UNITED ARAB EMIRATES
MINISTRY OF EDUCATION

الإمارات العربية المتحدة
وزارة التربية والتعليم

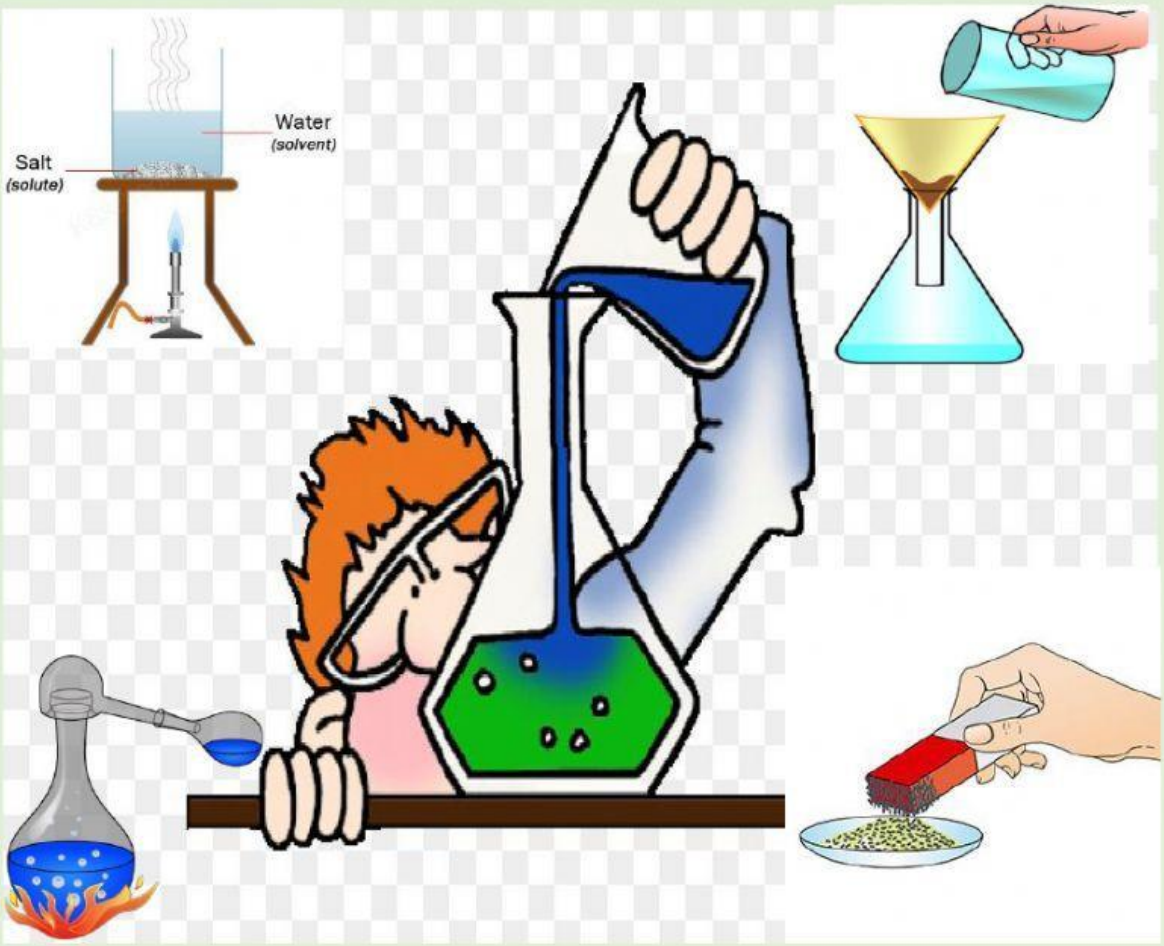
Khalifa City A School - Cycle 1

مدرسة مدينة خليفة أ / حلقة أولى

SCIENCE

CHAPTER 6 -MATTER AND ITS CHANGES

LESSON 4- MIXTURES



Created by- Nisha Tanwar

MIXTURES

- **A mixture is a physical combination of two or more kinds of matter.**
- **It is a physical combination.**
- **Mixtures can be separated by physical means.**
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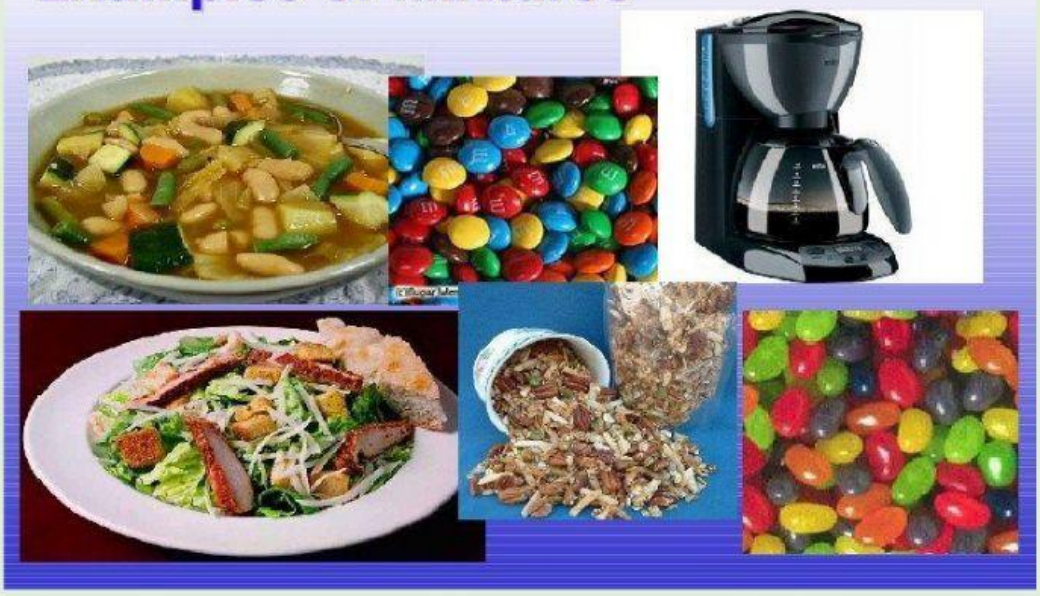
Everyday Mixtures

