

**Topic: Atomic Structure – Structure of the Atom**

Draw and label the structure of an atom.

Refer to this and the number of protons to explain what an element is.

Draw a table to show the mass and charge of the particles that make up an atom.

Use this to explain why atoms have no overall charge.

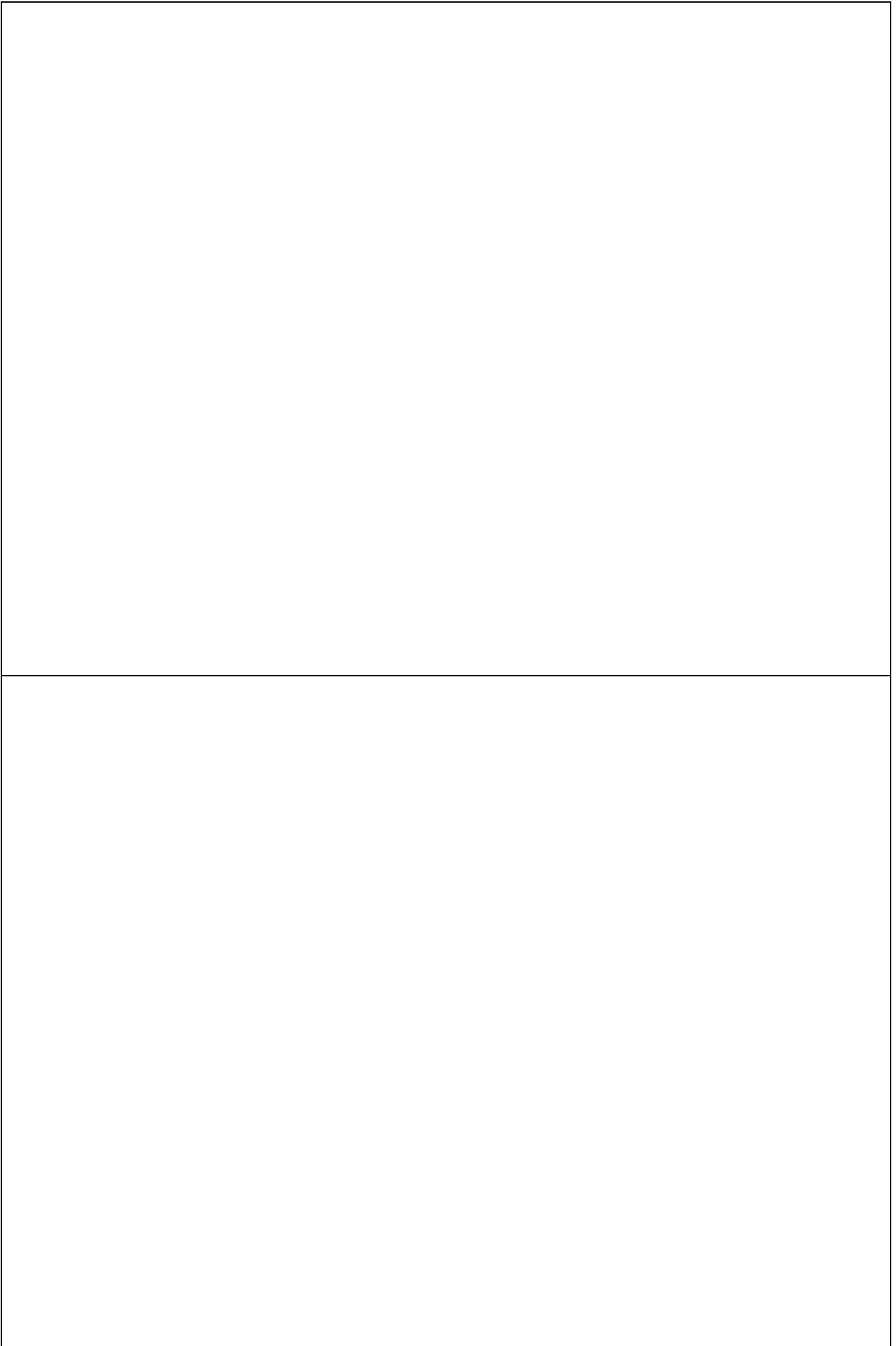
**Topic: Atomic Structure – Mixtures and Compounds**

Describe the difference between a mixture and a compound.

Briefly explain how mixtures can be separated by:

- Filtration
- Crystallisation
- Distillation
- Chromatography

How can you separated a compound into its elements?



