## Reactivity Lesson 14 - Displacement

Chemistry - Key Stage 3

Miss Fenner



# Which is more reactive, magnesium or tin?

## Magnesium



# Which is more reactive, copper or iron?

#### Iron



# Which is more reactive, aluminium or calcium?

## Calcium



- 1. List the following metals from most to least reactive.
- Copper
- Magnesium
- Iron
- Tin
- Gold
- Sodium

2. How can you tell if a reaction is more vigorous?



- 1. List the following metals from most to least reactive.
- Sodium
- Magnesium
- Iron
- Tin
- Copper
- Gold
- 2. When a reaction is more vigorous it will produced lots of **bubbles** quickly, change **colour** rapidly, produce a large change in **temperature** and take place **quickly**.

### Will a reaction take place?

Iron + sodium oxide  $\rightarrow$ 

Option 1

#### Yes, absolutely, it will react!

Option 2

No, they can't react.



#### Will a reaction take place?

Tin + silver oxide  $\rightarrow$ 

Option 1 Yes, absolutely, it will react!

Option 2

No, they can't react.



### Will a reaction take place?

Aluminium + zinc oxide  $\rightarrow$ 

Option 1 Yes, absolutely, it will react!

Option 2

No, they can't react.



Sodium + lead chloride → <u>lead</u> + <u>sodium chloride</u>





Calcium + tin oxide → \_\_\_\_\_tin \_ + \_\_\_\_calcium oxide



#### Zinc + calcium fluoride → **NO REACTION!**



Copy and complete these reactions. If no reaction will take place, write "no reaction".

- 1. Lead + silver chloride→
- 2. Aluminium + sodium oxide →
- 3. Potassium + sodium fluoride →
- 4. Magnesium + zinc oxide →
- 5. Magnesium + calcium carbonate →



- 1. Lead + silver chloride→ silver + lead chloride
- 2. Aluminium + sodium oxide  $\rightarrow$  no reaction
- 3. Potassium + sodium fluoride → sodium + potassium fluoride
- 4. Magnesium + zinc oxide  $\rightarrow$  zinc + magnesium oxide
- 5. Magnesium + calcium carbonate  $\rightarrow$  no reaction



Write symbol equations for these reactions.

K<sup>+</sup> Na<sup>+</sup> F<sup>-</sup> Mg<sup>2+</sup> Zn<sup>2+</sup> O<sup>2-</sup> Pb<sup>2+</sup> Ag<sup>+</sup> Cl<sup>-</sup>

1. Potassium + sodium fluoride  $\rightarrow$  sodium + potassium fluoride

- 2. Magnesium + zinc oxide  $\rightarrow$  zinc + magnesium oxide
- 3. Lead + silver chloride→ silver + lead chloride
- 4. Sodium + magnesium oxide  $\rightarrow$  magnesium + sodium oxide



Write symbol equations for these reactions.

- 1.  $K + NaF \rightarrow Na + KF$
- 2. Mg + ZnO  $\rightarrow$  Zn + MgO
- 3.  $Pb + 2AgCI \rightarrow 2Ag + PbCI_2$
- 4.  $2Na + MgO \rightarrow Mg + Na_2O$

