

# Unit 3

## Modeling Atomic Structure

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# Atomic Number

The \_\_\_\_\_ is the number of \_\_\_\_\_ in the nucleus of an atom.

# Atomic Number

The **atomic number** is the number of                      in the nucleus of an atom.

# Atomic Number

The **atomic number** is the number of **protons** in the nucleus of an atom.

# Atomic Mass

The \_\_\_\_\_ the total number of \_\_\_\_\_ and \_\_\_\_\_ in the nucleus of an atom.

# Atomic Mass

The **mass number** is the total number of **protons** and **neutrons** in the nucleus of an atom.

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# Hydrogen



# Hydrogen



What does the 1 mean?

# Hydrogen



What does the 1 mean?

1 is the total number of neutrons and protons.

# Helium



# Helium



What does the 4 mean?

# Helium



What does the 4 mean?

4 is the total number of neutrons and protons.

# Helium



What does the 4 mean?

4 is the total number of neutrons and protons.

What does the 2 mean?

# Helium



What does the 4 mean?

4 is the total number of neutrons and protons.

What does the 2 mean?

2 is the number of protons.



# Lithium



# Lithium



How many protons does Lithium have?

# Lithium



How many protons does Lithium have?

3

# Lithium



How many protons does Lithium have?

3

How many neutrons?

# Lithium



How many protons does Lithium have?

3

How many neutrons?

$$7 - 3 =$$

# Lithium



How many protons does Lithium have?

3

How many neutrons?

$$7 - 3 = 4$$

# The Great Dane



The Bohr Model - Bohr proposed that an atom was a nucleus with electrons "orbiting" in different

# The Great Dane



The Bohr Model - Bohr proposed that an atom was a nucleus with electrons "orbiting" in different energy levels.



# Energy Levels

The electrons closest to the nucleus have the \_\_\_\_\_ energy, while those further from away have \_\_\_\_\_ energy.

# Energy Levels

The electrons closest to the nucleus have the **lowest** energy, while those further from away have                      energy.

# Energy Levels

The electrons closest to the nucleus have the **lowest** energy, while those further from away have **higher** energy.

# Nitrogen

## Atomic Structure