**Topic: Atomic Structure – Model of the Atom**

Describe the contributions of Niels Bohr and James Chadwick to understanding of atomic structure, including these events:

- Discovery of Electron
- Plum Pudding Model
- Nuclear Model
- Discovery of Proton
- Discovery of Neutron

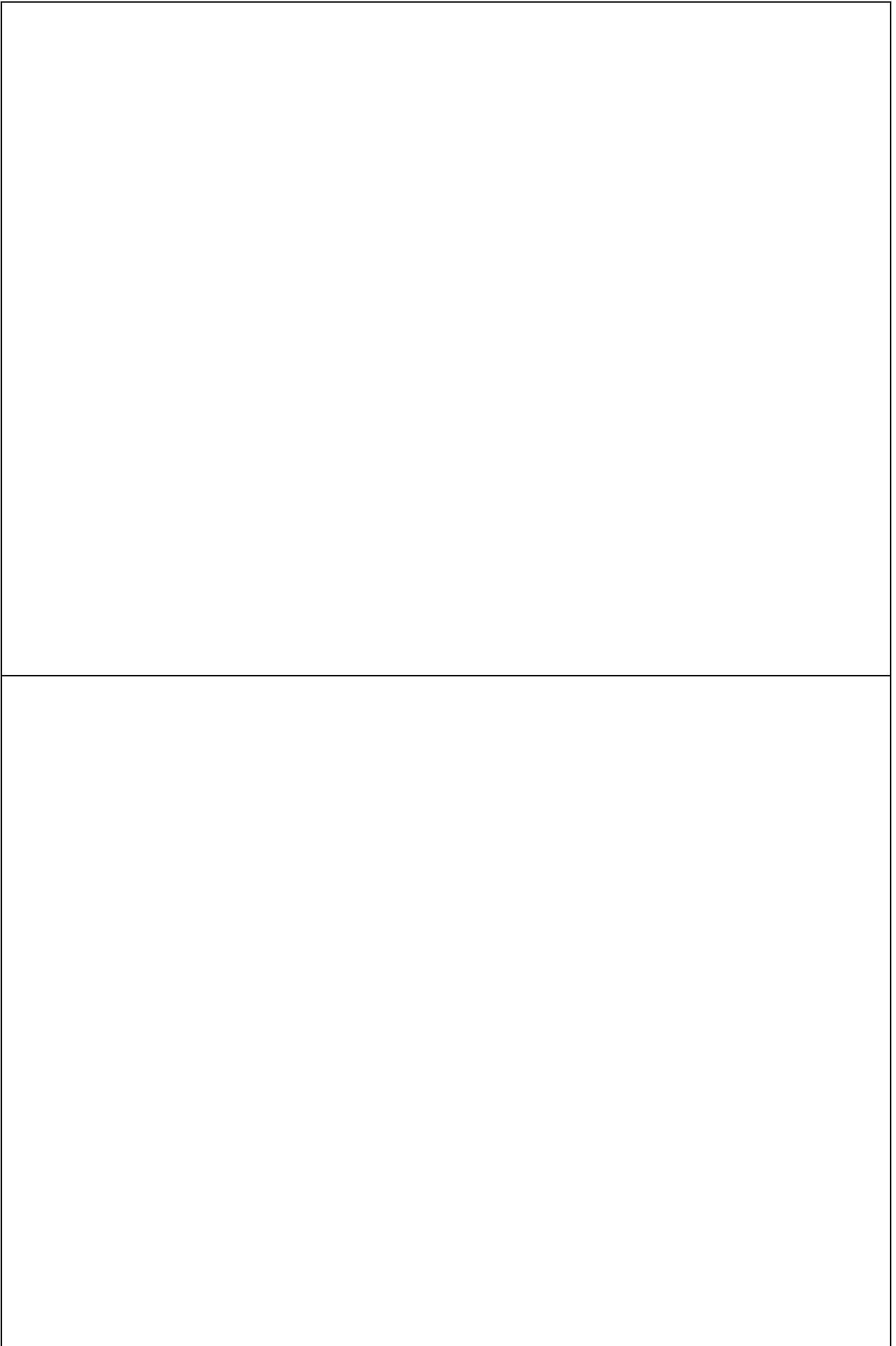
**Topic: Atomic Structure – Size of Atoms**

In metres, what is the size of

- An atom
- A nucleus

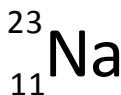
What does the atomic number and mass number mean for an element?

How can 2 atoms of the same element have the same atomic number but different mass number? What is this called?



