

Name: KEY

Official Class: _____ Date: _____

Teacher: _____

Period: _____ Class: _____

Oxidation or Reduction?

OXIDATION

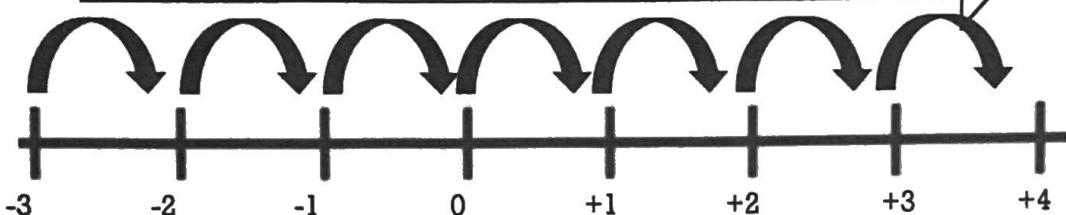
Oxidation number increases

Gets more "positive"

Losing electrons (e^-)

Electrons are written as a product

Oxidation number INCREASES



OXIDATION NUMBERS

Oxidation number DECREASES

REDUCTION

Reduction number decreases/reduces

Gets more "negative"

Gaining electrons (e^-)

Electrons are written as a reactant

Directions: Determine if oxidation or reduction is occurring. Explain your answer.

- $0 \rightarrow +3$: oxidation because $\text{ox } \#$ increases (electrons lost)
- $+2 \rightarrow +1$: reduction because $\text{ox } \#$ decreases/reduced (electrons gained)
- $-2 \rightarrow -4$: reduction because $\text{ox } \#$ decreases/reduced (electrons gained)
- $-1 \rightarrow 0$: oxidation because $\text{ox } \#$ increases (electrons lost)
- $+2 \rightarrow 0$: reduction because $\text{ox } \#$ decreases/reduced (electrons gained)
- $-1 \rightarrow +1$: oxidation because $\text{ox } \#$ increases (electrons lost)
- $\text{Fe}^{3+} + 3e^- \rightarrow \text{Fe}^0$: reduction because $\text{ox } \#$ decreases (electrons gained) e^- = reactant
- $\text{Fe}^0 \rightarrow \text{Fe}^{3+} + 3e^-$: oxidation because $\text{ox } \#$ increases (electrons lost) e^- = product
- $\text{Cu}^0 \rightarrow \text{Cu}^{2+} + 2e^-$: oxidation because $\text{ox } \#$ increases (electrons lost) e^- = product
- $\text{Cl}_2^0 + 2e^- \rightarrow 2\text{Cl}^-$: reduction because $\text{ox } \#$ decreases/reduced (electrons gained) e^- = reactant