

# **Chapter 14**

## **Lesson 3 : Mixtures**

### **Learning Objectives:**

**Observe how solids, liquids and gases mix**

# **Vocabulary**

- **Mixture**
- **Solution**
- **Dissolve**
- **evaporate**

# محلول solution

- a kind of mixture with parts that do not easily come apart.

نوع من المخاليط يصعب فصل مكوناته



# ذوبان dissolve

- to mix evenly with a liquid and form a solution

. امتزاج المادة كلياً بالسائل لعمل محلول



# ***Essential Questions***

- How can you make a mixture?
- What happens when you mix two things together?
- What happens when you mix solids and liquids?
- What happens when you try and take a mixture apart?

**Explore – p.462/463**

**What mixes with water?**

## Explore

### What mixes with water?

#### What to Do

**1 Measure.** Add 57 grams of salt to one plastic cup of water. What happens?

Some of the salt disappeared into the water

**2 Measure.** Add 57 grams of sand to another plastic cup of water. Does the sand change?

No, it does not change.

#### You need



measuring cup



2 plastic cups



2 spoons



salt



- 3 Compare.** Stir both mixtures with a spoon. Let them sit. What happens? How are the mixtures different from each other?

The salt dissolved.

The sand is at the bottom of the cup.

**Explore More**

- 4 Investigate.** Tell how you could take the sand and the water apart. Can the salt be taken out of the water?

The water would evaporate and the sand and salt would be left.

**Open Inquiry**

Investigate other types of mixtures.

My question is:

How do solids react when mixed with water?



# Lesson review p. 470/471

## LESSON 3 Lesson Review

### Visual Summary

Write about what you learned.



#### Mixtures

**when two or more things are  
put together. It can be any  
combination of solids, liquids  
and gases.**



## Solutions

a mixture that is hard to take apart.

The **drink mix** dissolves in the **water** and cannot be taken out again.

**Sugar** and **water** make a **solution**.

Sugar will **dissolve** or stay evenly mixed in the water.

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## Taking Apart Mixtures

Some mixtures are easy to take apart. Like different candies in a jar.

Some mixtures that is hard to take apart you can use a **magnet** or **filter** to separate.

**Evaporation** can be used to take a solution of salt and water apart.

### Think, Talk, and Write

- ① **Main Idea and Details.** Describe how different things mix with water.

Sugar and dishwasher dissolves in \_\_\_\_\_  
water and becomes a solution. \_\_\_\_\_  
Sand and oil do not dissolve when \_\_\_\_\_  
mixed with water \_\_\_\_\_

- ② How can you take apart a solution of salt and water?

Place the solution in the sun. The heat from the  
sun will let the water evaporate so only the salt  
remains.

**Essential Question** How can you make mixtures?

Students can write an answer in their own words !!

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- Students will choose different fruit to make a mixture.



how you would use  
fruit here to make  
Tell why it is a mi

When you write to explain, you tell how to do something. You write the steps in order.

Write the steps for your recipe below.


# Homework :

□ Chapter 14 Review

□ Pages 474 / 475 / 476 / 477

## CHAPTER 14 Review

### Vocabulary

Use each term once for items 1–6.

1. When wood burns, there is a chemical change.
2. Water in the air can condense or change into a liquid.
3. Sugar and water form a mixture that will stay mixed. It is called a solution.
4. Fruit salad is a kind of mixture.
5. Tearing paper is a physical change.
6. After the snowman melts, the liquid water will turn into a gas, or evaporate.

chemical  
change

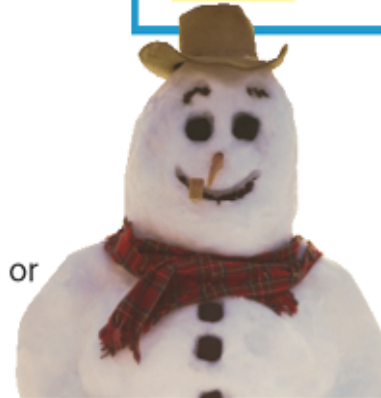
condense

evaporate

mixture

physical  
change

solution



Answer the questions below.

p.475

7. **Communicate.** Which photo shows a physical change? Which shows a chemical change? What are some other examples of each kind of change?



chemical change



physical change

Physical change - bending modelling clay  
or playdough  
melting ice

Chemical change - cooking an egg /  
burning wood



8. **Predict.** What will happen if ice is heated at a high temperature for a long time?

What I Predict	What Happens
The ice will melt, turn to water, and then evaporate and become a gas.	The ice melts, turns to water, and then evaporates and becomes a gas.

9. Describe how a solution of sugar and water is different from a mixture of sand and water.

Sugar mixes thoroughly with water and dissolves. This solution cannot

be separated easily. Sand does not mix thoroughly with water; it can be

easily separated.

# 10. How can matter change? (p.476)

- Chemical change
- Physical change
- Melting, heating, mixtures, solutions

Test Prep

1. Which of these can change matter into different matter?

A folding  
B tearing  
C bending  
☒ D burning

2. Look at the picture.

What is the first thing that will happen if this is left at room temperature?

A The water will evaporate.  
☒ B The ice will melt.  
C The water vapor will condense.  
D The water will freeze.



3. Which item is a solution?

A a fruit salad  
B a chicken taco  
C a peanut butter and jelly sandwich  
☒ D a milk shake