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A5 Pyro Companion Doc

For this project I tried to recreate the fire of a wok or other type of cooking pan having a fire lit on top of it from the fire below. I considered doing two fires, the one in the pan and the one below but decided that was beyond the scope of the assignment so instead for my second emitter I did a simple billowy smoke emitter on top of the fire fx.

What was key to me in looking at the reference material is that the flame is very fast since it is up close, the flames are thin as it is burning off fat and light oil, and the flames have a fairly tight conical shape with moderate licks sticking out of the flame but not big and billowy.

For the simulation I used a fast time scale and high cooling rate, and added some buoyancy lift. This gives the height and speed I want. For the combustion I made the fuel inefficiency, temperature output, and gas released all very low - close to 0 - to gain the fairly light flame. For the shape I used a very high dissipation to keep the flame tight and tall. I use just a bit of shredding and turbulence to emulate the randomness of food items moving around or bursting up a bit. For the flame shader I brought down the black cutoff close to the top end of the orange color which gave me the thinner harder edges I wanted to replicate on the flames.

I used pretty similar simulation settings in the smoke, but in the shader material I made sure to lower the density a lot so it would be thin to emulate the very light amount of smoke that comes from the pan fire since very little is actually burning that has substance.