Edgenuity

Warm-Up | Separation of Mixtures

Lesson Question

Lesson Goals

Understand how _____ are separated.

Explain why mixtures are able to be _____ .

Describe _____ of separating mixtures.

Words to Know

Write the letter of the definition next to the matching word as you work through the lesson. You may use the glossary to help you.

_____ ore

_____ filtration

_____ screening

A. passing a mixture through a layer of sharp-edged particles, such as sand, so that all particles in the mixture of a certain size and consistency will be caught in the filter and separated from the mixture

B. passing a mixture through a screen so that all particles above a certain size are caught and separated from the mixture

C. any mixture of minerals that forms naturally within Earth's crust

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Types of Mixtures

- Mixtures are made of [ ] or more pure substances mixed together.
- [ ] mixtures are [ ] mixed solutions containing two or more substances.
- [ ] mixtures contain substances that are [ ] evenly mixed and are not uniform throughout.
  - [ ] and [ ] are types of heterogeneous mixtures.

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Screening

_____ is the process of passing a mixture through a screen with holes of uniform size.

This works well for removing _____ particles from a mixture.

- Example: using a clothes dryer _____ to remove _____

Filtration

_____ is the process of passing a mixture through _____ of different materials.

The process works for _____ particles and soft substances but takes _____ .

- Example: using a water _____ to remove _____

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Magnetic Separation

- Very _____
- Can only be used when one part of the mixture is _____
- Example: separating different types of ore
  - _____ is any mixture of _____ that forms naturally within Earth's crust.
  - _____ is attracted to a magnet so iron can be removed.

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Words to Know

Fill in this table as you work through the lesson. You may also use the glossary to help you.

	a device that separates mixtures in tubes by spinning them at a high speed so that the acceleration causes denser substances to settle toward the outside of the tube
	the process of a liquid becoming a gas from a liquid
	a method of separating mixtures in which the mixture is heated until just one substance evaporates, and the pure vapor is collected and condensed
	to pour off the top layer

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Separation Using a Centrifuge

- In a [ ], a device that separates mixtures in tubes by [ ] them at a high speed, [ ] substances move toward the [ ] edge of the centrifuge.
  - [ ] particles often form a tightly packed pellet at the [ ] of their container.
- Once the mixture is separated, the less dense portion can be [ ], or poured off.
- Example: [ ] sample analysis

Evaporation

[ ], the process of a liquid becoming a [ ], can be used:

- when a mixture contains a liquid with a lower [ ] point than the recovered substance.
- when the application of [ ] causes [ ], but not all, of the substances to [ ].
- when the solution contains a substance that will [ ] out of the solution.
- Example: [ ] evaporation ponds

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Distillation

_____ is similar to evaporation but involves _____ steps to recover the substance that is evaporated.

- _____ is collected and _____, resulting in a pure substance separated from the mixture.
- Distillation works when the substances in the mixture have _____ boiling points.

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Summary | Separation of Mixtures

Lesson Question

How can mixtures be separated?

Answer

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Review: Key Concepts

- Processes for separating _____ mixtures
  - Screening
  - _____
  - _____ separation
  - Centrifuge
- Processes for separating _____ mixtures
  - _____
  - Distillation

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Summary | Separation of Mixtures

Use this space to write any questions or thoughts about this lesson.

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