

Name : Date :

Oxidation Number Rules Worksheet

1. What are the rules for determining oxidation numbers?
2. Why does fluorine always have an oxidation number of -1?
3. When does hydrogen have an oxidation number of -1?
4. What is the oxidation state of elements found in groups 1 and 2?
5. When does oxygen have an oxidation number other than -2?

Oxidation Number Rules Worksheet

Answers

1. What are the rules for determining oxidation numbers?

These are some of the rules that are required to assign oxidation numbers to elements.

- Any uncombined element has an oxidation number of 0.
- A monoatomic ion has an oxidation number that is equal to its charge.
- In a binary compound, the more electronegative element has an oxidation number that is the same as the charge it would have as an ion.
- The oxidation numbers of all the atoms in a neutral compound add up to zero.
- For polyatomic ions, the oxidation numbers of all the elements add up to the charge of the ion.

2. Why does fluorine always have an oxidation number of -1?

Due to being the most electronegative element, fluorine will always have an oxidation number of -1.

3. When does hydrogen have an oxidation number of -1?

While hydrogen typically has an oxidation number of +1, they have an oxidation number of -1 when combined with metals.

4. What is the oxidation state of elements found in groups 1 and 2?

The elements of Group 1 and Group 2 have an oxidation number of +1 and +2, respectively.

5. When does oxygen have an oxidation number other than -2?

While generally oxygen has an oxidation number of -2, when combined with fluorine, it forms F_2O , where oxygen has an oxidation number of +2. Also, when oxygen is in a peroxide, it has an oxidation number of -1.