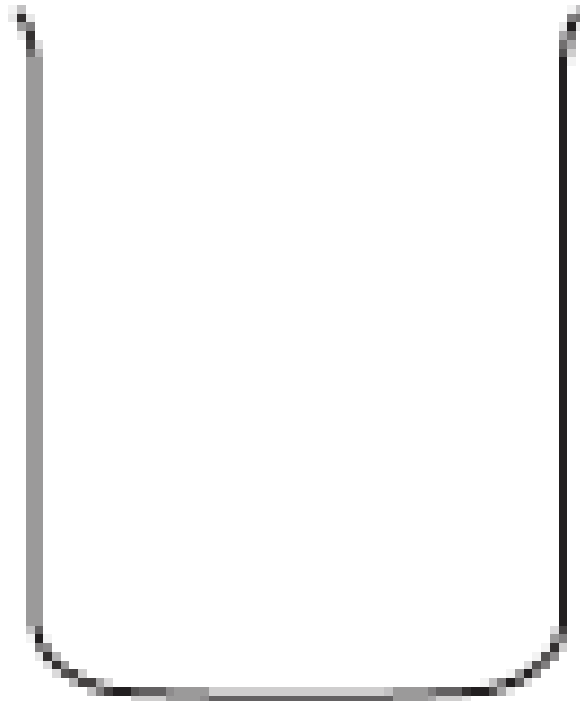


Daily Review

Name this piece of equipment.



Temperature

Daily Review

Draw this equipment as a scientific drawing.



Conical flask



Mixtures

Learning Objective

1. Explain the difference between mixtures and pure substances
2. Identify mixtures and pure substances

Activate Prior Knowledge



Vocabulary

Identify means to pick out

Explain means to give a reason how

CFU

What are we going to learn?

Concept Development

A mixture is any material made up of two or more pure substances mixed together but not chemically joined. Mixtures can be separated into their pure forms.

Some examples of mixtures:

- Solutions – salt water, tap water, coca cola
- Suspensions – muddy water, sand & water
- Colloids – milk, whipped cream, jelly, butter

CFU 1 – WB - PS

What does a mixture contain?

CFU 2 - PS

Which of the following statements best describes salt water solution as a mixture? Be prepared to explain your answer.

- a) Salt water is created by chemically joining salt and water.
- b) Salt water solution is created by dissolving salt crystals in water.

