

Guided Notes Activity: The Coca-Cola Challenge (10 pts)

Volume:

1. The volumes of the Diet Coke and Regular Coke cans were the same.
2. Volume is the amount of 3D space occupied by a material.
3. Volume is measured in: mL or cm³.

Mass:

1. Regular Coke had a greater mass than Diet Coke.
2. Mass is the amount of matter in an object.
3. Mass is measured in: grams (g).
4. Regular Coke has a larger mass than Diet Coke because it has more sugar.
5. Regular Coke has 39,000 mg of sugar.
6. Diet Coke has 100 mg of nutra-sweet.

Density:

1. Regular Coke has a greater density than Diet Coke.
2. Density is how tightly material is packed together.
3. Density is also the mass per unit volume.
4. Density is measured in: g/mL or g/cm³.
5. The equation for calculating density is: mass / volume.

The Coke Demonstration:

1. The Diet Coke floated because it was less dense than the water in the tank.
2. The Regular Coke sank because it was denser than the water in the tank.

Difference between Weight and Density:

1. Weight is the vertical force exerted by a mass as a result of gravity.
2. Even though the oil had a greater weight, because it was less dense it floated on top of the water.