

**Assignment:** We will continue our unit: Introduction to Chemistry! Here, you will learn more about mixtures and how we can separate them. The next 2 assignments of this chapter can be found in this document. You will be sent reminders through the Remind App to keep you on track.

**ASSIGNMENTS ARE DUE BY: Today 3/31 by midnight.**

**Assignment 4: Watch the Slide Show on Heterogeneous and Homogeneous Mixtures. The link is attached below.**

<https://www.youtube.com/watch?v=Zq6WuZAmd3k&feature=youtu.be>

**Assignment 5: Virtual Lab Introduction to Chemistry: Virtual Mixtures, Elements, and Compounds Lab**

**Assignment:** Complete the lab using the website provided. You will need **flash player** to complete online. If you are unable to use flash player on your device, all of the pictures/data/instructions are attached to the end of this document (will be located after the assignment checklist at the end of this document). You will complete the lab from the tutorial and record all responses on a Google Form. It is best to open two windows or tabs ... one for the lab, one for the Google Form so you can use both at once. The instructions are on the lab website itself.

LAB:

[https://my.hrw.com/sh2/sh07\\_10/student/flash/virtual\\_investigations/hst/mix/hst\\_mix\\_vi.html](https://my.hrw.com/sh2/sh07_10/student/flash/virtual_investigations/hst/mix/hst_mix_vi.html)

GOOGLE FORM TO RECORD RESPONSES:

<https://forms.gle/Hdx7ELrKAz8UEMxZ7>

### **Assignment Checklist:**

To verify you are done, you should have done the following:

1. Watched the Slide Show on Heterogeneous and Homogeneous Mixtures
2. Separating a Mixture Google Form


These assignments will be posted on the Portal. If there is a checkmark or “Co” symbol, that means they have been submitted and collected. If you see --, an “Mi,” or it is blank, that means they were not submitted.

Below is the information for assignment #2 if flash doesn't work on your device.

**Scenario**

Welcome! Here in the Chemical Disposal Lab, technicians are responsible for the safe disposal of all chemicals used and created by Holt Virtual Laboratories. Today, you can assist with a fun project.

Your first task will be to separate the components of a mixture of iron filings, sand, and salt, using the equipment in the lab. You will find three empty glass containers to store the separated components of the mixture. There are many ways you could separate the components. Your goal is to separate the components using the fewest possible steps and the least amount of time. You can refer to the **Equipment Manual** and **Material Facts File** when you need more information. Have fun!



Continue

Read through (or listen to) the scenario and click **continue**.

1. Click on the lab coat, protective gloves, and safety goggles. Then, click **Enter**.
2. Think about the most logical order in which to separate the components. Then, click the container with the label of the component you wish to separate first.
3. To change your selection, click another container. For example, you may decide to separate iron filings instead of sand. To do so, click the container labeled "iron filings."

Physical Science Lab

Stage 1 Stage 2 Tutorial

Hint

Equipment Cupboard

H<sub>2</sub>O

Sand

Salt

Iron filings

Submit

Equipment Manual

Material Facts File



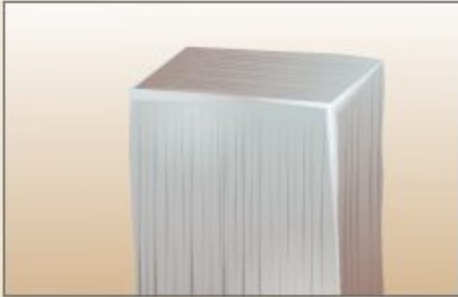
4. Use the **Materials Facts File** at any time to learn more about the component you are trying to separate.

Iron **Salt** Sand

### Material Facts File

#### Iron

- Iron is a silvery-white metal.
- It is very ductile and magnetic.
- Its symbol, Fe, comes from the Latin name for iron, *ferrum*.
- Iron has a high melting point (1,535°C).
- The surface of an iron sample rapidly tarnishes in moist air, forming a reddish-brown deposit (rust) made up of a mixture of iron oxides.



