

EXPLANATION:

The milk you are working with is more complicated than it looks. It is made up mostly of water and equal parts of protein, fats, and sugar.

The fat has been broken up and spread throughout the milk (by the process called HOMOGENIZATION) into tiny pieces of fat called globules.

At first the milk did not move. This is because the fat globules were steady and undisturbed.

The soap breaks up the fat globules and lets them spread across the surface of the milk. As the globules break and expand, they create movement in the milk.

The food coloring lets you see the movement. It is an indicator. It does not take part in the chemical reactions.

This movement shows how soap works. It is the same kind of thing that happens when you wash dishes or hair with soap. The soap breaks up the fat or grease and lets it to flow in the water and down the drain.