



# RANDOM ACTS OF SCIENCENESS

## Lesson: Milk Separation

### CURRICULUM REFERENCE: Properties of Liquids and Solids

#### LESSON OBJECTIVE

Watch how chemicals react to one another using milk separation.

#### THE SCIENCE BEHIND

Soap is hydrophobic, which is a fancy way of saying that it doesn't like water. And milk is about 98% water. So, when you put a drop of soap to a tray of milk, the soap will search out all of the non-water parts of the milk and latch on to them. This movement is what creates the cool designs on your plate.

**VIDEO:** <https://youtu.be/81taXNFohsg>



#### FOLLOW-UP QUESTIONS

1. Why does the dish soap make such a large impact during this experiment?
2. Would a different type of milk (1%, 2%, 3.5%) react differently? Why or why not?

#### LEARNING OUTCOMES

- Assess the ways in which liquids and solids in the home are used, stored, and disposed of in terms of the effect on personal safety and the health of the environment, and suggest responsible actions to replace inappropriate practices.
- Investigate the properties of liquids and solids.
- Use technological problem-solving skills, and knowledge acquired from previous investigations, to design, build, and test a structure that involves interactions between liquids and solids.



## RANDOM ACTS OF SCIENCENESS

### Lesson: Milk Separation

#### MATERIALS (PER PERSON)

- Milk
- Plate
- Food colouring
- Q-tips
- Dish soap

#### INSTRUCTIONS

1. Pour milk into a plate without it spilling over.
2. Add differently coloured drops of food colouring onto the milk.
3. Take a Q-tip and dip it into a container of dish soap.
4. Then with the dipped Q-tip, touch it into the milk with food colouring and watch the colours separate.

**VIDEO:** <https://youtu.be/BhXT-Uby8mo>

