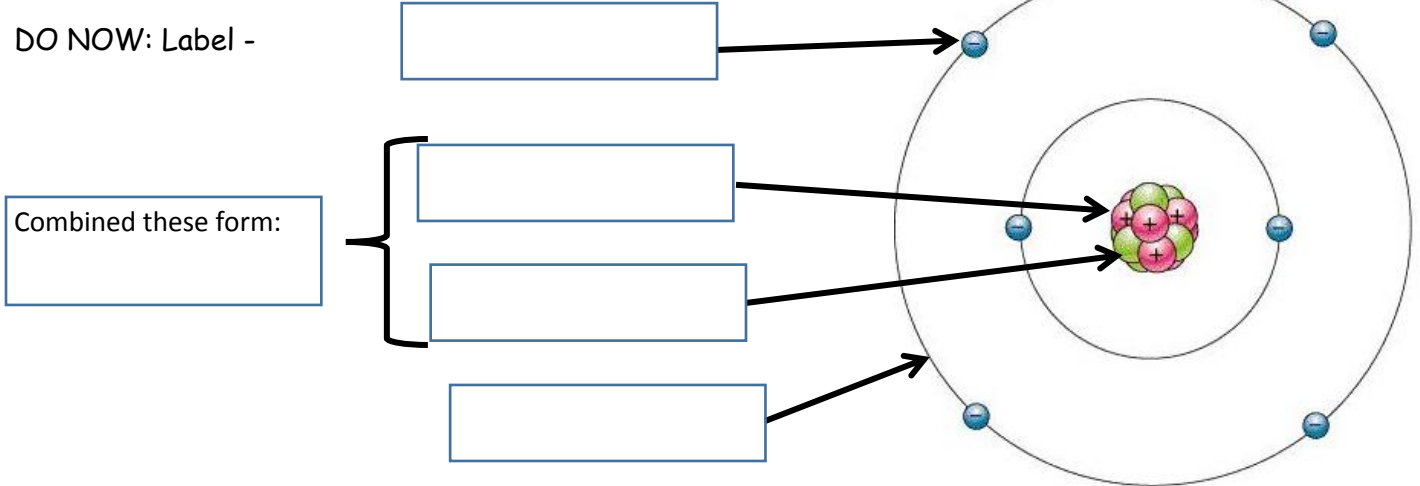


Name \_\_\_\_\_ per \_\_\_\_\_ date \_\_\_\_\_ mail box \_\_\_\_\_

**Basic Atomic Structure of the Atom**

DO NOW: Label -



Combined these form:

**Directions:** Complete the chart using your knowledge about subatomic particles.

Subatomic Particle Name	Charge	Location
		In nucleus
	Negative	
Neutron		

Label the parts of the Periodic Table square for Carbon

\_\_\_\_\_

The number of protons in the nucleus of an atom.

carbon

6

**C**

12.011

\_\_\_\_\_

Often from *Greek* or *Latin* for a word containing the element or in honor of its discoverer.

\_\_\_\_\_

Short-hand abbreviated for the element name

\_\_\_\_\_

The average mass from the sum of both protons and neutrons.

Complete before the end of the period:

1<sup>st</sup> simply arrange the model atoms in the order you believe they were developed and appeared.

2<sup>nd</sup> Jot down what you hypothesize is the properly matched Scientist and their model.

**NOTE** Letters on Cards

1. Democritus / Dalton\_\_\_\_ Thomson\_\_\_\_ Rutherford\_\_\_\_ Bohr\_\_\_\_ Cloud\_\_\_\_ Quantum\_\_\_\_

2. Atoms are smaller than nanometers in size.

One **millimeter** equals 1000 **micrometers**. One **micrometer** equals 1000 **nanometers**.

This model atom measures 45 millimeters across on this page.

The scal here is 1mm: 0.00444nm

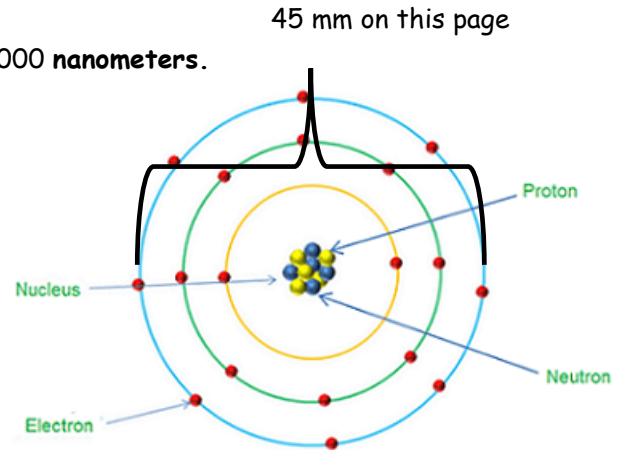
Has the atom been **scaled up** (zoom in) or **scaled down** (zoom out)?

circle one



3. In reality, this atom is really what size? Select the most accurate response.

- A. 1000 nanometers      C. 0.2 nanometers  
B. 1 micrometer      D. 45 millimeters



4. Pick any of the models from today and explain it. Use the terms **Nucleus, Proton, Neutron, Electron**

1-2 Sentences Legible & tell me **name of model**. \_\_\_\_\_

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5. Why did many scientists oppose the Bohr Model when he first proposed it?

Discuss **particles** and **charge**

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6. Extend: Cut a block of wood in 1/2, then in 1/2 again and again.... How might Democritus have concluded, that it was not possible to divide a piece of matter forever?

