Physical Properties of Solutions

Colloids

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This is a cute little demonstration called the sunset demonstration. It's an example of the Tyndall Effect, where it's sodium thiosulphate and hydrochloric acid, which combine to form a sol. Remember a sol is a colloid and it's a solid dispersed in a liquid. In this case, the liquid is water inside this aquarium. What we're going to do is we're going to mix the ingredients inside the aquarium and we'll shine a light through. Remember the Tyndall Effect is the scattering of light off the particles that are in the solution. They are not fully dissolved. They are starting to precipitate and just as the sunset turns progressively redder, as the sun goes down, what we're going to see is something along those lines. I won't give away too much.

So, here are the solutions. We're going to pour them into the aquarium. We're going to give it a quick stir and then I'm going to set up some nice sunset music and let you all enjoy it.

I hope you enjoyed that. As the particles of our sol grew larger and larger, it was only the very longest wavelengths of light that were not scattered and so what happens is that we start with white light coming out of our light source and the appearance is more and more red as the sunset progresses because only the longest wavelengths make it through. And that explains why sunsets look red.