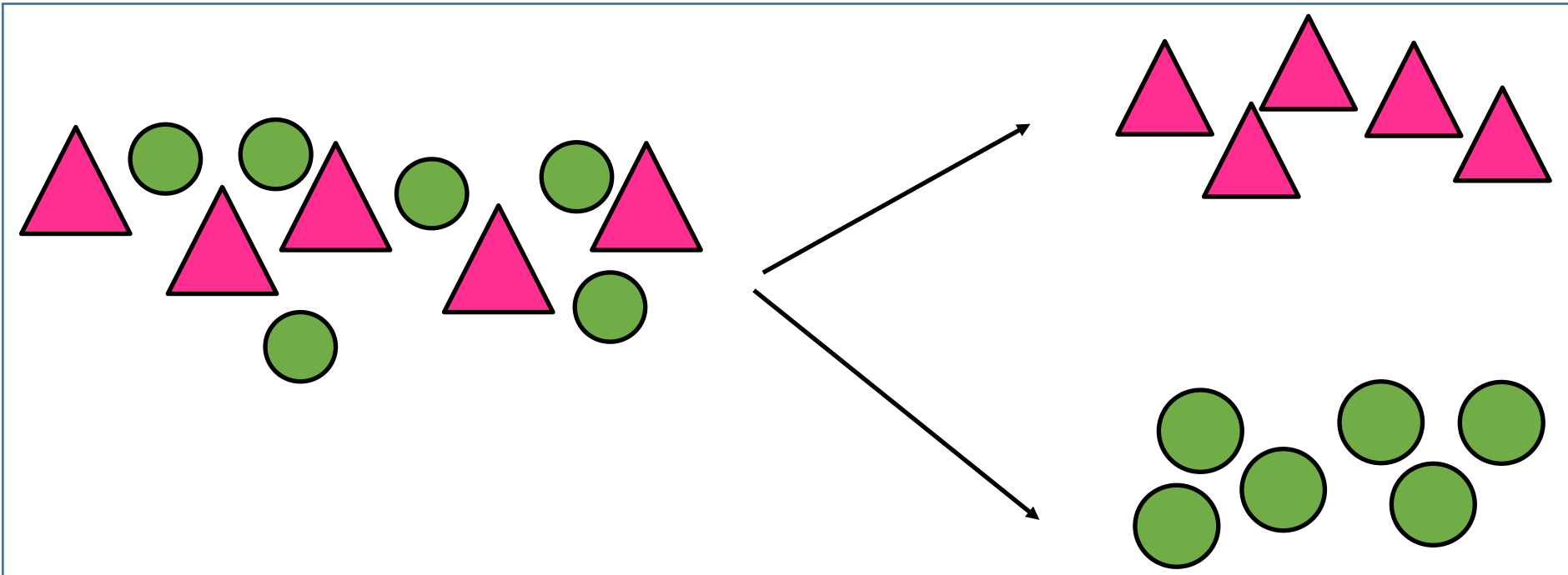
substance

Mixture: two or more pure materials mixed together but not chemically joined

Concept Development

A mixture is any material made up of two or more pure substances mixed together but not chemically joined. Mixtures can be separated into their pure forms.

A pure substance means the material contains only one substance.



CFU 2 – PS

The pink triangles represent a pure substance.

How can you tell?

Vocabulary

Pure: the material contains only one substance

Mixture: two or more pure materials mixed together but not chemically joined

Concept Development

A mixture is any material made up of two or more pure substances mixed together but not chemically joined. Mixtures can be separated into their pure forms.

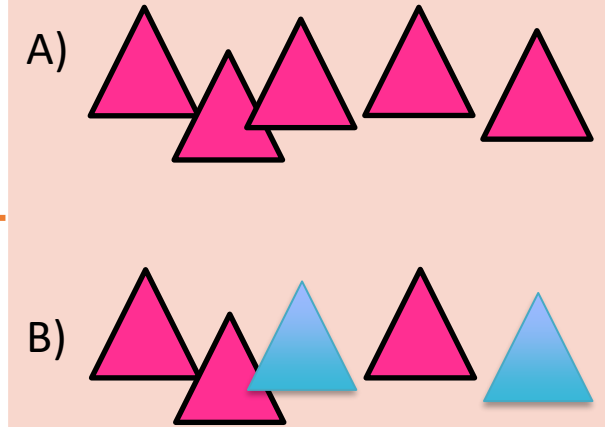
A pure substance means the material contains only one substance.

Some examples of pure substances are:

- Oxygen
- Gold
- Helium
- Salt
- Distilled water (pure water)
- Sugar

CFU 3 – WB

Which of these diagrams represents a pure substance?



Vocabulary

Pure: the material contains only one substance

Mixture: two or more pure materials mixed together but not chemically joined

Skill Development/Guided Practice

How to identify mixtures and pure substances:

1. Look at the substance.
2. Count the **number** of different substances it is made of.
3. Determine if the substances are chemically combined or mixed together.
4. Write your answer: mixture or pure substance

