Lesson: **Distance Learning**

Equipment: Power point
Work booklet

Safety:

Divide these into three groups, Elements, Compounds or Mixtures.

Elements	Compounds	Mixture

Tea

Lead

Air

Carbon Dioxide

Water

Milk and Cereal

Gold

Hydrogen Chloride

Justify your answers

Oxygen

Carbon

Sea Water

Answers

Elements	*Compounds*	*Mixtures*
Gold	*Carbon Dioxide*	*Tea*
Carbon	*Water*	*Milk and Cereal*
Oxygen	*Hydrogen Chloride*	*Sea Water*
Lead		*Air*

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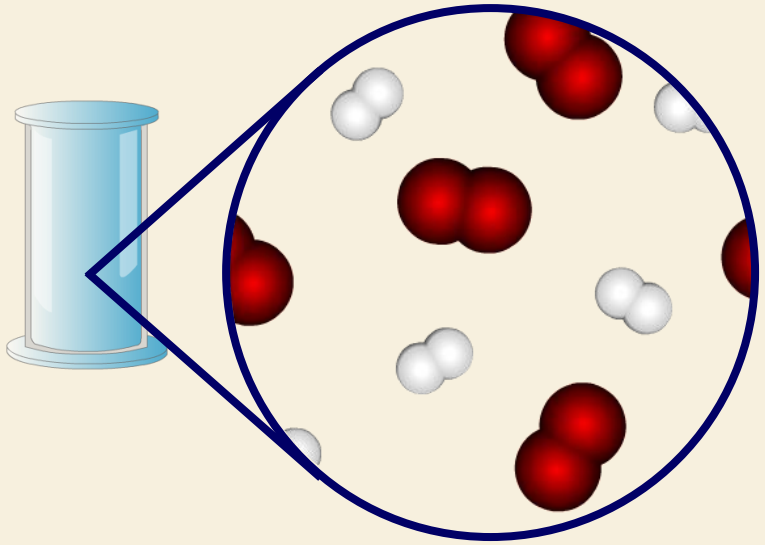
Learning Outcomes

Challenging: **Identify** compounds and mixtures.

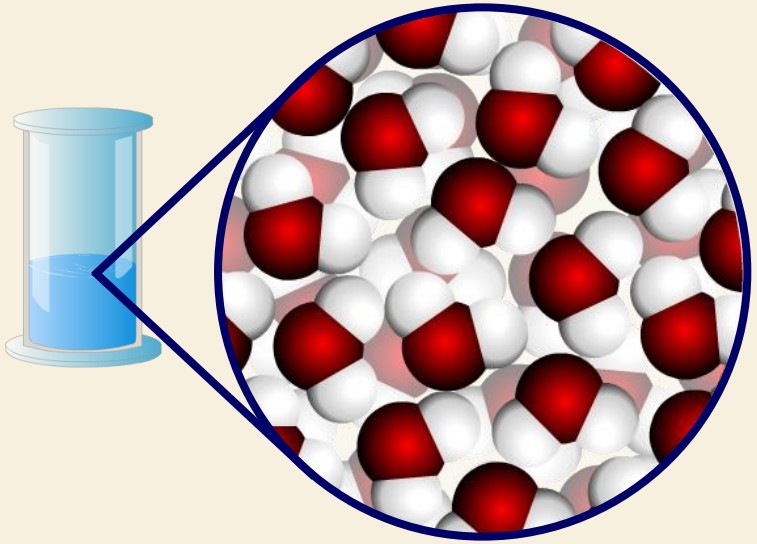
More Challenging: **Describe** the difference between mixtures and compounds.

Most Challenging: **Explain** the identifiers for the occurrence of a chemical reaction.

The atoms in a **mixture** of hydrogen gas and oxygen
gas, which have not reacted
with each other, look like this…



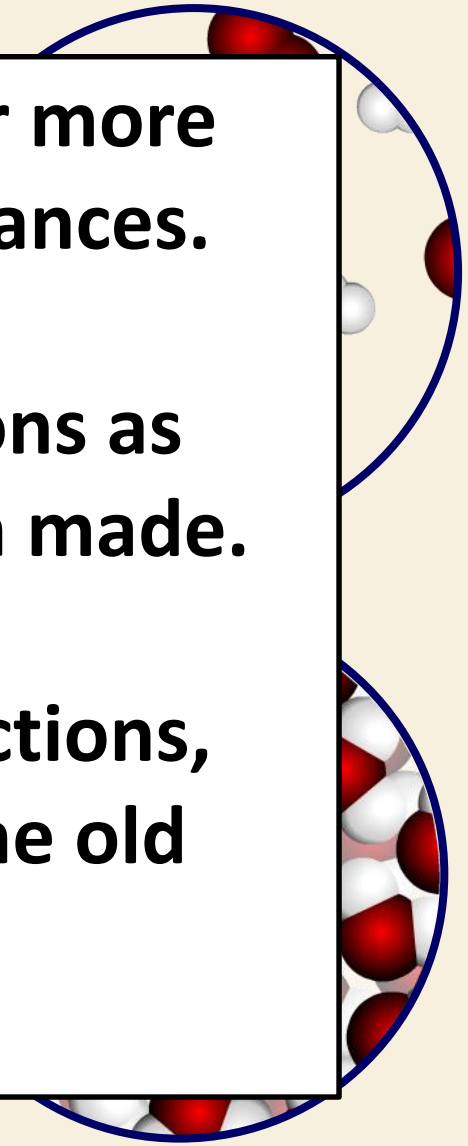
The atoms in water, the
compound made when hydrogen and oxygen react and their atoms become chemically bonded to each other, look like this…



Chemical reaction - is a change of one or more substances into one or more NEW substances.