**Topic: Atomic Structure – Electronic Structure**

Draw the electronic structures of the atoms below:



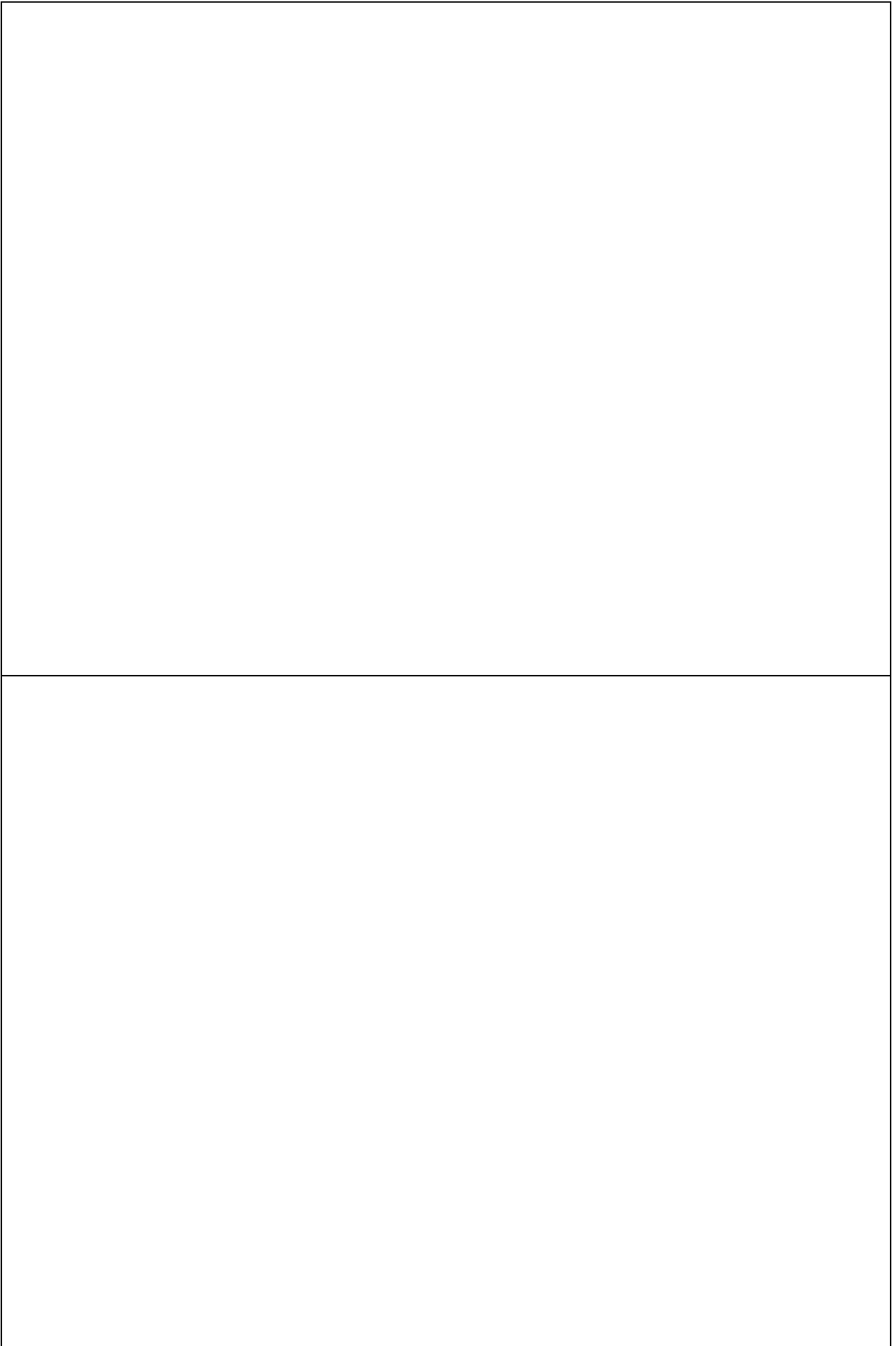
Why do elements in the same group have similar chemical properties?

What is the link between the group number and the electronic structure of each atom?

**Topic: Atomic Structure – Relative Atomic Mass**

Show how Relative Atomic Mass can be calculated for the element below:

Calculate the relative atomic mass of copper from its isotope abundance. Naturally occurring copper consists of 69.2% copper-63 ( ${}^{63}\text{Cu}$ ) and 30.8% copper-65 ( ${}^{65}\text{Cu}$ ).



**Topic: Periodic Table**

How are elements in the Periodic Table arranged?

Why does the Periodic Table have this name?

What is a group?

What do elements in the same group have in common?