Vocabulary

Pure: the material contains only one substance

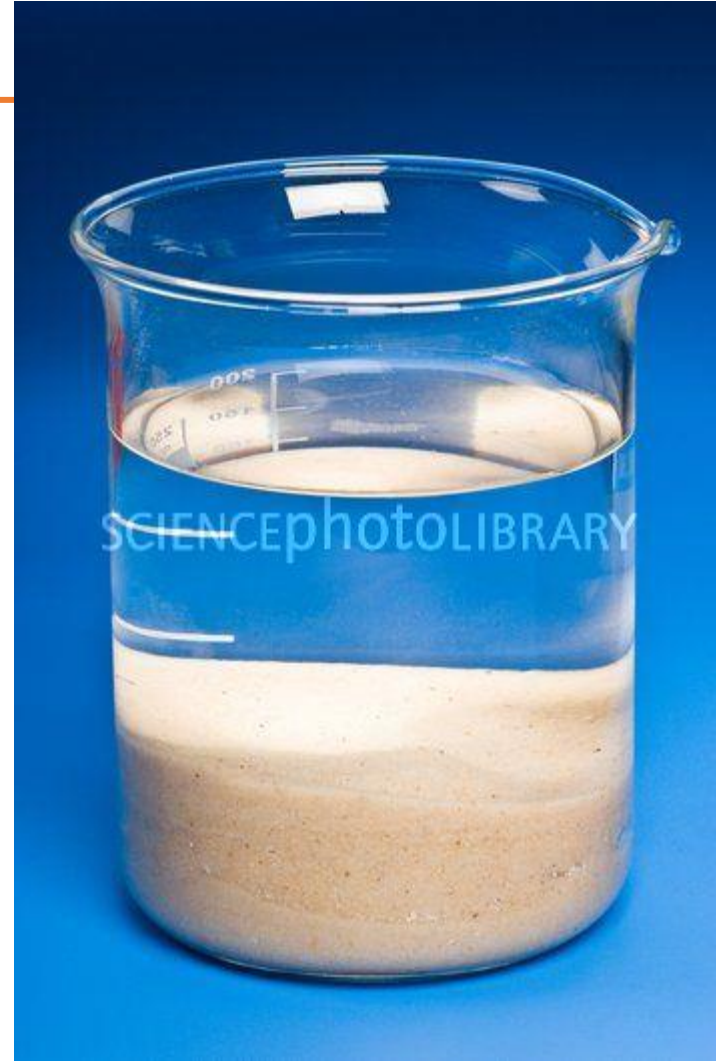
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Vocabulary

Pure: the material contains only one substance

Mixture: two or more pure materials mixed together but not chemically joined

CFU 1 – PS

Is the sand and water chemically combined? Why or why not?

Vocabulary

Pure: the material contains only one substance

Mixture: two or more pure materials mixed together but not chemically joined

-



Skill Development/Guided Practice

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Vocabulary

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Mixture: two or more pure materials mixed together but not chemically joined

CFU 1 – WB - PS

Is salt made of:

- a) One substance
- b) Two substances mixed together
- c) Two substances chemically joined?

Skill Development/Guided Practice

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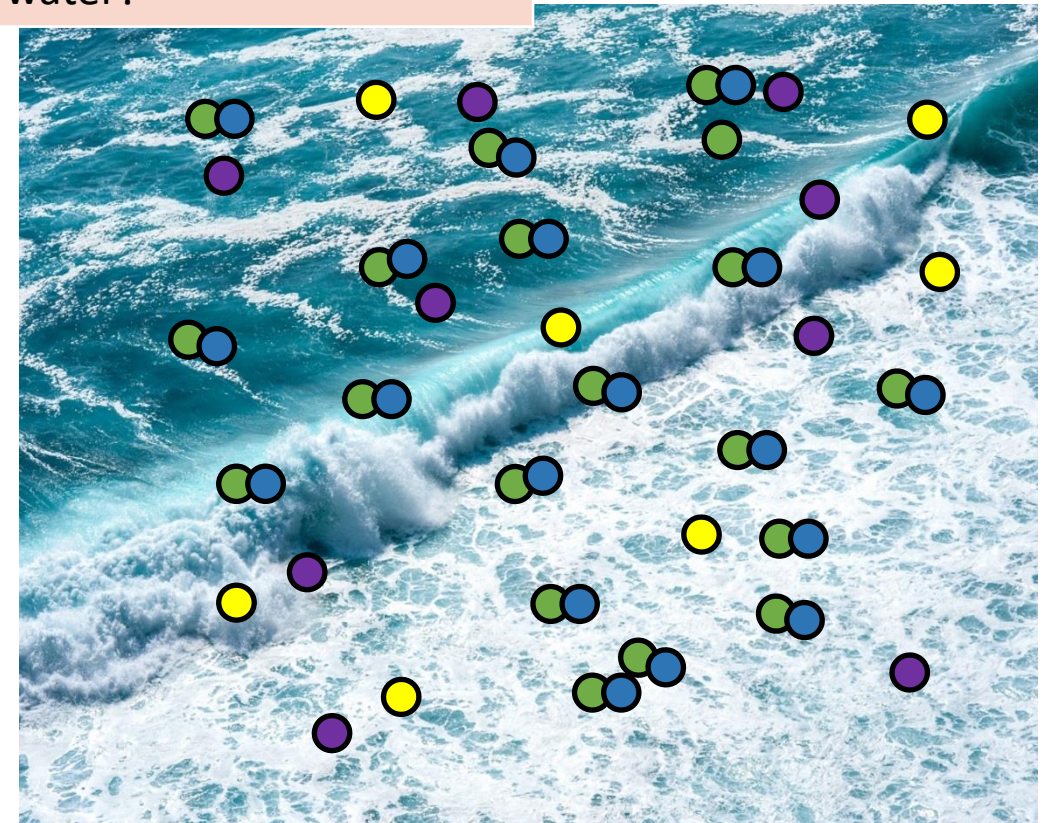
CFU 1 – PS