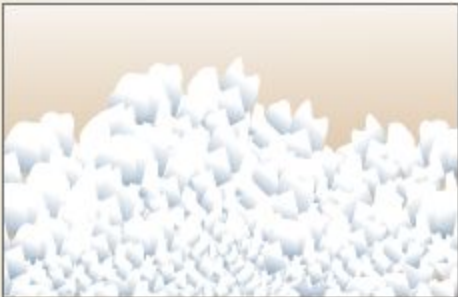
Close

Iron **Salt** Sand

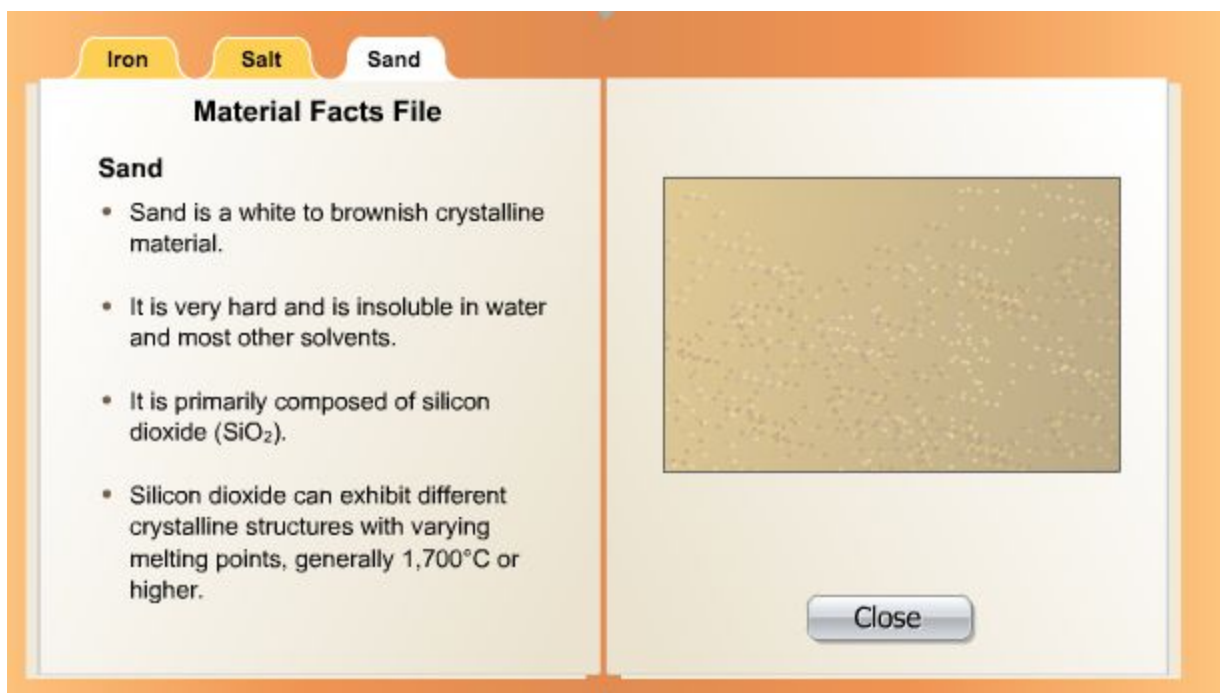
### Material Facts File

#### Salt

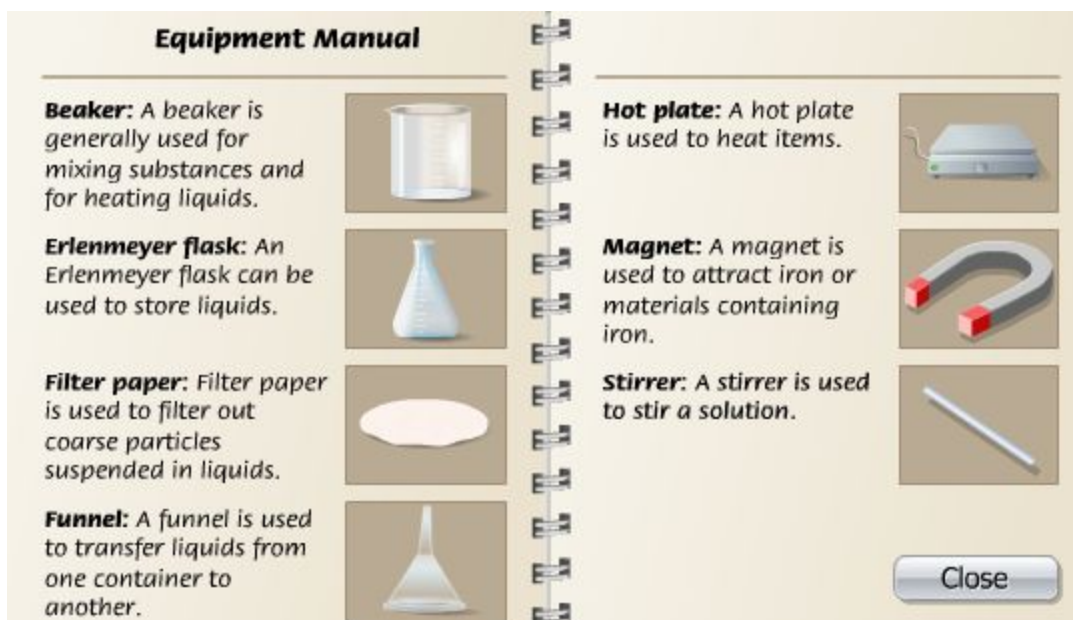
- Common salt, or *sodium chloride*, is a compound. Its formula is NaCl.
- It is a white, crystalline solid (cubic) that is very soluble in water.
- Salt is very stable.
- It has a melting point of 801°C.



