

Name: _____

Class: _____

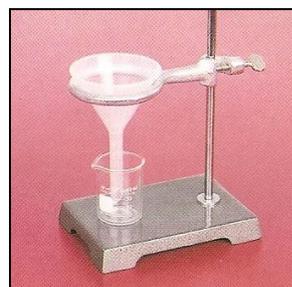
FILTRATION

Purpose:

The purpose of this experiment is to examine the concept of filtration, and show how a mechanical mixture may be separated into its parts.

Equipment:

- Retort Stand
- Ring Clamp
- Funnel
- Stirring Rod
- 4 Beakers
- 4 Test tubes
- Test Tube Rack
- Graduated Cylinder
- 4 Coffee Filters
- Pepper
- Flour
- Milk
- Water
- Tape
- Marker
- Pencil



Hypothesis:

After reading the procedure, I think the use of coffee filters will show the most significant filtration with the sample containing _____. I think the least noticeable difference will be the sample containing _____ (choose from milk, flour and pepper).

Procedure:

1. Prepare your equipment.
 - a. Label the beakers and test tubes, using the tape and marker, as “water”, “milk”, “flour” and “pepper”.
 - b. Label the filter papers, using the pencil, with the same labels as above.
 - c. Set up the retort stand, ring clamp, funnel and beaker as shown in the diagram above.
2. Prepare a coffee filter.
 - a. Open the filter; be sure the filter matches the beaker in place under the funnel.
 - b. Place the filter in the funnel.
 - c. Fold the filter over the top of the funnel to hold it in place.

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3. Prepare the samples.
 - a. Pour 25 mL of water into the test tube labeled “water”.
 - b. Pour 25 mL of milk into the test tube labeled “milk”.
 - c. Mix 2.5 mL of flour with 22.5 mL of water and pour into the test tube labeled “flour”.
 - d. Mix 2.5 mL of pepper with 22.5 mL of water and pour into the test tube labeled “pepper”.
4. Test the samples one sample at a time.
 - a. Record observations for each sample before filtering.
 - b. Pour the sample from the test tube, into the matching coffee filter.
 - c. Allow a few moments for the liquid to pass through the filter.
 - d. Record observations of the sample in the beaker after filtration.
 - e. Record observations of the coffee filter.
 - f. Replace the filter and beaker and test the next sample.
5. Clean all of your supplies.

Questions:

Complete the following on a separate piece of paper, and neatly staple it to this sheet.

1. Create a data table, be sure it is neat and has the appropriate title and layout. Use the categories below. Record your observations in the table.
 - a. Sample
 - b. Before Filtration
 - c. After Filtration
 - d. Coffee Filter
2. Answer the following questions:
 - a. How did your results compare to your hypothesis?
 - b. Why did we test water as a sample?
 - c. What environmental impact can come from the knowledge of filtration?
3. Discuss any sources of error in the experiment. (A source of error is anything that could cause you to get the wrong results, whether it be your overall experiment, or a difference from trial to trial.)