How many substances can you see in the sea water?

Vocabulary

Pure: the material contains only one substance

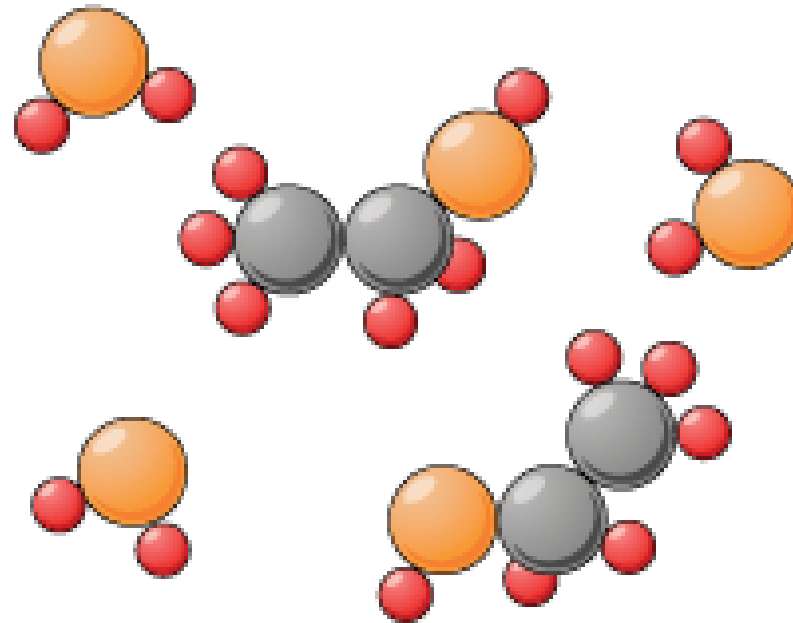
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Skill Development/Guided Practice

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Vocabulary

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Mixture: two or more pure materials mixed together but not chemically combined

CFU 1 – WB - PS

How can you tell that these substances are mixed together but not chemically joined?

Skill Development/Guided Practice

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Skill Development/Guided Practice

