw a Bohr **orbital** Model of Mg, #12 2. Draw a Lewis e dot diagram of Sr, #38
 Use the periodic table to estimate neutrons.



3. Use the follow diagram and key to determine:

- a. the atomic number 2
 b. the mass number 5
 c. the element name helium
 d. the isotope symbol ${}^5_2\text{He}$



key	
proton	● (red)
neutron	● (blue)
electron	□ (white)

4. Use the periodic table and the information that follows to write the nuclear symbol for each isotope described.

a. atomic number =3, mass number =8 ${}^8_3\text{Li}$

Write a nuclear symbol of an isotope of your answer above ${}^7_3\text{Li}$

b. protons =20, neutrons =21 ${}^{41}_{20}\text{Ca}$

Write a nuclear symbol of an isotope of your answer above ${}^{40}_{20}\text{Ca}$

5. What is the mass of an electron? 0 proton? 1amu neutron? 1.66amu

6. What number identifies an element? # p⁺, atomic #

7. Isotopes of a particular element have the same # p⁺, name
 But have different # n^o, mass #

8. In the nuclear symbol, ${}^{58}_{26}\text{Fe}$, identify:

the atomic number: 26 the element name: iron

the mass number: 58 the number of neutrons: 32

