

# Making Compounds



Why is it safe to put sodium chloride on cheese fries...  
...but not safe to use sodium and chlorine?



# Properties of a compound

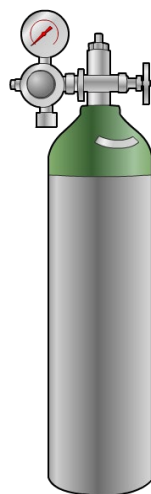
Compounds have very different properties than the elements from which they are made. This is because the atoms are joined together differently.



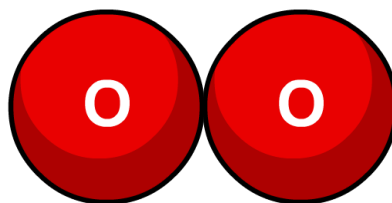
**carbon  
(element)**



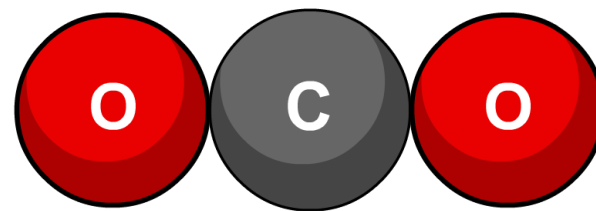
+



**oxygen  
(element)**

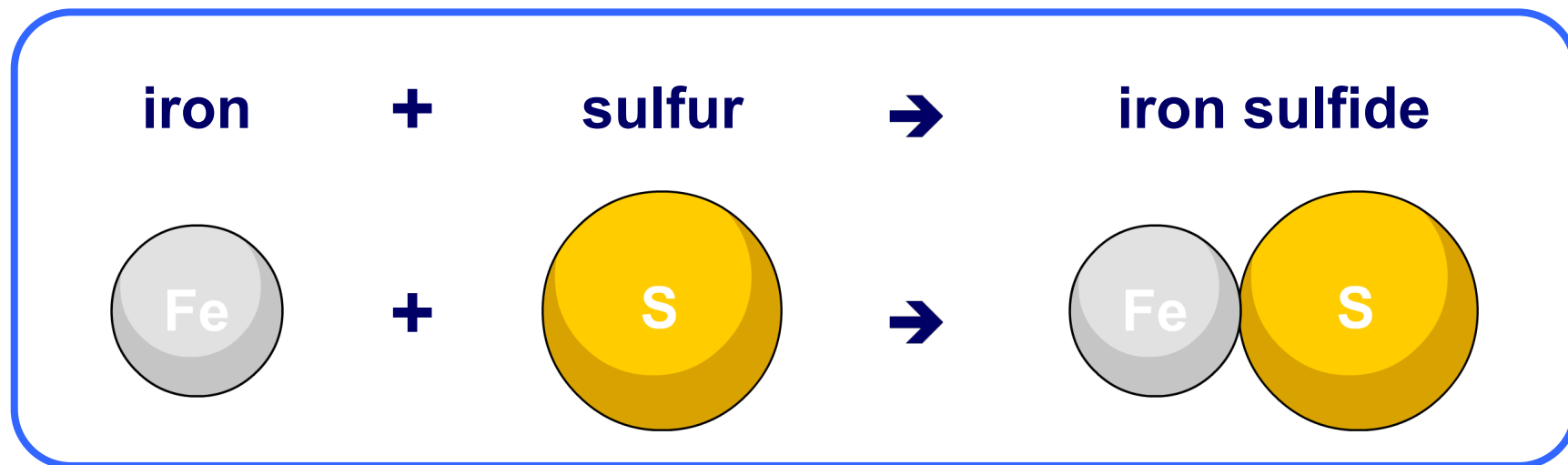


**carbon dioxide  
(compound)**



# Making a compound – iron sulfide

Iron sulfide is produced from the reaction between iron and sulfur.