Compounds come from chemical reactions as they are something new which has been made.

Mixtures don’t come from chemical reactions, because there isn’t anything new, just the old stuff mixed up!



Watch the video on the next slide-Note the observations before and after.

Appearance		Magnetic?	Separable?	Chemical Reaction?	Compound or Mixture
Before heating	Iron				
	sulfur				
After heating					

Watch this video

YSGOL CALON CYMRU

Fill in your table.

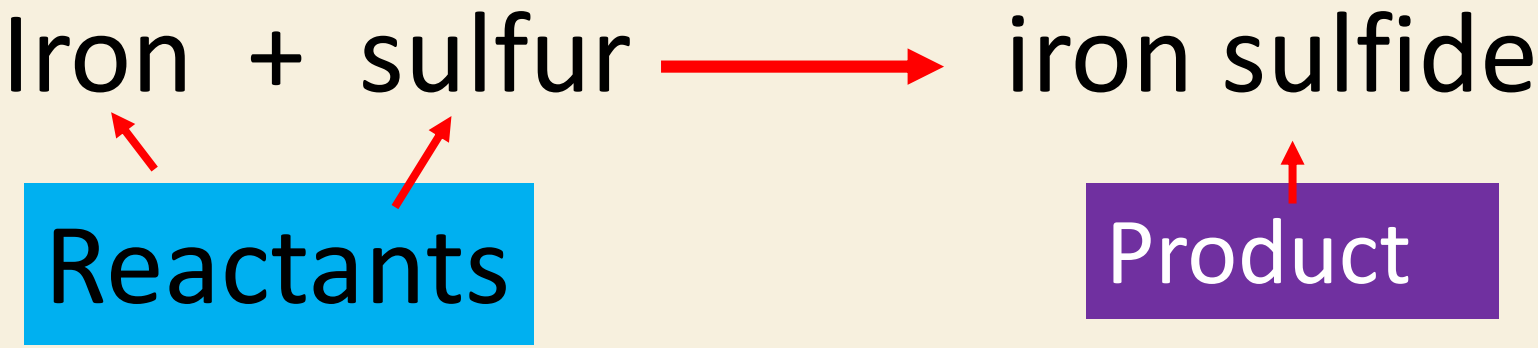
1) What are the two elements in this experiment?

2) How did they separate the mixture? And what property allowed it to be easily separated?

3) To make the elements react together what do you do?

4) Can you easily separate the compound.

Word equation for the reaction



Balanced symbol equation

$Fe + S \longrightarrow FeS$

Conclusion

Challenge	**Create** a conclusion, **stating** when it is a compound and when a mixture.
More Challenging	**Create a conclusion, link whether it is a compound and mixture and whether it is separable.**
Most Challenging	**Write a conclusion, link whether it is a compound and mixture and whether there has been a chemical reaction, when did this happen?**

Self Assessment

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EBI

Challenge	**Create** a conclusion, **stating** when it is a compound and when a mixture.
More Challenging	**Create** a conclusion, **link** whether it is a compound and mixture and whether it is separable.
Most Challenging	**Write** a conclusion, **link** whether it is a compound and mixture and whether there has been a chemical reaction, when did this happen?

Model Answer for Peer Assessment:

All: Before heating the Iron Filings and powdered Sulphur are a mixture.
After heating they are a compound. (2)

Most: The mixture was easy to separate.
The compound couldn't be separated. (2)

Some: When a mixture, there was no chemical reactions.
During heating there is a chemical reaction and it becomes a compound (Iron Sulphide). (2)

Plenary

Time:

Noise Level

Level	Assessment Task
Challenge	Q1. Ben tells his friend that his cup of tea is a mixture. Has he got it right? Explain.
More Challenge	Q2. Kristi tells his parents over dinner that a mixture like sea water is impossible to separate. Has he got it right? Explain.
Most Challanging	Q3. Michael thinks you could tell that a chemical reaction had occurred in the practical because it was no longer magnetic. Has she got it right? Explain.

Q1. Yes. Tea is a mixture of compound.

Q2. No. Mixtures are relatively easy to separate. Compounds are very hard to separate.

Q3. Yes. After a chemical reaction a new substance is formed so it can have new properties (like no longer being magnetic).

Peer Assess with a tick or a cross.