



Mixtures Keep Their Properties: Practice Check

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Lesson:

Read the passages and examples below to learn about how mixtures can keep the properties of their parts.

A mixture is made when two or more substances are combined, but each substance stays itself. In some mixtures, you can still see or use the different parts because their physical properties do not change.

Iron filings and sand form a mixture, but the iron still responds to a magnet. Sand stays sand. This means one part can be removed by using a property that belongs to only that part.



Sand and water also form a mixture. The sand does not disappear, and the water does not turn into sand. The sand may sink, but it is still there and can be separated from the water.

Some mixtures can be separated because the parts have different properties, such as size, weight, magnetism, or whether they evaporate. A sieve can separate larger pieces from smaller ones, a magnet can remove iron, and evaporation can leave dissolved material behind.

Separating mixtures: property to tool

	What is different about the parts	Tool that separates them
Iron filings + sand	Only the iron sticks to a magnet	Magnet
Sand + water	Sand does not dissolve; it settles	Let it settle, then pour off the water
Rice + beans	The pieces are different sizes	Sieve (screen with small holes)
Salt + water (a solution)	Salt dissolves and spreads out evenly	Evaporation (water leaves, salt stays)

Match the property that is different to the tool that separates it. The last row is a solution: the salt is still there, even when you cannot see it.

A solution is different from a mixture like sand and water or iron and sand. In a solution, one substance seems to disappear because it dissolves evenly, but it is still present in the liquid. This lesson focuses on mixtures where the parts keep their properties and can often be separated without changing them.

Mixtures: what happens to the parts?

Parts stay separate - you can see them

iron filings and sand
sand and water
trail mix
rice and beans

One part dissolves - you cannot see it

salt water
sugar water

Sort each example. In both groups nothing disappears - the parts are still there.

Iron filings in sand can be pulled out with a magnet.

Sand in water can settle to the bottom and be separated.

Trail mix keeps the look and taste of each ingredient.

Salt water is a solution because the salt dissolves evenly.

Instructions:

Read each question carefully. Choose the best answer for each one.

1. A student mixes iron filings and sand. What happens to the iron filings?

- ☐ A) They still respond to a magnet.
- ☐ B) They turn into sand.
- ☐ C) They disappear.
- ☐ D) They become water.

2. A student says, 'The sand disappeared after it was mixed with water.' What is wrong with that idea?

- ☐ A) The sand changed into water.
- ☐ B) The water turned into sand.
- ☐ C) The mixture became a solution.
- ☐ D) The sand is still there, even if it sinks.

3. Which pair is a mixture where the parts can still keep their own properties?

- ☐ A) Salt water
- ☐ B) Sugar water
- ☐ C) Iron filings and sand
- ☐ D) Milk and chocolate syrup

4. A class records these mixtures:

1. iron filings and sand
2. salt water
3. trail mix

Which one shows the best way to remove one part with a magnet?

- ☐ A) Both salt water and trail mix
- ☐ B) Salt water
- ☐ C) Trail mix
- ☐ D) Iron filings and sand

5. How would you explain why a sieve can separate some mixtures?

- ☐ A) Because heavier pieces always turn into new substances.
- ☐ B) Because larger pieces stay on the sieve.
- ☐ C) Because all substances dissolve in water.
- ☐ D) Because magnets remove every kind of material.

6. A jar has sand and water. Which action would help separate the sand from the water?

- ☐ A) Add more sand until it disappears.
- ☐ B) Use a magnet on the jar.
- ☐ C) Let the sand settle, then pour off the water.
- ☐ D) Freeze the mixture forever.

7. Which statement best matches a trail mix mixture?

- ☐ A) The ingredients always dissolve in water.
- ☐ B) The ingredients change into one new substance.
- ☐ C) The ingredients keep their own properties.
- ☐ D) The ingredients disappear when mixed.

8. A student mixes iron filings, sand, and water. Which tool could remove the iron filings first?

- ☐ A) A clock
- ☐ B) A ruler
- ☐ C) A magnet
- ☐ D) A sponge

9. Look at these two mixtures:

A: iron filings and sand

B: salt water

Which statement is true?

- ☐ A) A is a mixture, and B is a solution.
- ☐ B) A is a solution, and B is a mixture.
- ☐ C) Both A and B are the same kind of mixture.
- ☐ D) Both A and B are solutions.