A salad is usually a mixture of lettuce, tomatoes, and other foods. The foods that go into a salad might be chopped up. However, they are still the same kinds of food.

You probably see mixtures every day. Some breakfast cereals are mixtures of solids. If you add milk, you get a mixture of solids and a liquid. Many products, such as food, drinks, and clothing, are made from mixing different kinds of matter.

Examples of Mixtures



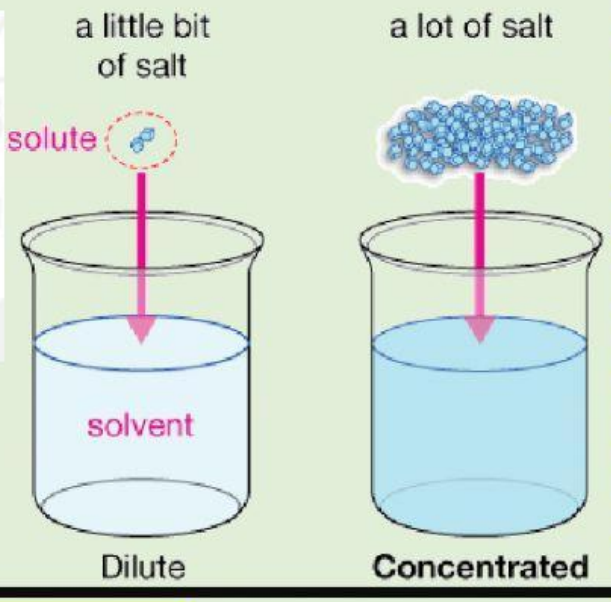
SOLUTIONS ARE SPECIAL TYPE OF MIXTURES

Some solids mix easily with liquids. If you mix salt into water, the salt will break up. Salt water is a solution. A **solution** is a mixture in which two or more substances are blended completely.

