

Classifying Matter Practice

Classify each of the materials using the category name(s) we introduced during the classification of matter concept development activity. After you have classified each substance, explain your classification.

Material	Classification	Explanation
Concrete	Heterogeneous Mixture	Concrete is made when water is added to concrete mix. If you look at a sample of concrete close-up, you can see little tiny rocks.
Sugar + pure water ($C_{12}H_{22}O_{11} + H_2O$)	Homogeneous mixture	You cannot see the sugar once it is dissolved in water. It cannot be separated by filtration. There are no visible chunks, clumps, or layers.
Iron filings (Fe)	Monatomic Element	Only one particle, Fe can be found on the periodic table
Limestone ($CaCO_3$)	Ionic compound	Multiple elements bonded chemically. Ca is a metal, so it is ionic
Orange juice with pulp	Heterogeneous mixture	There are visibly different parts. If you poured several glasses, they would have diff. amounts of pulp
Air inside a balloon	Homogeneous mixture	Air has multiple components: N_2 , O_2 , etc. that are evenly mixed
Fluorine (F_2)	Diatomic element	F is found on the periodic table, the "2" subscript indicates 2 F particles attached

On the OUTPUT page, use a ruler and a pen to divide your page into 3 columns. In the first column, write out each of the "categories" we had in our classification of matter concept map (Pure substance, mixture, etc.). For each category of matter, provide an example (must be a NEW example, not one already used in our discussions) of a substance that fits the definition for that word in the second column. In the last column, justify why your example falls into that category.