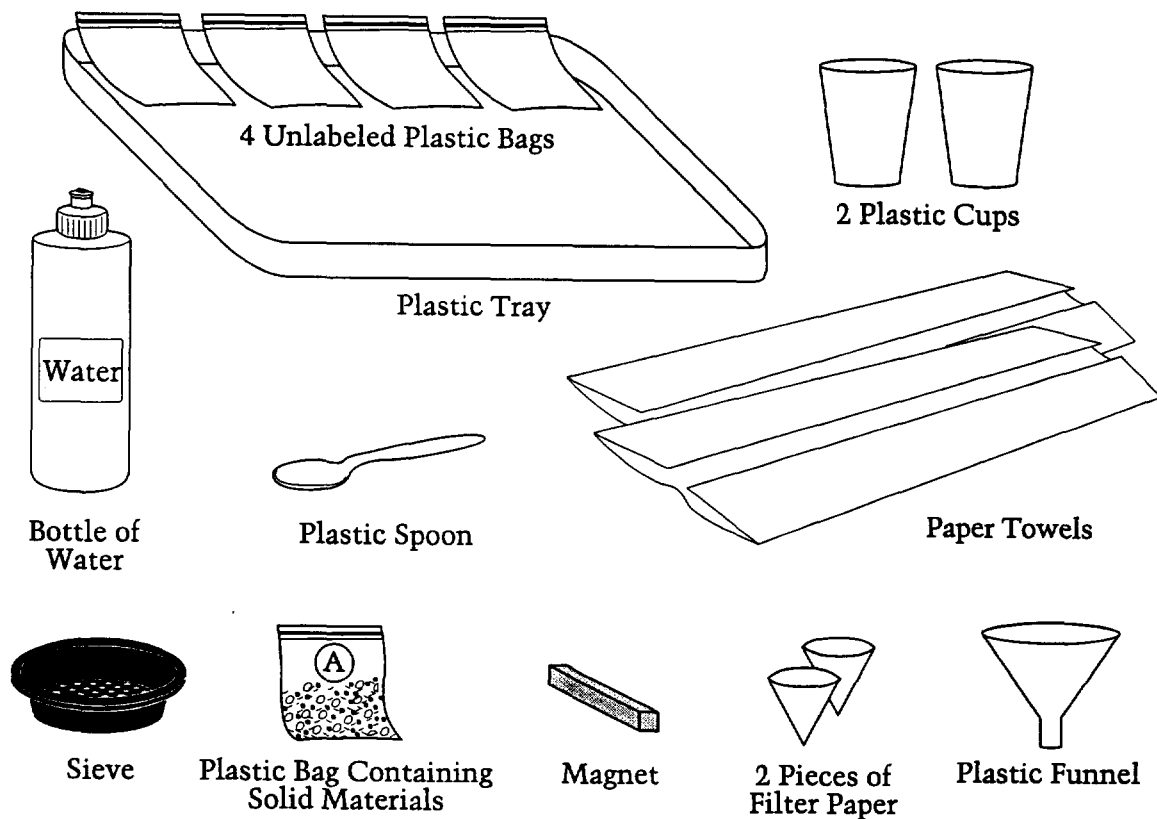


## SEPARATION

## Separating a Mixture of Solid Materials

For this task, you have been given a kit that contains materials that you will use to perform an investigation during the next 30 minutes. Please open your kit now and use the following diagram to check that all of the materials in the diagram are included in your kit. If any materials are missing, raise your hand and the administrator will provide you with the materials that you need.



Section 123

The Investigation: The plastic bag(A) contains a mixture of five solid materials. Your job is to design a procedure for separating the materials in the mixture using the equipment in your kit.

It is known that the mixture contains& different substances:

Three different metals

Sand

Salt

You will be asked to write a complete plan of all of the steps in your separation procedure. You will also be asked to save samples of the separated materials in small plastic bags.

As you perform this task, follow the directions step-by-step and write your answers to the questions in the space provided in your booklet.

Important Note: If you need more of the mixture, raise your hand and the administrator will give you another bag.

0P000725

1. Look at the contents of plastic bag (A) without opening it. What properties do the substances in the mixture have that would allow the following equipment to be used to separate the mixture?

0P000722

**Magnet:**

**Filter paper:**

**Sieve:**

Section 123

2. Now use this equipment to separate the five materials in the mixture. Each time you successfully separate a material from the mixture, place this separated material in one of the small unlabeled plastic bags. The materials that you separate do not have to be 100 percent pure, but they should be as pure as possible. Each separated material should be placed in its own plastic bag. The bags with the separated materials will be collected after you have completed the task.

[Notes: 1) If you have collected a material in the filter paper, you do not need to separate the material from the filter paper. Just put the filter paper in the plastic bag. 2) If you end up with one of the five materials dissolved in water, you can leave this material in the cup.]

0P000723

3. Based on what you discovered as you worked to separate the materials in the mixture, write in the space below step-by-step instructions that would allow someone else to separate all five solids using the same set of equipment.

OP000724

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4. Suppose that you have a sample of water in which an unknown solid substance has been dissolved. Describe a procedure that you would use to effectively separate the substance from the water. 0P000726

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**Cleaning Up**

Pour any water that you used into one of the plastic cups and leave this cup on your desk for someone to collect. Wipe up any spills with the paper towels. Someone will collect the paper towels and four unlabeled plastic bags. Put everything else back into the large plastic bag.



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**FOR ADMINISTRATIVE USE ONLY**

	CP	SP	IF	SD	ST
<b>1</b>	0	0	0	0	0
<b>2</b>	0	0	0	0	0
<b>3</b>	0	0	0	0	0
<b>4</b>	0	0	0	0	0