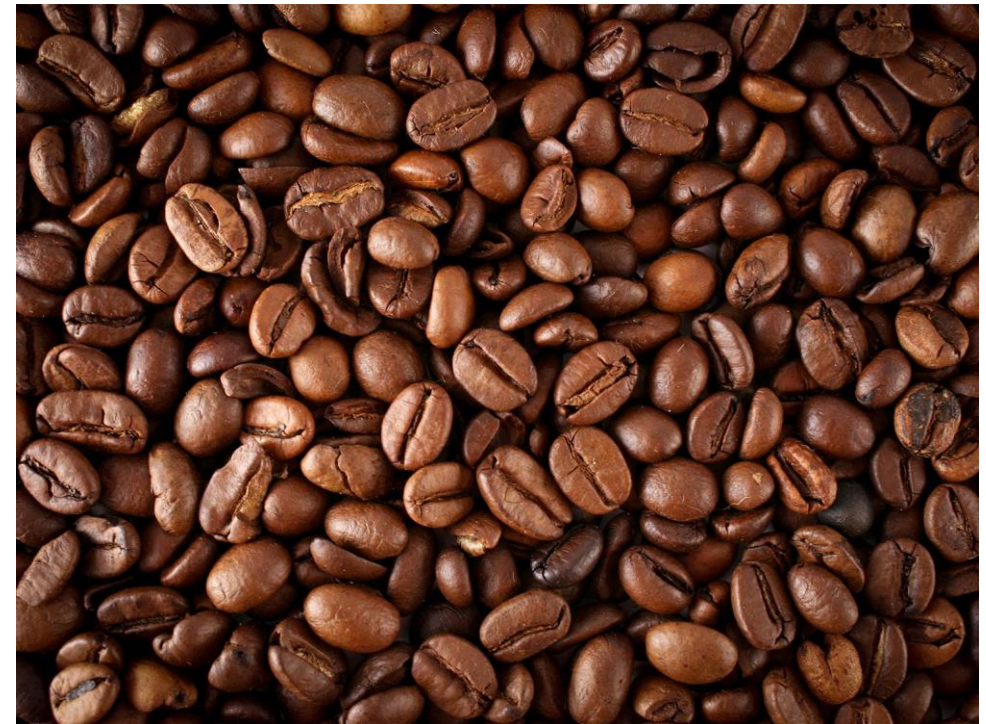
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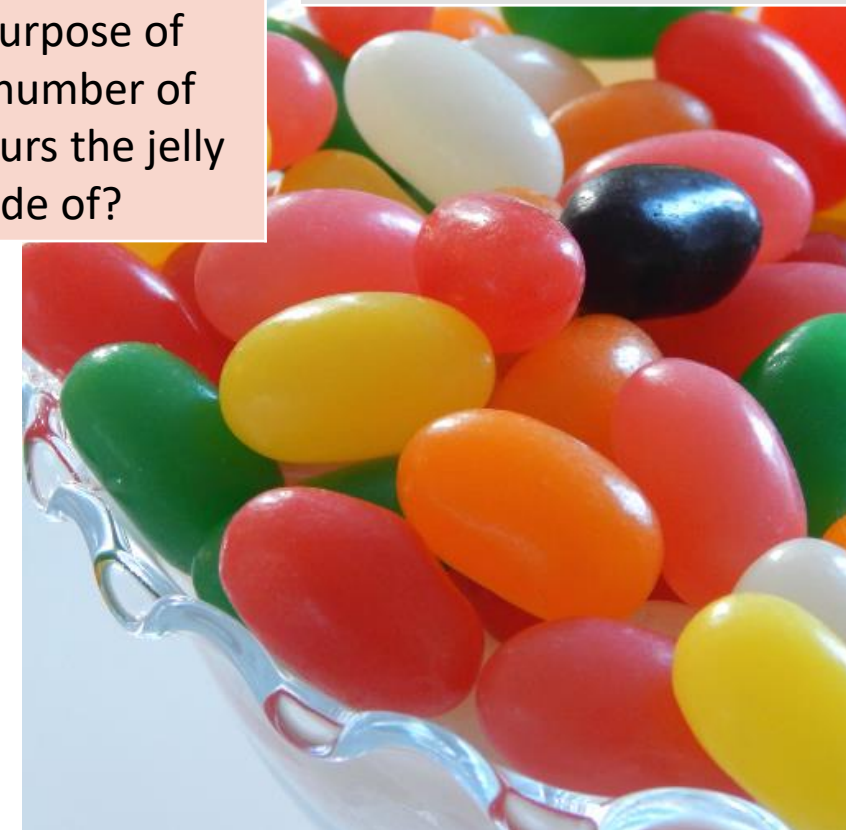
Vocabulary

Pure: the material contains only one substance

Mixture: two or more pure materials mixed together but not chemically combined

CFU 1 – PS

What is the purpose of deciding the number of different colours the jelly beans are made of?



