

Concept Review

Section: Tour of the Periodic Table

Complete each statement below by choosing a term from the following list.

Terms may be used more than once.

main-group elements halogens metals transition metals
alkaline earth metals alkali metals hydrogen noble gases

1. The _____ have a single electron in the highest occupied energy level.
2. The _____ are in the *s*- and *p*-blocks of the periodic table.
3. All the _____ have two valence electrons and get to a stable electron configuration by losing two electrons.
4. Unlike the main-group elements, each group of the _____ does not have the identical outer electron configuration.
5. The _____, the most reactive group of non-metals, achieve stable electron configurations by gaining one electron.
6. The _____ have a full set of electrons in their outermost energy level.
7. The _____ are very stable and have low reactivity.
8. The _____ are highly reactive and readily form salts with metals.
9. In general, the _____ are metals that are less reactive than the alkali metals and the alkaline earth metals.
10. The _____ are metals that lose one electron when they react with water to form alkaline solutions.
11. Most elements are _____.
12. With its one valence electron, _____ reacts with many other elements.

Answer the following questions in the space provided.

13. Which groups compose the main-group elements?

Concept Review *continued*

Why are the main-group elements called the *representative elements*?

Why are Group 2 elements less reactive than Group 1 elements?

Explain why a helium atmosphere is used in welding instead of an oxygen-rich atmosphere.

Using electron configurations, explain why the halogens readily react with the alkali metals to form salts.

Why is an iron alloy, such as steel, preferred over pure iron?

Complete each statement below by writing the correct word or words in the space provided.

The _____ include all members of Groups 1 through 12, as well as some of the elements of Groups _____ through _____.

Elements in Groups _____ through _____, including the two long rows below the table, are called transition elements.

In the transition elements, electrons are usually added to the _____ orbital, which is why these elements are also known as the _____.