**Lemonade** (Demo)

Several different color solutions are made before lemonade results.

Reference: “Chemical Demonstrations, Volume 1,” by Lee R. Summerlin and James L, Ealy, Jr., Second Edition, American Chemical Society: Washington, 1988; p. 46.

Dissolve 30 g of FeCl3•6H2O in 100 ml of water.

Place 15 drops in beaker 1.

Dissolve 22 g of NH4SCN in 100 ml of water.

Place 2 drops in beaker 2 and 10 drops in beaker 3.

Prepare a saturated solution of tannic acid. (1 g tannic acid / 0.35 ml water)

Place 12 drops in beaker 4.

Prepare a saturated solution of oxalic acid. (1 g oxalic acid / 7 ml water)

Place 10 ml in beaker 5.

Pour water in a large beaker or pitcher.

Pour some water in beaker 1 and notice a pale yellow color.

Pour beaker 1 back into the large beaker.

Pour the solution in the large beaker into beaker 2 and notice an orange color.

Pour beaker 2 into the large beaker.

Repeat with the remaining beakers.

The color of beaker 3 will be red and beaker 4 will be black

After beaker 5, the color will be lemonade.

Explanation: The colors result from different concentrations and complexes of iron(III): chloride is light yellow, thiocyanate is red, tannate is black and oxalate is yellow.

Tips: