

# Reactivity

## Lesson 15 - Alloys

Chemistry - Key Stage 3

Miss Fenner



# Which is a property of metals?

Option 1

Most are solid at room temperature

Option 2

Most are liquid at room temperature



# Which is a property of metals?

Option 1

Usually soft

Option 2

Usually hard



Metals are good conductors of  
heat and electricity.



Metals are good conductors because they contain free electrons.



What does the word “malleable” mean?

**Can be bent and pressed into shape.**



# Why are metals malleable?

## Option 1

Metals are made of layers that can slide over each other.

## Option 2

Metals are soft and easy to bend.



# What does ductile mean?

Option 1

Can be made into a tile.

Option 2

Can be drawn into a wire.





# What does sonorous mean?

Option 1

Makes a loud sound when hit.

Option 2

Makes a ringing sound when hit.



# Independent Practice

Match each metal to the object they are best suited to making.

Copper is a very good conductor of electricity and ductile.

Church bell

Aluminium is very malleable.

Electrical wire

Brass is particularly sonorous.

Fork



# Independent Practice

Copper is a very good conductor of electricity and ductile.

Church bell

Aluminium is very malleable.

Electrical wire

Brass is particularly sonorous.

Fork



How many types of atoms is a pure metal made of?

Option 1

1

Option 2

At least 2



An alloy is a mixture of metals.



# Independent Practice

1. Define the term pure metal.
2. Give an example of a pure metal.
3. Define the term alloy.
4. Give an example of an alloy



# Independent Practice

1. A pure metal is a material made of atoms from just one type of metal.
2. An example of a pure metal is zinc or copper or iron or sodium etc.
3. An alloy is a mixture of elements, including at least one metal.
4. An example of an alloy is steel made from iron and tungsten.



# Independent Practice

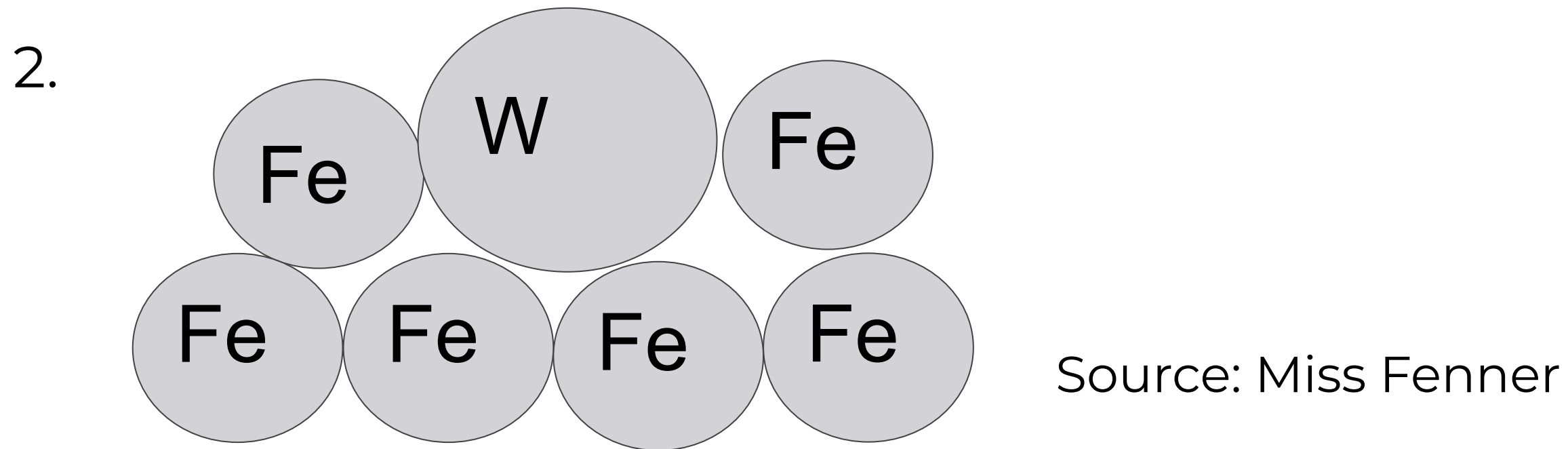
1. Give 3 ways alloys can be more useful than pure metals.
2. Draw an atom diagram of the alloy steel which is made of iron and tungsten.
3. Explain why steel is harder than iron.





# Independent Practice

1. Alloys can be stronger, more flexible and more corrosion resistant than pure metals.



3. Steel is harder than iron because it contains tungsten atoms which disrupts the layers in iron and makes it more difficult for the layers to slide over each other.

