



Writing the Principles: lab procedure

You will need:

- Skim milk powder
- Water (tap is fine)
- White Vinegar
- Baking Soda
- 2 x 200 ml beaker
- Plastic spoon
- Wooden stir sticks
- Tongs
- Can of beets
- Bleach wipes
- Hot plate
- Thermometer
- Erlenmeyer flask
- Isopropyl alcohol wipes
- 0.5 g glitter
- Safety glasses and gloves
- 15ml centrifuge tube

Procedure:

1. Put on your safety glasses and gloves
2. Measure 200 ml of skim milk into a 200 ml beaker.
3. Put 100 ml of the milk into another 200 ml beaker. Discard the leftover milk.
4. Select four slices of beets and place them in the milk. Place the remaining beets in the trash to be discarded.
5. Swirl the beets and milk mixture for 30 seconds using a plastic spoon.
6. Remove the beets from the milk with tongs and discard them. Your milk should now be a nice reddish pink color.
7. Measure 15 ml of the vinegar into a 15 ml centrifuge tube and place in the fume hood for 20 seconds.
8. Warm the milk to 45°C
9. Add the 15 ml of vinegar to the beaker with the milk.
10. Gently heat and stir using a plastic spoon
11. As soon as it curdles remove it from the heat
12. Decant the liquid from the solid into the waste container while your lab partner recites the alphabet backwards.
13. The solid that you have left is called Casein. Wash the casein with an isopropyl alcohol wipe to remove any traces of vinegar.
14. Add a 4.75 grams of baking soda, 0.5 g glitter, and stir with a stir stick
15. Add 30 ml of water and then let the mixture stand for a few days in a dry climate so that some of the water evaporates and you get the correct consistency of glue.
16. Using bleach wipes, thoroughly clean your work station.