WATCH VIDEO ABOUT MIXTURES AND SOLUTIONS

SOLUTION LIMITS

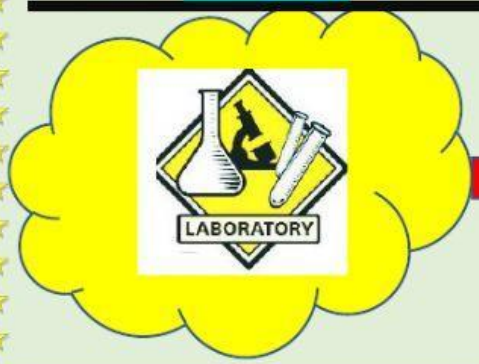
When there is just a little sugar in water, it is called a dilute sugar solution. This water is not very sweet. Adding more sugar makes the solution more concentrated and also sweeter.



SATURATED SOLUTION

❖ **When no more solute (salt/ sugar) can be added to the solution at certain temperature, it is called saturated solution.**

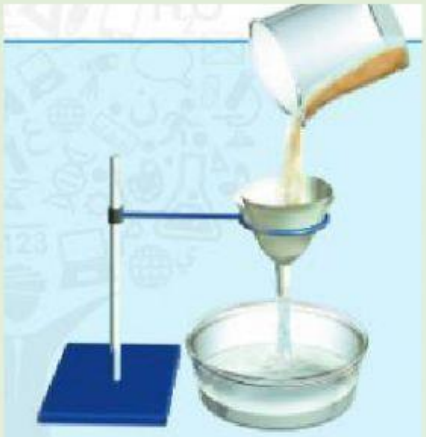




- **Click** here to do lab about solution.
- **Click** here to do lab about saturated solution

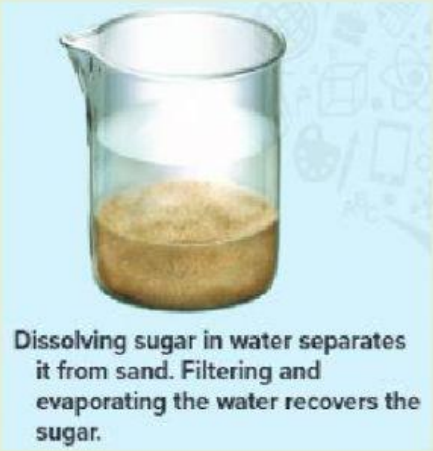
HOW TO SEPARATE MIXTURES

FILTRATION



Sand particles cannot pass through the pores in the filter, but water particles can easily.

EVAPORATION



Dissolving sugar in water separates it from sand. Filtering and evaporating the water recovers the sugar.

MAGNETISM



Iron is attracted to a magnet, but sand is nonmagnetic.

BUOYANCY



In water, the low-density sawdust floats while the high-density sand sinks.



IMPORTANT!

IMPORTANT VIRTUAL LAB FOR PRACTICE

- **Click here to learn how to separate mixtures using virtual lab**
- **Click here to do practice separation of mixtures using game.**

IMPORTANT USE OF MIXTURES

ALLOY

- **Melted metals are mixed to make alloy.**

Sometimes when mixed into alloys, the properties of metals seem to blend together. For example, pure copper is soft and flexible and pure zinc is hard and brittle. Brass, an alloy of copper and zinc, is hard but still flexible. It is used to make musical instruments.

DISTILLATION

- It is a process of separating liquids by evaporation and condensation.
- If two liquids have different boiling points, we can use this method.

QUESTIONS FROM BOOK

1. **Test Prep.** How would you separate salt from a saltwater solution?

   A filtration
   C evaporation
   B magnetism
   D chromatography

2. **Vocabulary.** To collect the evaporated water from a solution of salt water, you would use _____.

3. A physical combination of two or more kinds of matter is called a(n) _____.

4. A mixture in which two or more substances are blended together completely is called a(n) _____.

5. **Melted metals are melted and mixed together to make an _____.**

6. **Two liquids boil at the same temperature.Would it be easy to separate them using distillation.** 

7. **Blood is made up of water, solids and gases. Is it a mixture?** 