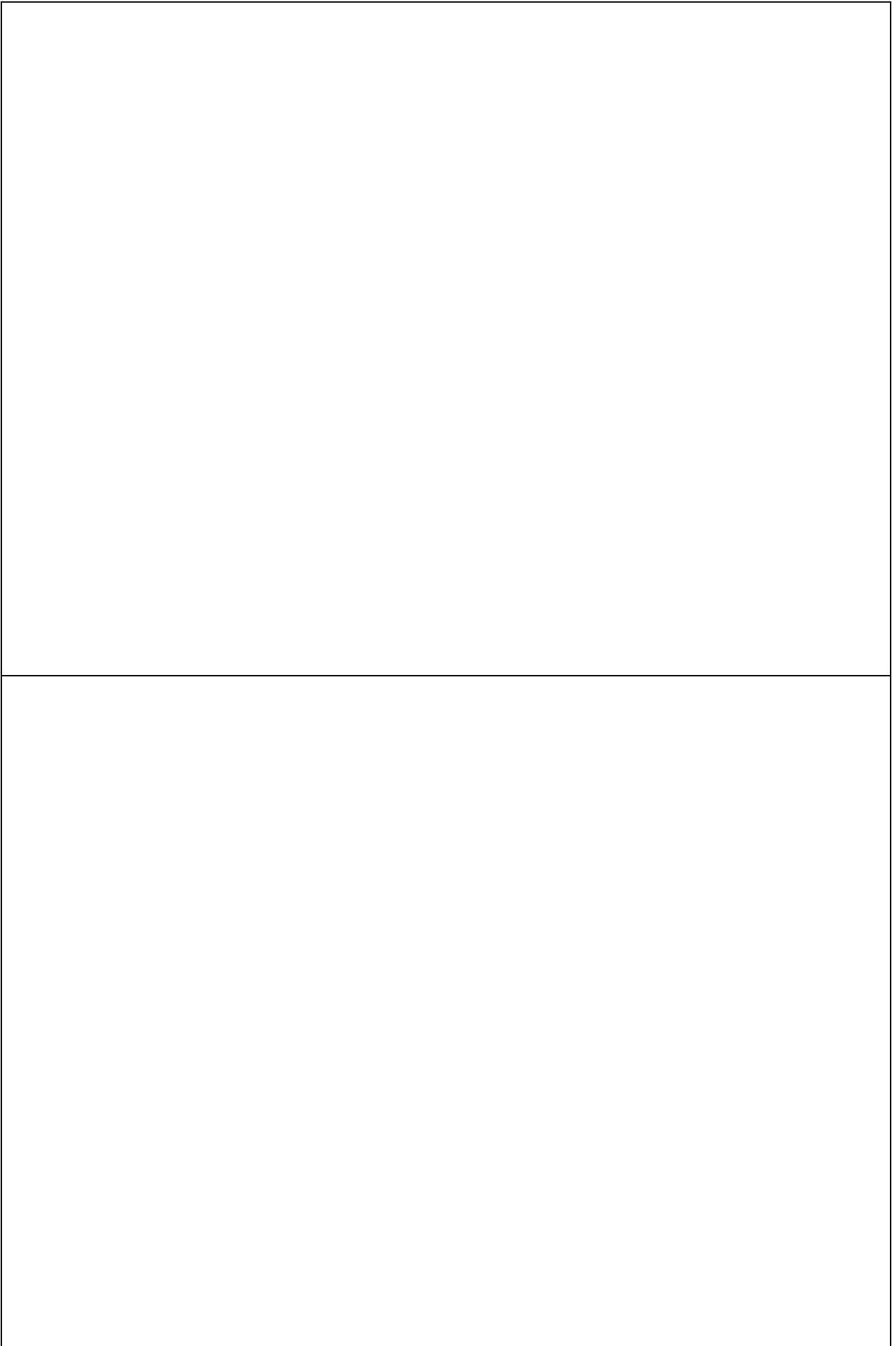
**Topic: Development of the Periodic Table**

How did scientists first try to arrange the Periodic Table?

What were the problems with this?

How did Mendeleev get over some of these problems?

What happened after Mendeleev's work to confirm his theories?





**Topic: Periodic Table – Metals and Non-metals**

What is the main difference between a metal and non-metal?

Where would you find metals on the Periodic Table?

Where would you find non-metals on the Periodic Table?

