

# Understanding Atoms

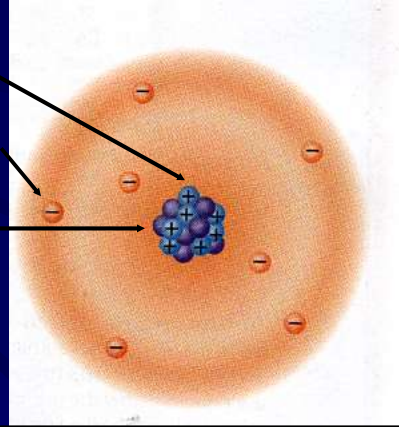
Atoms = smallest parts of matter

Atoms have 3 main parts

Protons (positive charge)

Electrons (negative charge)

Neutrons (no charge)



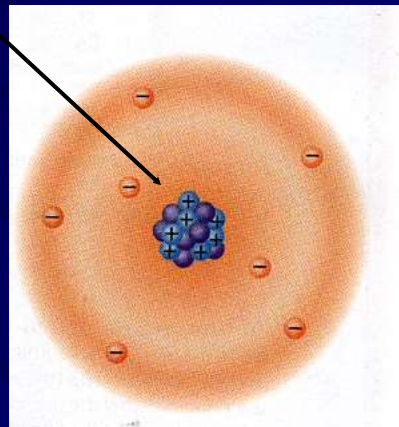
# Understanding Atoms

Protons and neutrons “hang out” together at the core of the atom called the nucleus.

Protons + neutrons = atomic mass

Protons = atomic number

Different elements =  
Different number of  
protons.

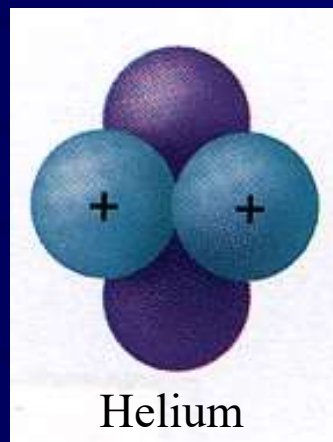


# Understanding Atoms

What is the atomic number of this element?

What is the atomic mass?

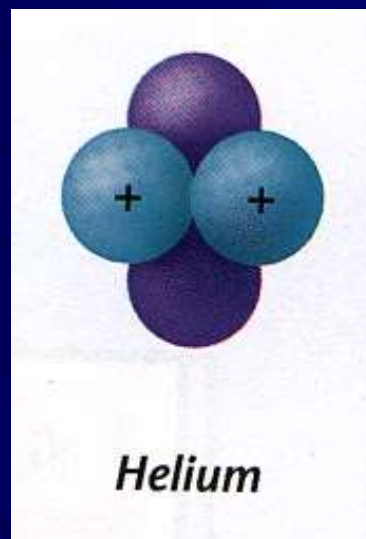
What is the name of this element?



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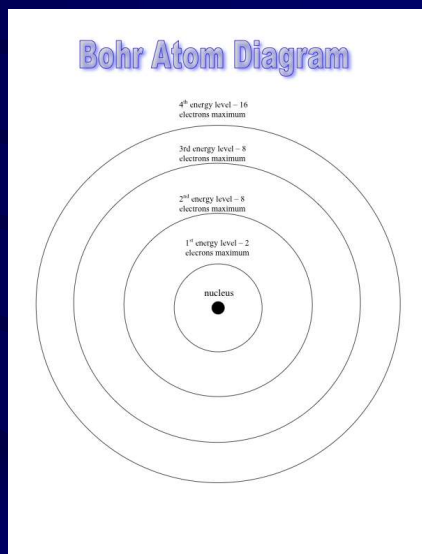
If you added 3 protons, what element would you have?

Boron



# Understanding Atoms

This diagram show how to draw electrons for each energy level of an atom. A scientist named [Neils Bohr](#) created this representation.



# Understanding Atoms

## Lewis Dot Diagrams

A Lewis Symbol consists of the element symbol surrounded by "dots" to represent the number of electrons in the outer energy level as represented by a Bohr Diagram.

QuickTime™ and a TIFF (Uncompressed) decompressor are needed to see this picture.

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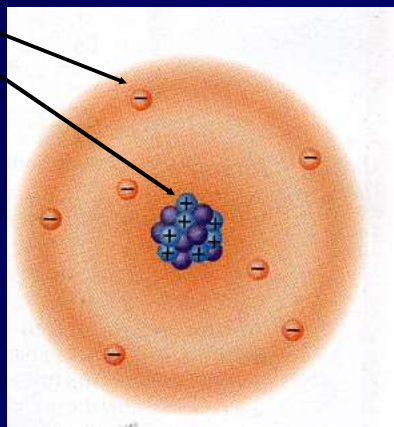
“Charge” of atoms

Protons and electrons  
attract each other.

If you find the same  
number of protons and  
electrons, the element  
has NO CHARGE.

N

Nitrogen



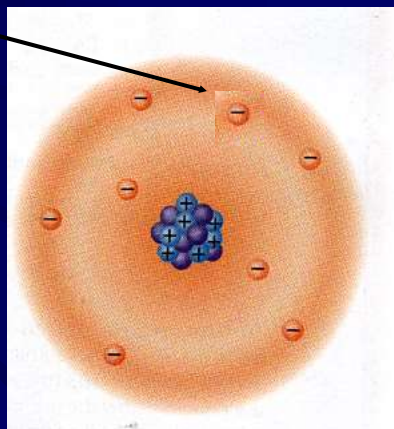
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“Charge” of atoms

If the atom “gets” an  
electron, it becomes  
“negatively charged”

N<sup>-1</sup>

Nitrogen



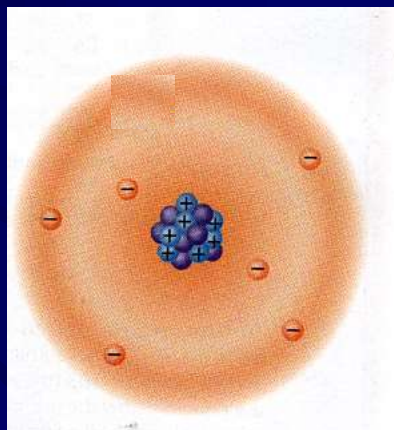
# Understanding Atoms

“Charge” of atoms

If the atom “loses” an electron, it becomes “positively charged”



Nitrogen



## Three Isotopes of Hydrogen

Know the names and the symbols