10. A student writes: 'If a substance sinks, it is gone.' Which choice corrects that idea?

- ☐ A) If a substance sinks, it is gone forever.
- ☐ B) If a substance sinks, it has become a gas.
- ☐ C) If a substance sinks, it may still be in the mixture.
- ☐ D) If a substance sinks, it always dissolves.

11. Which method would best separate rice grains from larger beans in a mixed container?

- ☐ A) A magnet
- ☐ B) A freezer
- ☐ C) A sieve
- ☐ D) Evaporation

12. A teacher says, 'Salt water is a mixture because the salt stays visible as separate grains.' What is the best response?

- ☐ A) That is incorrect because salt turns into sand.
- ☐ B) That is correct because salt water is a mixture with visible salt grains.
- ☐ C) That is incorrect because the salt dissolves evenly in water.
- ☐ D) That is correct because all liquids are mixtures.

13. A class compares two mixtures.

Mixture 1: iron filings and sand

Mixture 2: sand and water

Which tool would work on Mixture 1 but not on Mixture 2?

- ☐ A) A notebook
- ☐ B) A spoon
- ☐ C) A towel
- ☐ D) A magnet

14. A student mixes two substances. One substance seems to disappear, but it is still present in the liquid. What does that describe?

- ☐ A) A solid only
- ☐ B) A solution
- ☐ C) A magnet
- ☐ D) A rock

15. Which explanation best shows why salt and sand can be separated after mixing them?

- ☐ A) The sand dissolves in water, but the salt stays solid.
- ☐ B) The salt and sand both disappear when they are mixed.
- ☐ C) The salt changes into sand when water is added.
- ☐ D) The sand stays sand, and the salt can dissolve and be separated.

16. A student wants to separate a mixture of iron filings and sand, then separate the sand from water. Which order makes the most sense?

- ☐ A) Use a sieve first, then add more sand.
- ☐ B) Use a magnet first, then settle or pour off the water.
- ☐ C) Use evaporation first, then use a magnet.
- ☐ D) Stir harder until both mixtures disappear.

17. A student says, 'Trail mix is a solution because it has many parts.' What is the best correction?

- ☐ A) Trail mix is not matter.
- ☐ B) Trail mix is a mixture because the parts stay separate.
- ☐ C) Trail mix becomes one new substance.
- ☐ D) Trail mix is a solution because all foods dissolve.

18. Data table:

Mixture A: iron filings and sand

Mixture B: salt water

Which mixture can be separated with a magnet?

- ☐ A) Mixture A
- ☐ B) Neither mixture
- ☐ C) Both mixtures
- ☐ D) Mixture B

19. A student mixes sand and water, waits, and then sees the sand at the bottom. Which sentence best explains this?

- ☐ A) The sand is still there and settled down.
- ☐ B) The sand turned into water.
- ☐ C) The sand disappeared into the air.
- ☐ D) The water became a magnet.

20. Which choice best compares a mixture and a solution?

- ☐ A) A mixture and a solution are always exactly the same.
- ☐ B) A mixture keeps parts separate; a solution has one substance dissolved in another.
- ☐ C) A solution means the liquid has no substance in it.
- ☐ D) A mixture has parts that always dissolve; a solution never does.



Mixtures Keep Their Properties: Practice Check (Answer Key)

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1. A student mixes iron filings and sand. What happens to the iron filings?

Hint: Think about what a magnet can do.

Answer: A) They still respond to a magnet.

Explanation: Iron filings in a mixture with sand still respond to a magnet, so they can be separated without changing the iron.

2. A student says, 'The sand disappeared after it was mixed with water.' What is wrong with that idea?

Hint: Think about what happens when sand and water are combined.

Answer: D) The sand is still there, even if it sinks.

Explanation: Sand does not disappear in water. It may sink, but it is still sand and can be separated from the water.

3. Which pair is a mixture where the parts can still keep their own properties?

Hint: Look for a pair from the lesson.

Answer: C) Iron filings and sand

Explanation: Iron filings and sand form a mixture, and each part keeps its own properties.

4. A class records these mixtures:

1. iron filings and sand
2. salt water
3. trail mix

Which one shows the best way to remove one part with a magnet?

Hint: A magnet pulls iron.

Answer: D) Iron filings and sand

Explanation: A magnet can remove iron filings from sand because iron responds to a magnet.

