

Science Fair Project Suggestion: How Much Food Dye is In There?

Thanks to the study by Laura Stevens, et al (2014), we now know that McCormick's liquid food dye contains the following amount of food dye per drop:



| Food Dye | Amount Food Dye in 1 Drop | Colors included |
|---------------------------|---------------------------|-------------------------|
| McCormick's Yellow | 2.1 mg | Yellow 5 |
| McCormick's Red | 1.0 mg | Red 40 + Red 3 mixed |
| McCormick's Blue | 1.0 mg | Blue 1 + Red 40 mixed |
| McCormick's Green | 1.0 mg | Yellow 5 + Blue 1 mixed |

Depending on how you like your frosting, you may use 2 to 4 tablespoons of frosting per cupcake. Therefore, if you measure out an amount of some white frosting (make sure there is no color already in there) or even some Crisco, you can add the food color drop by drop until you match whatever color you are thinking of. You can take pictures of the color after one drop, two, ten, etc., and discover how much food dye can be expected to actually be in those pretty frosted cupcakes.

You can also add the food dye drop by drop to 8 ounces of water to match 8 ounces of a commercial mixed drink or powdered drink made according to directions.

Keep good records, and take pictures as you add the coloring. Be careful; these chemicals will stain your countertops and your fingers. You may want to wear gloves or get "Gloves in a Bottle" to prevent the color staining your hands. Remember the color can also pass through your skin to your blood, causing a possible reaction.