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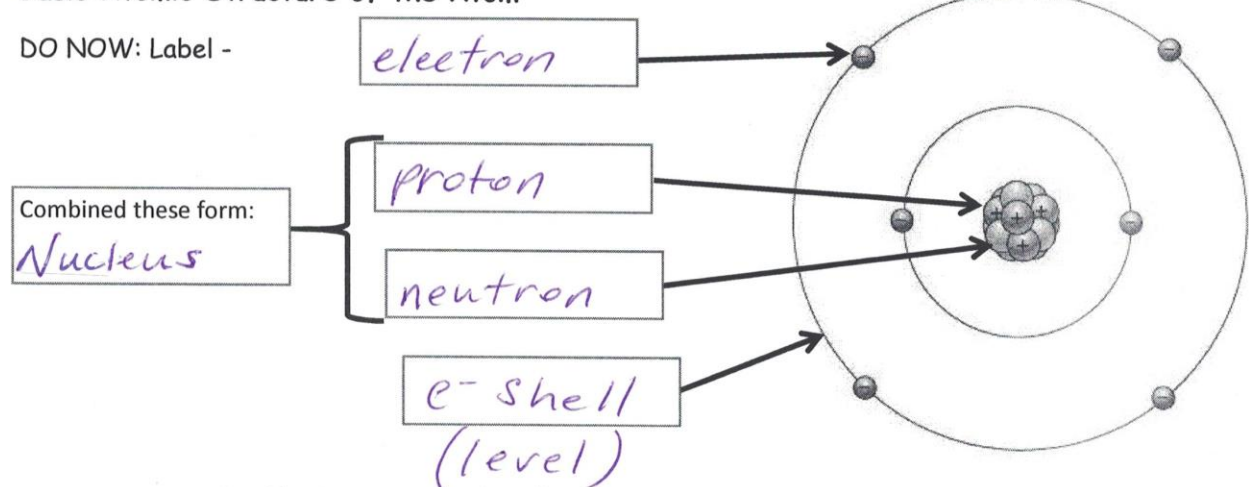
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Name Key per \_\_\_\_\_ date \_\_\_\_\_ mail box \_\_\_\_\_

**Basic Atomic Structure of the Atom**

DO NOW: Label -



**Directions:** Complete the chart using your knowledge about subatomic particles.

Subatomic Particle Name	Charge	Location
Proton	positive	In nucleus
electron	Negative	outside nucleus
Neutron	neutral	nucleus

Label the parts of the Periodic Table square for Carbon

Atomic #  
 The number of protons in the nucleus of an atom.

carbon

6

**C**

12.011

Element Name  
 Often from Greek or Latin for a word containing the element or in honor of its discoverer.

Symbol  
 Short-hand abbreviated for the element name

Atomic mass  
 The average mass from the sum of both protons and neutrons.

Complete before the end of the period:

1<sup>st</sup> simply arrange the model atoms in the order you believe they were developed and appeared.

2<sup>nd</sup> Jot down what you hypothesize is the properly matched Scientist and their model.

NOTE Letters on Cards - See cards (class activity)

1. Democritus / Dalton \_\_\_ Thomson \_\_\_ Rutherford \_\_\_ Bohr \_\_\_ Cloud \_\_\_ Quantum \_\_\_

Number the models 1-6 → Fill in here.

2. Atoms are smaller than nanometers in size.

One millimeter equals 1000 micrometers. One micrometer equals 1000 nanometers.

This model atom measures 45 millimeters across on this page.

The scale here is 1mm: 0.00444nm

Has the atom been scaled up (zoom in) or scaled down (zoom out)?

circle one



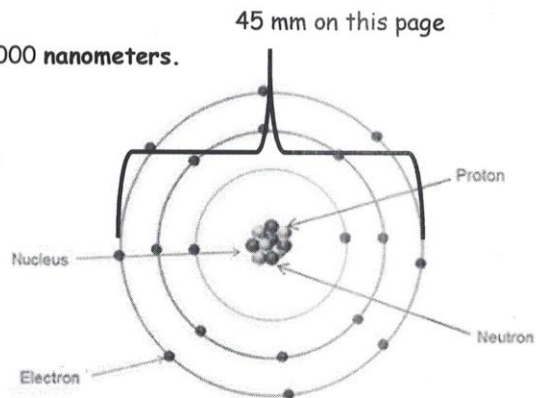
3. In reality, this atom is really what size? Select the most accurate response.

A. 1000 nanometers

B. 1 micrometer

C. 0.2 nanometers

D. 45 millimeters



4. Pick any of the models from today and explain it. Use the terms Nucleus, Proton, Neutron, Electron

1-2 Sentences Legible & tell me name of model.

Dalton's model had none of the above. Thomson's model had electrons. Rutherford's model had a nucleus. Neutrons or protons aren't really depicted in these models.

5. Why did many scientists oppose the Bohr Model when he first proposed it?

Discuss particles and charge

It was new radical forward thinking. They wanted to know why e<sup>-</sup> didn't crash into the positive nucleus. In fact this was the very question his model sought to answer with quanta.

6. Extend: Cut a block of wood in 1/2, then in 1/2 again and again.... How might Democritus have concluded, that it was not possible to divide a piece of matter forever?

If you cut a block of cheese w/ a knife, at what point can you no longer cut the blocks into halves --- When the piece is smaller than the knife blade -