



Nuclear 2: Learn about radiation detectors. How we can detect what we cannot readily see? What can we use, or do, to detect the presence of radiation or radioactive material? We can watch the decay of atoms with our own eyes!

One device we can use to detect radiation, in fact, to be able to 'watch' radiation, is a diffusion cloud chamber. A diffusion cloud chamber is kind of like having a 'cloud' stored in a fish tank. You know how a rain drop forms, don't you? Water vapor condenses on a particle (think dust particle) suspended in air. As water vapor continues to condense (become liquid) around the 'particle' it eventually becomes heavy enough to fall to earth; what we call a rain drop. When we get caught in the rain we think about getting soaking wet, not, "Gee, I really got dusty from all those dusty condensation sites (dust particles) the water vapor collected around!"

In our diffusion cloud chambers we'll see supersaturated alcohol vapor condensing around charged particles called 'ions' (just like water vapor collecting around dust particles) created by a radioactive particle traveling through the cloud chamber. We can not only see it happen, but if we are really good detectives, we'll be able to decide what type of radiation may have caused the 'tracks' in our diffusion cloud chamber. We'll be able to see alpha particles, beta particles, heck, even cosmic radiation!



But what if you don't happen to have a cloud chamber with you, to detect radiation or radioactive material? Well, you could always cook the stuff you are examining. Yep, we'll add heat and see what effects may happen to radioactive material, which allows us to detect it with the naked eye.

If we don't have any way to heat our sample material, well we'll just have to look at it in a different light, a very different light. Perhaps we could use a, BLACK LIGHT! Let's see what changes show up when radioactive material is viewed under ultra violet lighting conditions.

Plan to have fun, learn from some really cool scientific experiments, and become a real 'Radioactive Detective!'



To see thorite in a cloud chamber-click [here](#)