

# Sum It Up >>

Write *S* if the photo and caption describe a mixture that is a solution. Write *M* if they describe a mixture that is NOT a solution.



\_\_\_ (1) When you combine ingredients to make a sandwich, each ingredient keeps its identity. You could easily separate them.



\_\_\_ (2) Soft drinks are made by dissolving a gas and other ingredients in water. The dissolved particles are much too small to be seen.



\_\_\_ (3) The solid bits of orange pulp do not dissolve in the liquid. Because the pulp particles are large, they will eventually settle out.



\_\_\_ (4) Particles of several different gases make up air. Air on one side of a room is just like the air on the other side.

## Fill in the missing words to tell how to separate mixtures.

To sort the items in your junk drawer, you'd use observable (5) \_\_\_\_\_ such as size, color, shape, and (6) \_\_\_\_\_ attraction. But how would you separate table sugar, sand, and pebbles? Because the pebbles are (7) \_\_\_\_\_ than the grains of sugar and sand, you could remove them using a sieve, or mesh (8) \_\_\_\_\_.

You could then add water and shake until the sugar (9) \_\_\_\_\_. If you poured this mixture through a coffee (10) \_\_\_\_\_ into a beaker, the (11) \_\_\_\_\_ would be left on the filter, but the sugar solution would pass through. Adding heat would cause the water to (12) \_\_\_\_\_, leaving solid sugar behind.



Name \_\_\_\_\_

## Vocabulary Review

1 Use the words in the box to complete each sentence.

1. Another name for a mesh screen is a \_\_\_\_\_.
2. During a \_\_\_\_\_ change, there is no formation of a new kind of matter.
3. A \_\_\_\_\_ is a tool that attracts objects that contain iron.
4. An object that is less dense than water will \_\_\_\_\_ when it is placed in water.
5. A \_\_\_\_\_ is an object used to separate very small particles from a mixture.
6. The amount of matter in a given volume is called \_\_\_\_\_.
7. \_\_\_\_\_ is a physical property of an object; for example, round, square, rectangular, or flat.
8. The process by which a liquid changes slowly to a gas is \_\_\_\_\_.
9. A \_\_\_\_\_ is a kind of mixture that has the same composition throughout.
10. A combination of two or more substances that keep their individual identities is a \_\_\_\_\_.

sieve      shape      evaporation      **solution\***      physical  
magnet      **mixture\***      float      filter      density

\* Key Lesson Vocabulary

# Apply Concepts

2 Circle the substances below that are solutions.



brass trumpet



trail mix



shells



sandwich



drink from a mix

3 Make a list of solid mixtures in your classroom.

_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

4 Draw and label a diagram to show how you would separate each mixture.



**5** Answer these questions in terms of what you know about mixtures.

a. How would changing the proportions of substances in an alloy change its properties?

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b. Why is it possible to use physical properties to separate a mixture?

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c. Recycling help us conserve resources. Draw a line connecting each piece of garbage in a mixed bag with the bin it should be thrown in.

milk jug      soup can      envelope      cardboard box  
soda can      water bottle      broken pencil

Garbage      Plastic      Aluminum and Tin      Paper

**6**



Salt seems to disappear when it is poured into water. Use the terms mixture, solution, and dissolve to explain what happens.

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**7** Tell how you would use one or more of these tools to separate the mixtures.



Rice from dried soup mix

Salt from saltwater

Nails from gravel

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**8** Tell what would happen if you stirred each of these cups faster.



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## Take It Home!

Share what you have learned about mixtures with your family. With a family member, identify examples of mixtures at mealtime, or in places in your home.