7 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

29 A student made a mixture using equal amounts of salt and pepper. The salt grains were the same size as the pepper grains. What should the student do to most easily separate the pepper from the salt?

A Use a pair of tweezers to remove each grain of pepper

B Run a small magnet through the mixture to attract the pepper

C Put the mixture in water and filter the pepper out of the water

D Use a strainer with a fine wire screen to remove the pepper

32 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.

21 A mixture of beads was placed in a container, as shown below. The beads are of various sizes, and each one is made of plastic, glass, or steel.

The mixture would be easy to separate because all the beads —

A are less dense than water

B are solids

C have the same mass

D are attracted to a magnet

3 Students investigate the physical properties of some substances. They draw a table to show how the substances can be grouped. The students need to complete the table with column headings.

Physical Properties of Substances

?	?	?
• Aluminum foil • Brass key • Gold ring	• Cooking oil • Soap bubble • Wood chip • Feather	• Baking soda • Drink mix • White sugar

Which column headings should the students use for their table?

A

Good Insulators of Thermal Energy	Is Attracted by Magnets	Same Physical State

B

Good Conductors of Electrical Energy	Less Dense than Water	Soluble in Water

C

Soluble in Water	Same Physical State	Less Dense than Water

D

Is Attracted by Mag	Good Conductors of	Good Insulators of

42 Some people add sugar to their hot tea. Which property of the sugar remains the same when the sugar is in the tea solution?

F The taste of the sugar

G The size of the sugar crystals

H The color of the sugar

J The texture of the sugar

17 When a powdered drink mix was added to water, the liquid turned orange. A student decided the taste was too strong, so he poured out half of the liquid and added more water. Which of the following most likely occurred when more water was added?

A The physical state changed.

B The orange color became lighter.

C The liquid had a sweeter taste.

D None of the above

21 A student prepared a snack that consisted of grapes, pecans, and strawberries sprinkled with white powdered sugar. The student stored the snack in a refrigerator. An hour later the student observed that the powdered sugar could no longer be seen but the fruit and nuts had not changed in appearance.

What most likely happened to the sugar in the mixture?

A The sugar evaporated at the lower temperature in the refrigerator without causing any changes to the fruit and nuts.

B The sugar was more dense than the other foods in the mixture, so it settled to the bottom of the container.

C The sugar dissolved in the moisture on the fruit.

D The sugar absorbed energy from the nuts and melted into a colorless liquid.

15 A student adds 10 grams of four different powdered solids into four different beakers. The student then adds 100 mL of water to each beaker, stirs the mixtures, and allows them to sit for half an hour before recording observations. Which question is the student most likely trying to answer with this investigation?

A At what water temperature do the substances dissolve?

B How much water is needed to cause a substance to change state?

C What causes a substance to sink when put in water?

D Which substances dissolve in water?

14 A student measures the temperature of water being heated on a hot plate. The student observes that the temperature of the water is 53°C. How many more degrees Celsius must the temperature rise before it reaches the boiling temperature of water?

Record your answer and fill in the bubbles on your answer document. Be sure to use the correct place value.

12 A student combined powdered paint with water to make a small amount of a blue liquid paint mixture. The student left the paint mixture in an open container. Several days later the student found the container and observed that changes had occurred. What most likely happened to the mixture?

F The container was empty after the mixture evaporated into the air.

G The paint evaporated, leaving only clear water in the container.

H The water evaporated, leaving only a dry blue solid in the container.

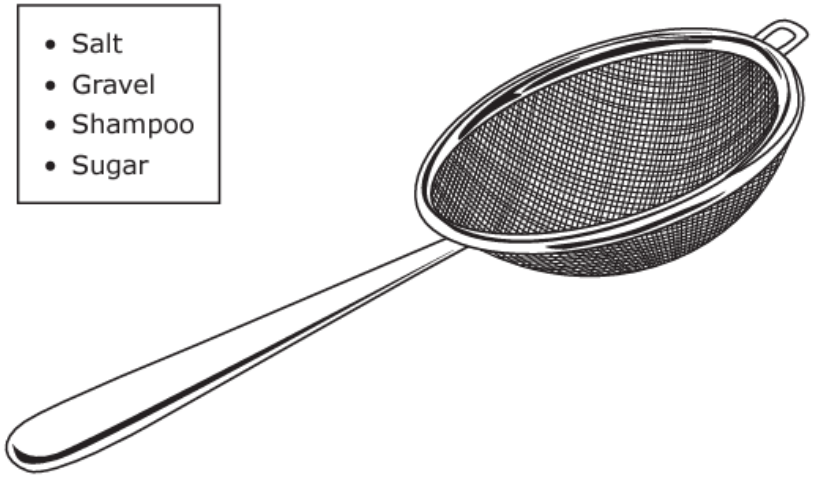
J The liquid paint mixture was lighter in color after some water evaporated.

35 A student stirs 15 grams of each substance listed below into 200 milliliters of water to form four different mixtures. The student then tries to separate the water from each mixture by pouring the mixture through a kitchen tea strainer.

Substances

- Salt
- Gravel
- Shampoo
- Sugar

Kitchen Tea Strainer



Which mixture can the student separate most easily with the strainer?

A Salt and water

B Gravel and water

C Shampoo and water

D Sugar and water

23 A beaker with 115 mL of solution has a temperature of 21°C. The solution contains 5 g of salt and 115 mL of water. Students added two ice cubes to the solution and stirred the solution with a stirring rod.

Which properties of the solution changed as the ice cubes melted?

A The color and physical state of the solution

B The temperature, mass, and volume of the solution

C The volume, temperature, and mass of the salt in the solution

D The physical state and temperature of the solution