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Experiment worksheet

2.4 Mixtures can be separated according to their size and mass

Pages 36–37 and 179

Skills Lab 2.4: Filtering a mixture of sand and water

What you need:

mixture of sand and water, beaker, 100 mL conical flask, spatula, small funnel, filter paper, stirring rod

What to do:

1 Fold a round filter paper in half, then in half again to get quarters and then in half again to get eighths, as seen in Figure 1.

2 Unfold the filter paper and lay it flat (Figure 2).

3 Re-fold back and forth over the creases in the filter paper to obtain a fluted shape, as shown in Figure 3.

4 Set up the funnel and flask as shown in Figure 4.

5 Place the filter paper into the funnel as shown in Figure 5.

6 Dampen the filter paper with some extra water to help it stick to the sides of the funnel (see Figure 6).

7 Swirl the sand mixture and slowly pour it from the beaker into the funnel (Figure 7). Do not overfill the funnel.

8 Keep adding the mixture slowly until it is all used up.

9 Extra water can be added to the beaker mixture to pour out the last solid particles.

10 Wait for the filtering to finish. Remove the filter paper carefully and allow it to dry. In most experiments the residue (the solid on the paper) is kept and the filtrate (the liquid in the flask) is discarded.


Figure 1


Figure 2


Figure 3


Figure 4


Figure 5


Figure 6


Figure 7

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Questions

1 Draw a scientific diagram of your equipment. Label the filtrate and residue.

2 What physical properties are being used to filter substances?

3 Describe at least three things you need to be careful about when filtering.

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