

## Unit 3: Matter

How do we find out what everything is made out of?

Look around you. What do you see? In front of you are all kinds of stuff- all sorts of matter. Some of this matter you can see, and there's more that you can't. Some substances, such as those in your body, are undergoing transformations as we speak. And most of it is all mixed together, which complicates things further. What's it all made out of? It's a big mess. What we need to make sense of it is a way to sort things out.



Our primary goal for this unit is to classify the matter that is all around us. First, we'll consider what we can say about mixtures. As you might guess, not very much...it varies from sample to sample. So, we will explore some purification techniques. We will spend the remainder of our time finding out what we can about pure substances- these are the materials that the universe as we know it is made from. And since nearly all understanding of matter begins with pure substances, purification is the first step in chemical research.

Here's the plan:

Lesson 1: Introduction to matter. Classifying mixtures. Separation techniques.

Lab: Separation Experiment pre-lab.

Lesson 2: Pure matter and it's properties. Lab: Separation Lab.

Lesson 3 States of matter. Liquid crystals and plasmas. Lab: Chromatography.

Lesson 4: Review for Matter test. Lab: Complete chromatography lab.

Lesson 5: Matter test.