

Comparing Compounds and Mixtures

Characteristics of Compounds	Characteristics of Mixtures
<ul style="list-style-type: none"> ★ substance composed of two or more elements chemically combined 	<ul style="list-style-type: none"> ★ consists of two or more kinds of matter
<ul style="list-style-type: none"> ★ can be broken down into simpler substances (elements) by chemical means <ul style="list-style-type: none"> ☆ water (H₂O) → hydrogen and oxygen ☆ rust (Fe₂O₃) → iron and oxygen ☆ ammonia (NH₃) → nitrogen and hydrogen ☆ table salt (NaCl) → sodium and chlorine 	<ul style="list-style-type: none"> ★ can be separated by physical means <ul style="list-style-type: none"> ☆ iron and sand - can be separated with a magnet ☆ iron is attracted by a magnet ☆ sand is not attracted by a magnet ☆ water and sand - can be separated with filter paper <ul style="list-style-type: none"> ☆ water can pass through pores in filter paper ☆ sand cannot pass through filter paper
<ul style="list-style-type: none"> ★ properties of the elements that compose a compound are not retained <ul style="list-style-type: none"> ☆ water <ul style="list-style-type: none"> ☆ hydrogen is explosive ☆ oxygen supports combustion ☆ water puts out fires ☆ table salt <ul style="list-style-type: none"> ☆ sodium - extremely reactive, caustic ☆ chlorine - extremely reactive, corrosive, toxic ☆ salt - eaten with food 	<ul style="list-style-type: none"> ★ each substance in a mixture retains its own properties <ul style="list-style-type: none"> ☆ sugar and water - sweet and wet ☆ brine (salt water) - salty liquid
<ul style="list-style-type: none"> ★ Constant composition - uniform throughout or homogeneous <ul style="list-style-type: none"> ☆ consist of more than one type of atom, but in a fixed ratio as shown by the formula 	<ul style="list-style-type: none"> ★ the composition is variable (not constant)