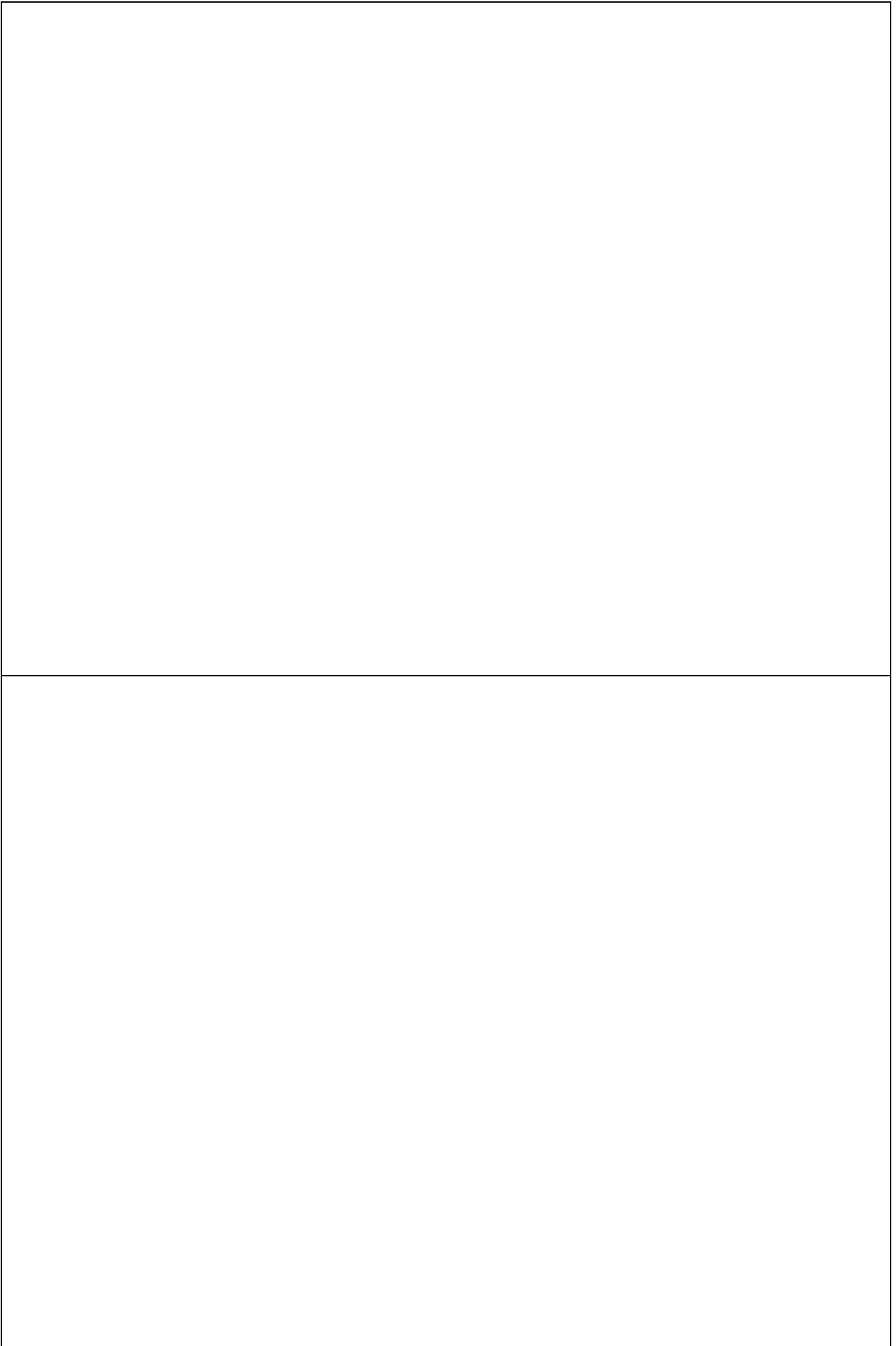
**Topic: Periodic Table - Group 0**

What is Group 0 of the Periodic Table called?

Explain why Group 0 elements are unreactive.

Why are Helium atoms different from other Group 0 atoms?

What is the trend in boiling points as you go down Group 0?



**Topic: Periodic Table – Group 1**

What is Group 1 of the Periodic Table called?

Explain why Group 1 elements are reactive.

Explain the trend in reactivity as you go down Group 1?

Describe the reactions of Group 1 metals with

- Oxygen
- Chlorine
- Water

**Topic: Periodic Table – Group 7**

What is Group 7 of the Periodic Table called?

Explain why Group 7 elements are reactive.

What is the trend in reactivity as you go down Group 7?

Describe the reactions of Group 7 elements with:

- Group 1 metals
- Ions of less reactive halides

What is the trend in boiling point as you go down Group 7?