Close



5. Click on the **Equipment Manual** on the lower left side of the screen to read about the equipment you can use to separate the components of the mixture.

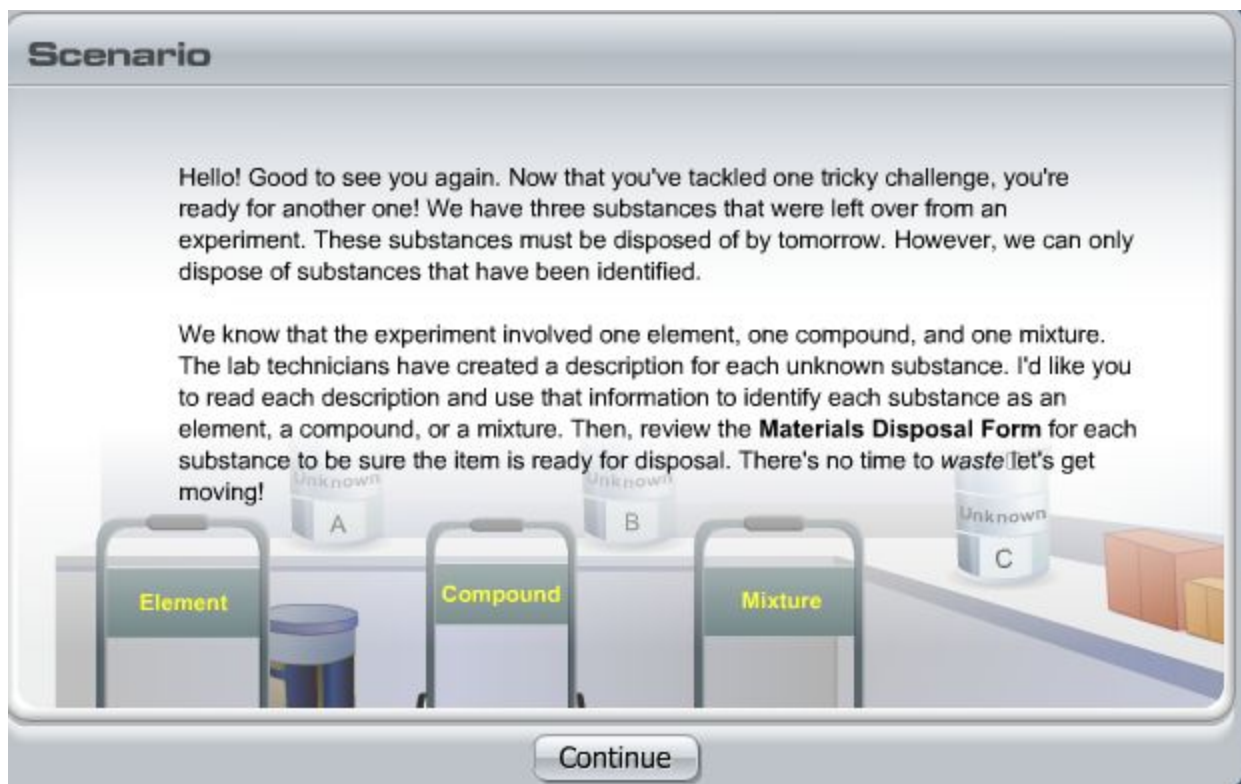


6. Click the **Equipment Cupboard** to open it.
7. Click all of the equipment you will need to separate the component. **Remember:** your goal is to separate the components using the fewest possible steps and the least amount of time!

8. Click on **Separate** to begin the process of separation.
9. Click **submit** to collect the component in the glass container
10. Repeat steps 2-9 for the remaining 2 components.

ANSWER ALL QUESTIONS FOR STAGE 1 ON THE GOOGLE FORM

MOVE ON TO STAGE 2



1. Click on the lab coat, protective gloves, and safety goggles. Then, click **Enter**.
2. Move the points over a container to view the description of the unknown substance within. *Screenshots of each description are below.*



#### **Unknown A**

Unknown A is composed of soil, seeds, and white granules. When water is added and the substance is filtered, the white granules dissolve and the soil and seeds are caught on the filter paper.

#### **Unknown B**

Unknown B is a thin, silver-colored sheet that is easily bent. It is a very good conductor of electricity. It is insoluble in water and reacts with strong acids, giving off bubbles of a flammable gas.

#### **Unknown C**

Unknown C is a white, chalk-like powder that is not soluble in water. When heated in a container that has been fitted with a stopper and gas tube, it gives off a gas that is not very soluble in water and will not support combustion. When water is added to the cooled, white residue left behind, the substance reacts and gives off heat.

3. Identify the unknown substance as an element, compound, or mixture by placing it on the appropriate cart. Then, click **evaluate**.
4. Repeat steps 2-3 for the other two unknown substances.
5. Click the **Materials Disposal Form** to review your results. Click **close** when you are finished.

ANSWER ALL QUESTIONS FOR STAGE 2 ON THE GOOGLE FORM