

# The periodic table

The **periodic table** contains all the known **elements**. Elements are substances that contain only one type of **atom**.

Different elements join together chemically to make **compounds**, but the periodic table only contains the elements.

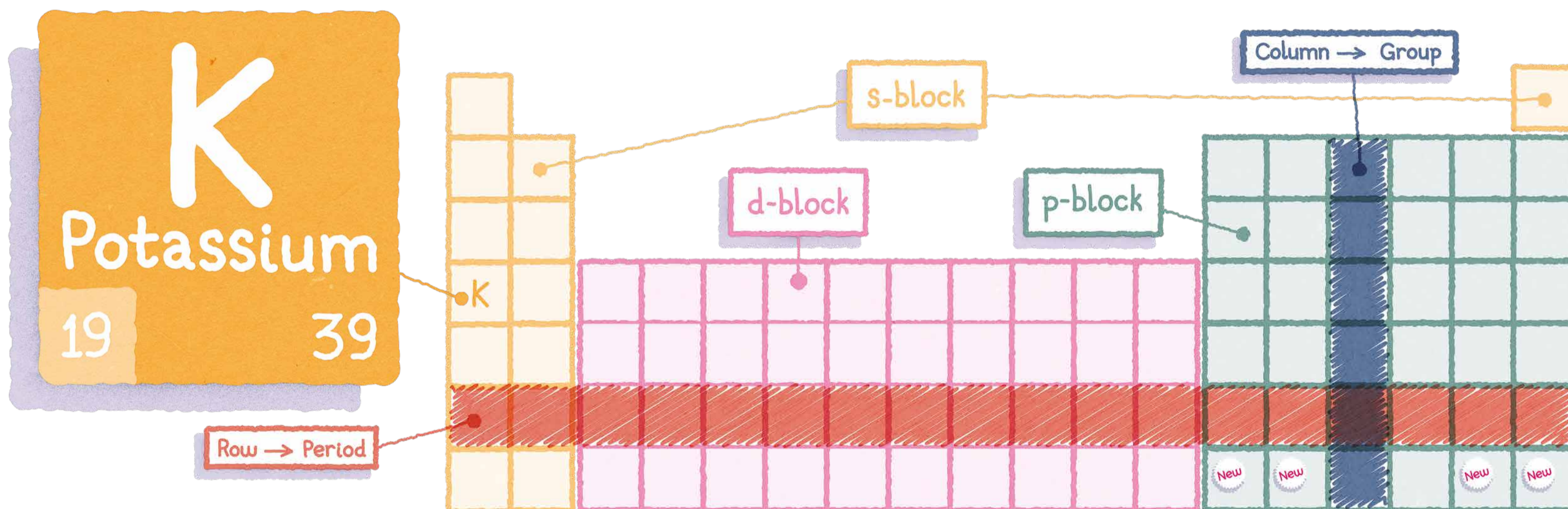
## Chemical symbols

Each element has a name and a **symbol**. When you write the symbol for an element, it's important that the first letter is a capital and the second letter (if it has one) is lower case.

Periodic tables generally display two numbers with each element.