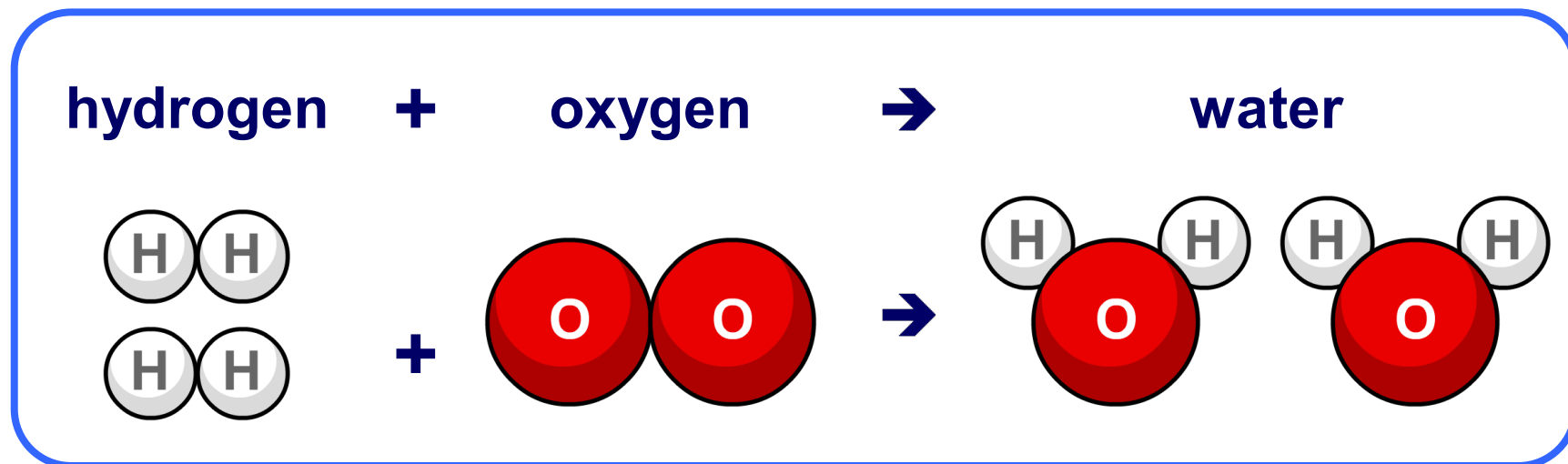
One iron atom reacts with one sulfur atom to make one molecule of iron sulfide.

Why does iron sulfide have different properties than the elements iron and sulfur?



# Making a compound – water

Water is produced from the reaction between hydrogen and oxygen.

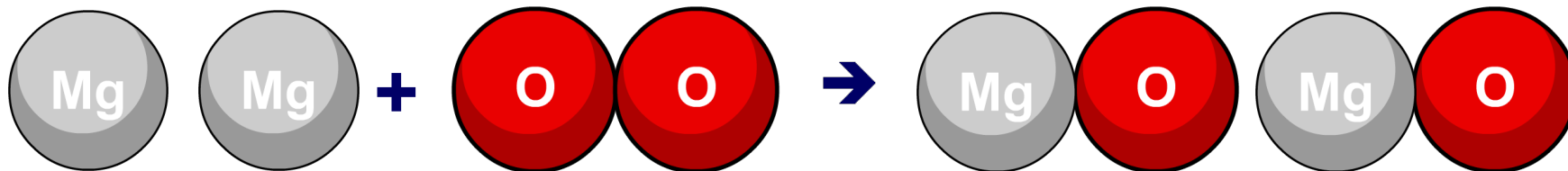


Two hydrogen atoms react with one oxygen atom to produce two molecules of water.

Why are the properties of water different than the properties of hydrogen and oxygen?

Magnesium oxide is produced from the reaction between magnesium and oxygen.

magnesium + oxygen → magnesium oxide



Two atoms of magnesium react with one molecule of oxygen to make two molecules of magnesium oxide.

What are the differences in the properties of magnesium, oxygen and magnesium oxide?