Skill Development/Guided Practice

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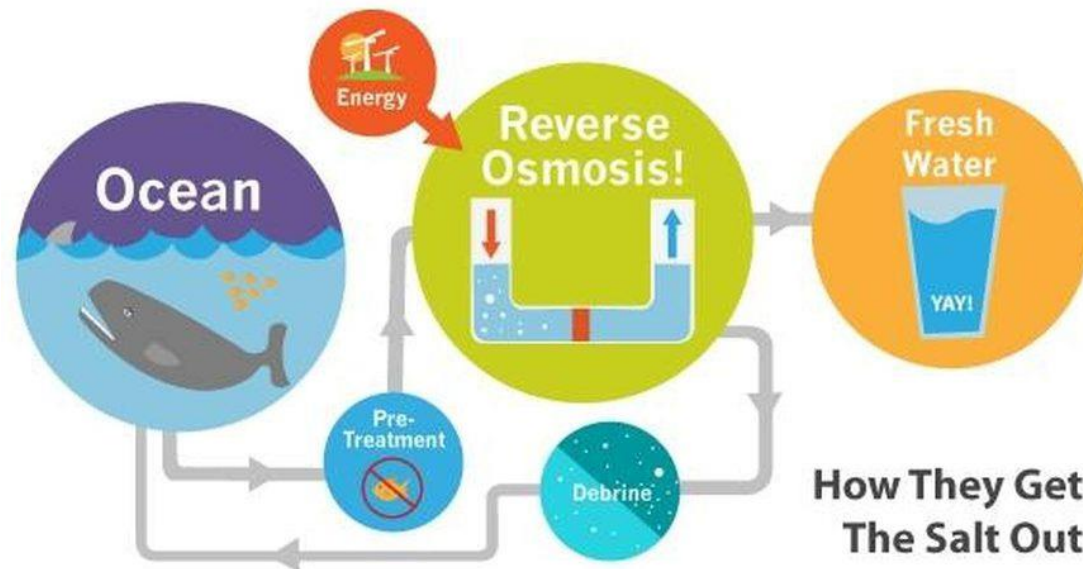
Mixture: two or more pure materials mixed together but not chemically combined



Relevance

Scientists study the properties of materials to know how substances mix with each other to invent new foods and drinks (such as Fanta!)

Scientists also invent ways to separate mixtures. Pure water can be extracted from seawater. It's even safe enough to drink it!



Skill Closure

Here are pictures of salt and salt water.
How are these two substances different?

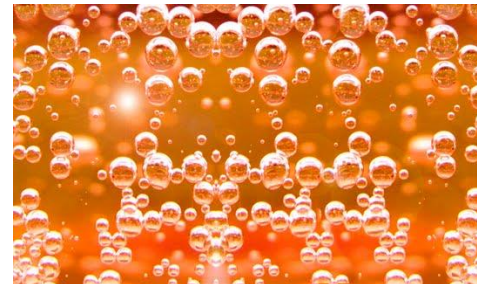


wiseGEEK

Skill Closure

Albert is inventing a new soft drink called Fantasia. He insists it is a pure substance because it is only made of sugar water.

Is Albert correct? Give a reason for your answer.



Reminder:

Pure: the material contains only one substance

Mixture: two or more pure materials mixed together but not chemically combined

Independent Practice

You are going to identify the substances in your tray as mixtures or pure substances. Write a list of the pure substances and a list of the mixtures in your notebooks. You may draw a table like the one below to help you. Add more rows if you need them.

Mixtures	Pure substances

Remember...

Pure: the material contains only one substance

Mixture: two or more pure materials mixed together but not chemically combined