5. How would you explain why a sieve can separate some mixtures?

Hint: Think about size differences.

Answer: B) Because larger pieces stay on the sieve.

Explanation: A sieve separates mixtures when the parts are different sizes, so larger pieces stay behind and smaller pieces pass through.

6. A jar has sand and water. Which action would help separate the sand from the water?

Hint: Think about what happens when sand settles.

Answer: C) Let the sand settle, then pour off the water.

Explanation: Sand and water can be separated because the sand can settle to the bottom and be removed from the water.

7. Which statement best matches a trail mix mixture?

Hint: Think about what you can still see and taste.

Answer: C) The ingredients keep their own properties.

Explanation: Trail mix is a mixture because you can still see and taste its different ingredients.

8. A student mixes iron filings, sand, and water. Which tool could remove the iron filings first?
Hint: Iron responds to magnetism.

Answer: C) A magnet

Explanation: A magnet can remove the iron filings because iron is attracted to magnets.

9. Look at these two mixtures:

A: iron filings and sand

B: salt water

Which statement is true?

Hint: One is a mixture with parts that stay separate.

Answer: A) A is a mixture, and B is a solution.

Explanation: Iron filings and sand keep their physical properties, while salt water is a solution because the salt dissolves evenly.

10. A student writes: 'If a substance sinks, it is gone.' Which choice corrects that idea?

Hint: Sinking is not the same as disappearing.

Answer: C) If a substance sinks, it may still be in the mixture.

Explanation: A substance can sink and still be present, like sand in water.

11. Which method would best separate rice grains from larger beans in a mixed container?

Hint: Think about particle size.

Answer: C) A sieve

Explanation: A sieve separates materials by size, so the rice can pass through while the larger beans stay behind.

12. A teacher says, 'Salt water is a mixture because the salt stays visible as separate grains.'

What is the best response?

Hint: Think about what dissolving means.

Answer: C) That is incorrect because the salt dissolves evenly in water.

Explanation: Salt water is a solution because the salt dissolves evenly instead of staying as visible grains.

13. A class compares two mixtures.

Mixture 1: iron filings and sand

Mixture 2: sand and water

Which tool would work on Mixture 1 but not on Mixture 2?

Hint: One mixture contains iron.

Answer: D) A magnet

Explanation: A magnet works on iron filings and sand, but it does not separate sand and water in the same way.

14. A student mixes two substances. One substance seems to disappear, but it is still present in the liquid. What does that describe?

Hint: Think about dissolving.

Answer: B) A solution

Explanation: That describes a solution, where a substance dissolves evenly in a liquid.

15. Which explanation best shows why salt and sand can be separated after mixing them?

Hint: Salt and sand stay two different materials.

Answer: D) The sand stays sand, and the salt can dissolve and be separated.

Explanation: Salt and sand can be separated because sand does not dissolve in water, while salt does, so the materials can be separated by taking advantage of their different properties.

16. A student wants to separate a mixture of iron filings and sand, then separate the sand from water. Which order makes the most sense?

Hint: First remove the iron.

Answer: B) Use a magnet first, then settle or pour off the water.

Explanation: Use a magnet first to remove the iron filings, then separate the sand from the water by settling or pouring off.

17. A student says, 'Trail mix is a solution because it has many parts.' What is the best correction?

Hint: Many parts does not always mean solution.

Answer: B) Trail mix is a mixture because the parts stay separate.

Explanation: Trail mix is a mixture because the different parts stay separate and keep their properties.

18. Data table:

Mixture A: iron filings and sand

Mixture B: salt water

Which mixture can be separated with a magnet?

Hint: Only one mixture has iron.

Answer: A) Mixture A

Explanation: Iron filings and sand can be separated with a magnet because the iron responds to the magnet.

19. A student mixes sand and water, waits, and then sees the sand at the bottom. Which sentence best explains this?

Hint: Think about what happened to the sand.

Answer: A) The sand is still there and settled down.

Explanation: The sand is still present, and it sank to the bottom because it is a different substance from water.

20. Which choice best compares a mixture and a solution?

Hint: One keeps parts more easy to see.

Answer: B) A mixture keeps parts separate; a solution has one substance dissolved in another.

Explanation: In a mixture like sand and water, parts may stay separate. In a solution like salt water, a substance dissolves evenly.