

Name: _____

Date: _____

Laboratory Skills: Separating Mixtures

Materials Needed

- glass beaker
- gravel
- sand
- iron filings
- salt
- paper plate
- water
- screen
- magnet
- filter paper
- funnel
- hand lens
- Bunsen burner

Getting Ready

In this activity, you are going to work with various substances and pieces of lab equipment. Which of the following safety precautions do you think you will need to take? (Check all that apply.)

- Wait for an adult to be present to perform the activity.
- Avoid practical jokes and horseplay.
- Keep your work area clean and uncluttered.
- Avoid eating and drinking anything while doing the activity.
- Wear safety goggles and a lab coat.
- Wear latex gloves.
- Wear close-toed shoes.
- Pull back any loose clothes and hair.
- Take off dangling jewelry.
- Check any electrical cords and gas tubes for damage.
- Keep any electrical cords or gas tubes out of the way.
- Use tongs to move the heated beaker.
- Clean the beaker in an autoclave.
- Smell the water by wafting it.
- Seal the beaker before heating it.

Have your teacher check your responses before moving on to the activity.

Procedure

1. Examine the gravel, sand, iron filings, and salt. Record your observations of their properties in the table below.

Material	Color	Size	Texture	Magnetic?	Dissolves in water?
Gravel					
Iron filings					
Salt					
Sand					

2. From your observations, which substances can you classify as mixtures? Explain.

3. Can you classify any of the substances as pure substances? Explain. _____

4. Mix the gravel, iron, salt, and sand together in the plastic cup. Use your observations to devise a procedure that you could use to separate all of the components of the mixture. Have your teacher approve your procedure before carrying it out.

5. Carry out your procedure, and then clean up your lab station.

Questions

1. How were you able to use the properties of each substance to separate it from the mixture?

Gravel: _____

Iron: _____

Sand: _____

Salt: _____

2. Iron is made up of a single element. Is iron a pure substance or a mixture? _____
3. Salt is made up of two elements that have bonded to form a compound. Is salt a pure substance or a mixture? _____
4. Gravel and sand are both made up of small bits of rock. Rocks are mixtures of different minerals. Are gravel and sand pure substances or mixtures? _____