LITE DETECTOR

Wanna bet you can pick a can of regular cola from a can of diet cola blindfolded?

THE SETUP
This is a science experiment you can drink after you are finished. You will need a can of regular cola and a diet cola of the same brand. Make sure the cans are identical with the same amounts of liquid.

Fill the bathtub to a depth of at least eight inches. Put on a blindfold and get a friend to hand you the two cans. Hold both cans underwater with the bottoms resting on the tub. Let go. The can of diet cola will float higher than the regular cola. You can feel the difference, even with your eyes covered.

INSIDER INFORMATION
Believe it or not, diet drinks really are lighter! When you read the label you will see that each can contains the same number of fluid ounces. Fluid ounces are a measure of volume, not weight, though. A twelve-ounce can of regular cola contains about ten teaspoons of sugar. They dissolve in the liquid without increasing its volume. The molecules of sugar spread evenly between the water molecules where there’s a lot of empty space. There are now more molecules in the cola, making the liquid more dense. Diet colas are usually sweetened with aspartame, which is 160 times sweeter than sugar. Obviously, ten teaspoons of sugar weigh more than a pinch of aspartame. The cans are the same size but the densities are different. The can that contains the lower-density liquid will float higher.

There is one other way you can tell the two colas apart. Ask a bee. Bees are not the least bit interested in the diet cola. They must not be worried about their weight.