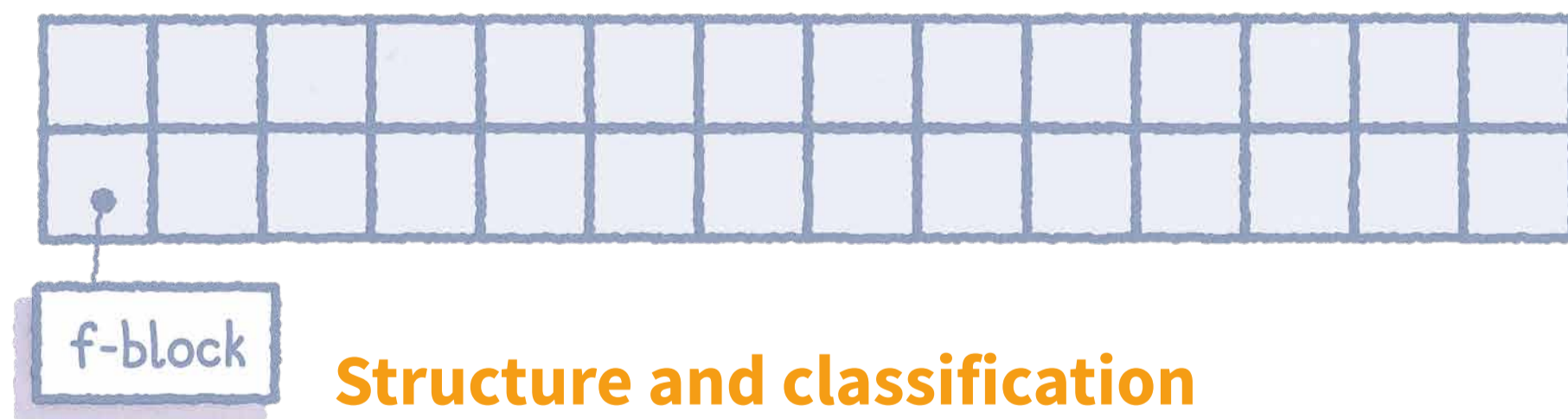
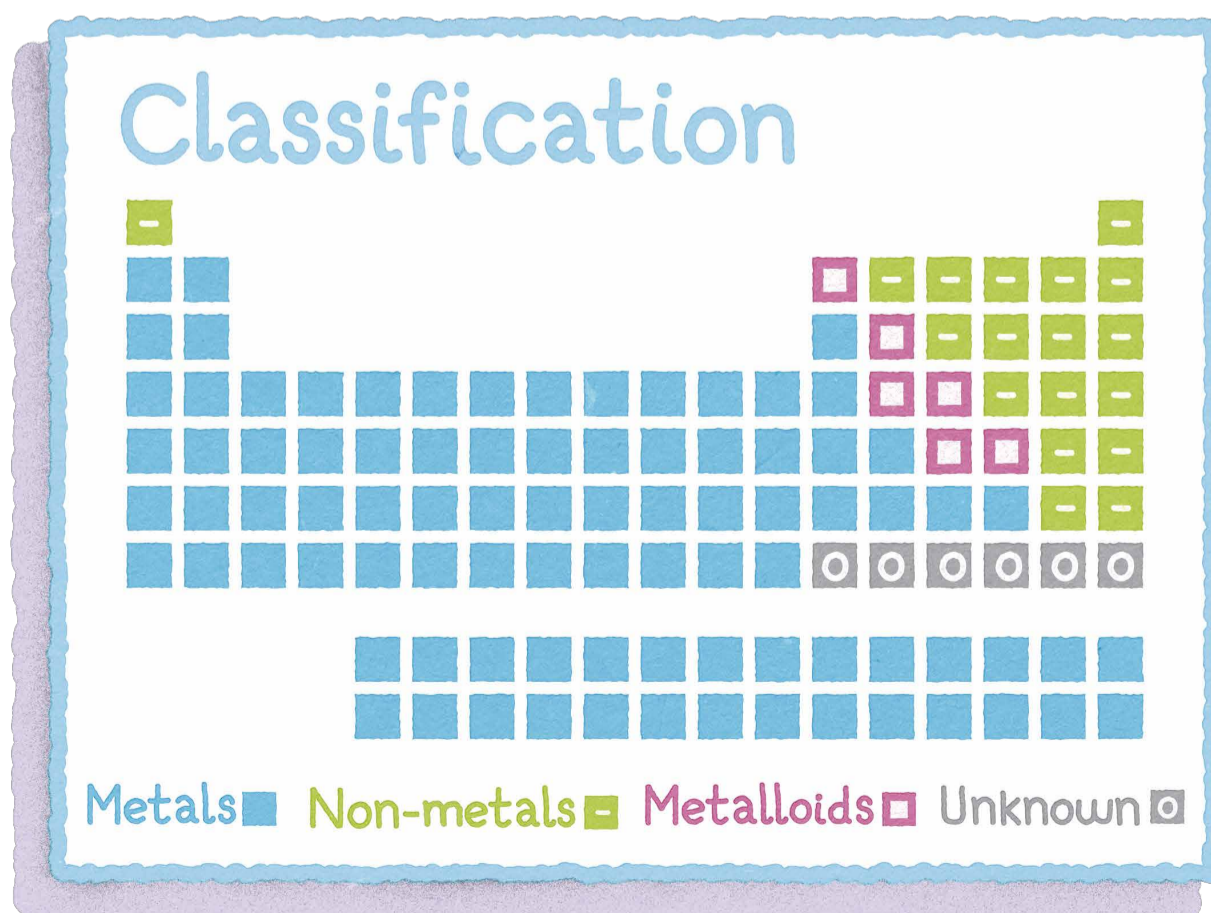
The smaller number is the **atomic number**. This is the number of **protons**, which is unique to each element and doesn't change.

The larger number is the **relative atomic mass** of an element – the higher the number, the greater its mass.



**Did you know ...?**  
Everything in the universe is made of different combinations of elements and the elements that make up our world originated in the stars. So, we really can say that we are made of stars!

**Did you know ...?**  
The symbol for each element is the same in every country, even if the element name is different in each language. Eg, the symbol for iron is Fe. In German iron is Eisen, while in Italian it is ferro.



## Structure and classification

Within the table, the arrangement of the elements means that their properties vary **periodically**.

Each row is called a **period**, and in each period there are repeating patterns in the **chemical and physical properties** of the elements.

Elements in the same column or **group** have similar properties, which vary in a predictable way.

The block in the middle of the table, beginning in the fourth period, contains the **transition elements**. These elements are metals.