WJEC (Eduqas) Chemistry GCSE

4 - The Periodic Table and Properties of Elements

Flashcards

How do the melting points of the alkali metals change as you go down the group?

How do the melting points of the alkali metals change as you go down the group?

Boiling points decrease going down the group

How do the alkali metals Li, Na and K react with water?

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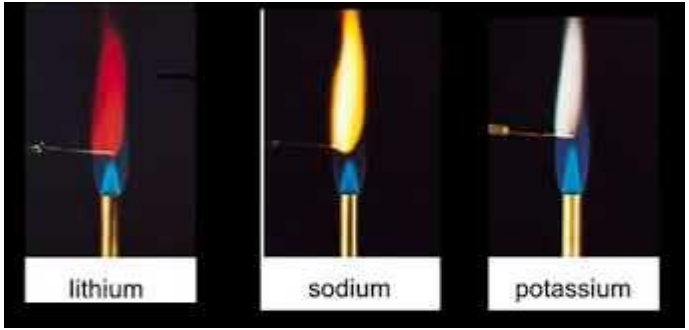
Lithium burns with a red flame

Sodium burns with a yellow-orange flame

Potassium burns with a lilac flame



How do alkali metals react with water?

How do alkali metals react with water?

They eact vigorously with water

They create metal hydroxide with an alkali solution and hydrogen gas

How does the reactivity of alkali metals change as you go down the group and why?

How does the reactivity of alkali metals change as you go down the group and why?

Increases going down the group

Outer electron becomes further from the nucleus and therefore there is less attraction between outer electron and nucleus. This means that the outer electron is lost more easily.

How does the boiling point of noble gases change as you go down the group?

How does the boiling point of noble gases change as you go down the group?

Boiling points increase going down the group

Explain the lack of reactivity of group 0 elements

Explain the lack of reactivity of group 0 elements

Group 0 elements have a full outer electron shell (8 electrons) and therefore are already stable without needing to form any ions.

How do the melting points of the halogens change as you go down the group?

How do the melting points of the halogens change as you go down the group?

Melting points increase as you go down the group

How does the reactivity of the halogens change as you go down the group and why?

How does the reactivity of the halogens change as you go down the group and why?

Reactivity decreases as you go down the group.

The outer shell becomes further from nucleus and electron shielding increases. Attraction between nucleus and outer electrons therefore decrease and electrons are not as easily gained.

Explain what will happen if chlorine reacts with potassium bromide

Explain what will happen if chlorine reacts with potassium bromide

Chlorine is more reactive than bromine and therefore will displace it in an aqueous solution.

Chlorine + potassium bromide → potassium chloride + bromine

What colour is the precipitate formed by chloride with nitric acid and silver nitrate?

What colour is the precipitate formed by chloride with nitric acid and silver nitrate?

White precipitate

What colour is the precipitate formed by bromide with nitric acid and silver nitrate?

What colour is the precipitate formed by bromide with nitric acid and silver nitrate?

Cream precipitate

What colour is the precipitate formed by iodine with nitric acid and silver nitrate?

What colour is the precipitate formed by iodine with nitric acid and silver nitrate?

Yellow precipitate

What is the colour of the flame of copper (II)?

What is the colour of the flame of copper (II)?

Green-blue flame

What is the colour of the flame of barium?

What is the colour of the flame of barium?

Pale green flame

What is the colour of the flame of calcium?

What is the colour of the flame of calcium?

Yellow-red flame

What is the test for hydrogen?

What is the test for hydrogen?

Creates a ‘squeaky pop’ when a burning splint is held at the end of a test tube

What is the test for oxygen?

What is the test for oxygen?

Oxygen relights a glowing splint

What is the test for chlorine?

What is the test for chlorine?

Damp litmus paper is bleached white

What are some properties of metals?

What are some properties of metals?

Shiny, good electrical conductors, highly dense, high melting points, lose electrons when they react

What are some properties of nonmetals?

What are some properties of nonmetals?

Dull, poor conductors, low in density, low melting points

Explain how transition metals differ from group 1 metals

Explain how transition metals differ from group 1 metals

Harder and stronger

Have higher melting points (except mercury) and higher densities

Less reactive - do not react as vigorously with oxygen or water

Name two uses of transition metals

Name two uses of transition metals

Catalyst

Iron can be used in the Haber process

What are the typical properties of transition metals?

What are the typical properties of transition metals?

Form ions with many different charges

Form coloured compounds

What are the benefits of instrumental methods of analysis (e.g. atomic absorption spectroscopy)?

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Quicker, more accurate, more sensitive

Explain the process of atomic absorption spectroscopy

Explain the process of atomic absorption spectroscopy

The sample being tested is vaporised and light is shone through it.

The atoms in the sample absorb specific frequencies of light and the remaining lights produces an absorption spectrum.

The spectrum created is therefore comparing it to a reference spectrum for known elements.