



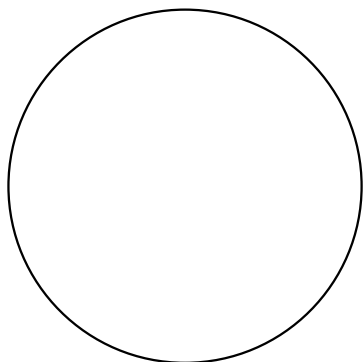
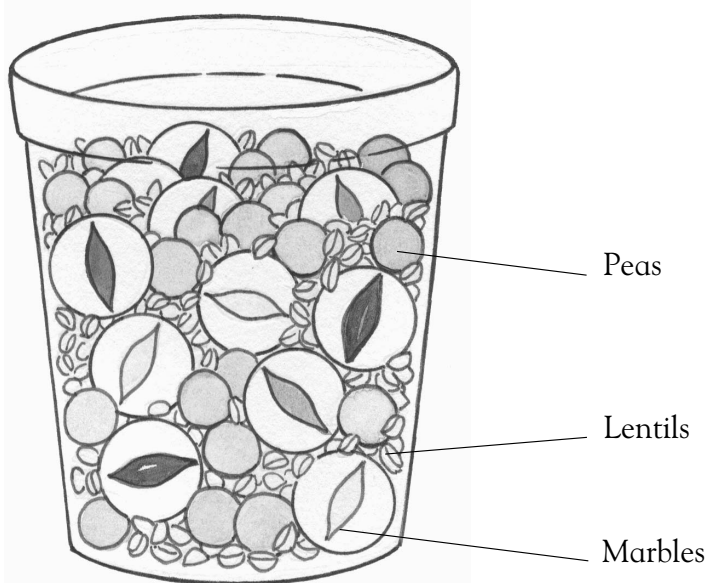
# Filter it!

## Background knowledge

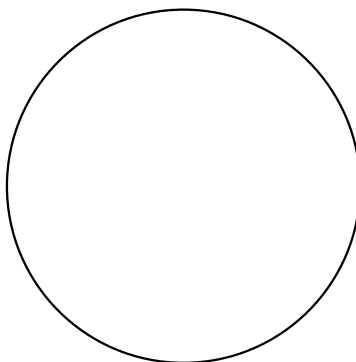
Sometimes it is necessary to separate a mixture. For example, coffee filters are used to keep the coffee grinds out of the coffee. When you pour coffee into a filter, the holes in the filter are large enough for the water to drain away, but too small for the grinds to pass through. The coffee grinds are trapped by the filter. When the materials in a mixture are *insoluble* in water, you can use a filter to separate them.

## Science activity

Here are some lentils, peas, and marbles all mixed up in a pot. Pictures A and B show the bottom of the pot. On A, draw the sizes of the holes you must make to separate the lentils from the peas and marbles. On B, draw the holes you would need to make to separate the lentils and peas from the marbles.



A



B

## Science investigation

Mix together sand, potting soil, and aquarium gravel. Design a filtering method to separate this mixture. Use your knowledge about the properties of each material in the mixture. Test out your filtering method. Did it work? What are some of the problems you had in your design?





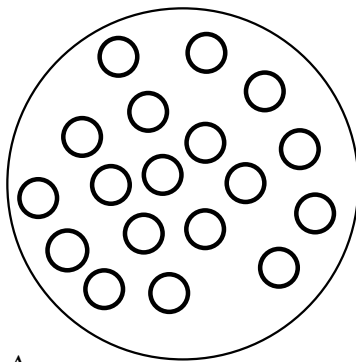
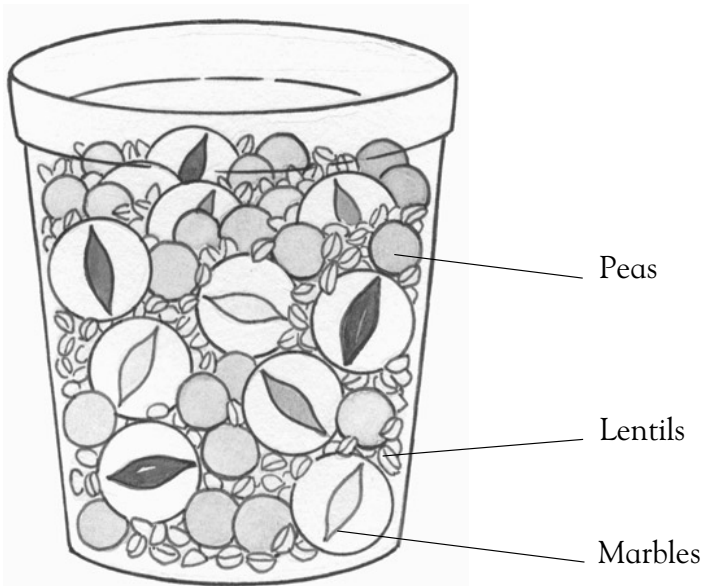
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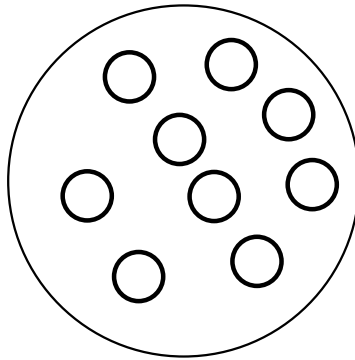
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A



B

## Science investigation

Encourage the child to make a filtering device. Cut holes in old fabric, or use colanders or other draining devices. Emphasize the relationship between the size of the openings in the filter and its ability to separate mixtures of a certain particle size.

