5.6B Properties of Mixtures STAAR Release Questions Science

A student adds 100 milliliters of water to a beaker and records the mass. The student then adds 12 grams of salt to the water and uses a hot plate to heat the mixture. The student stirs the warm water until the salt can no longer be seen in the water.

The student claims that even though the salt has disappeared, some of the properties of the salt have not changed.

What can the student do to support this claim?

Ⓐ Pour the water through a paper filter to separate out the salt

Ⓑ Add food coloring to the beaker so that the salt can be seen

Ⓒ Use a magnet to separate the salt from the water

Ⓓ Measure the mass of the water and the salt

A student makes a mixture of gravel, iron filings, and water. Which table correctly identifies the tools that can be used to separate each substance from the mixture?

Ⓐ

Tool	Substance Separated from Mixture
Screen	Gravel
Magnet	Iron filings
Paper filter	Water

Ⓑ

Tool	Substance Separated from Mixture
Funnel	Gravel
Paper filter	Iron filings
Hot plate	Water

Ⓒ

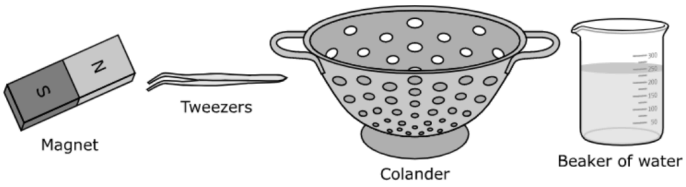
Tool	Substance Separated from Mixture
Screen	Gravel
Hot Plate	Iron filings
Funnel	Water

Ⓓ

Tool	Substance Separated from Mixture
Paper filter	Gravel
Magnet	Iron filings
Screen	Water

5.6B Properties of Mixtures STAAR Release Questions Science

The pictures show tools that can be used for separating mixtures.



Which mixture is paired with the best tool for separating the materials?

Ⓐ

Mixture	Tool
Salt and pepper	Tweezers

Ⓑ

Mixture	Tool
Pieces of cork and pebbles	Beaker of water

Ⓒ

Mixture	Tool
Safety pins and iron nails	Magnet

Ⓓ

Mixture	Tool
Sand and iron filings	Colander

Students conduct an investigation with breakfast cereal. The first four steps of the students' investigation are in the table shown.

Breakfast Cereal Investigation

1. Grind 50 grams of cereal into a fine powder.
2. Stir the cereal powder into 500 milliliters of warm water.
3. Hold a magnet against the side of the beaker at the 250-milliliter mark.
4. Stir the mixture for three minutes.

The students are trying to determine the presence of which substance in the cereal?

A Sugar

B Iron

C Salt

D Wheat

5.6B Properties of Mixtures STAAR Release Questions Science

A student mixes a sample of stones with a sample of table salt. The mass and volume of the samples were determined before mixing the samples. The mass and volume of each sample is shown.

Material	Grams (g)	Milliliters (mL)
Stones	45	25
Salt	40	35

Which statement is true about the mixture?

F The mass of the mixture is 85 grams.

G The mass of the mixture is 60 milliliters.

H The volume of the mixture is 60 grams.

J The volume of the mixture is 85 milliliters.

The table lists the ingredients of five different mixtures.

Mixtures and Their Ingredients

Mixture	Ingredients
1	Salt, hot water, sand
2	Sugar, hot water, salt
3	Iron filings and sand
4	Pebbles, wood chips, soil
5	Powdered soap and hot water

In which mixtures do all the ingredients maintain their physical state?

A Mixtures 3 and 4 only

B Mixtures 1, 3, and 4

C Mixtures 1, 2, and 5

D Mixtures 2 and 5 only