Chemical reactions colours and summary (Level 1) exam tips: Read these please!

• Recognise the different reactions, here are some tips…

**Combination:** Two or more substances react together to form a single NEW substance

**Decomposition** (both thermal and catalytic): 1 largish compound 🡪 2 or 3 smaller compounds

**Precipitation:** (aq) + (aq) 🡪 (s) + (aq) the solid is the precipitate

**Displacement:** A more reactive metal displaces another less reactive metal from a solution

 You don’t need to learn the colours of atoms and ions as they are provided to you on the

NZQA Resource sheet, be sure to familiarise yourself with this.

 Learn the **additional colours** as shown below

**Atoms**

|  |  |  |  |
| --- | --- | --- | --- |
| Mg, Zn, Fe | S | C | Cu |
| grey colour | yellow | black | pink-brown |

**Ions in solution (aq)**

|  |  |  |
| --- | --- | --- |
| Cu2+ in chloride | Fe3+ | most others |
| blue green | pale orange | colourless |

**Solids (s)**

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| FeS & FeO & CuO  & MnO2 (catalyst) | CuCO3 | Cu(OH)2 | PbO or PbCO3 (hot) | ZnO  (hot) | ZnO (cold) | most others |
| black | green | blue  and gelatinous  (as a precipitate) | yellow | yellow | white | white |

**Molecules**

|  |  |
| --- | --- |
| Cl2 gas | H2O |
| pale yellow green gas | colourless |

**• Positive tests**

**water:** cobalt chloride paper turns from a **blue** to a **pink** colour

**carbon dioxide:** bubble the gas into limewater, the limewater turns from colourless to a cloudy colour

**hydrogen gas:** will ignite with a squeaky “pop” when a lit splint is brought close to it

**oxygen gas:** will relight a glowing splint

To achieve with Excellence

When asked to compare/contrast (similarities/differences) you must use linking words

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Sentence starter** | **linking words** |  | **Sentence starter** | **linking words** |
| A similarity is….  Another similarity is… | similarly  as with  in the same way  likewise  equally |  | A difference is…  Another difference is… | whereas  alternatively  otherwise  conversely  however  on the other hand  although |

**Also…”don’t be daft”**

So, if the question asks for observations, provide them! Both initial and final

“Iron is silver" is NON-SENSICAL, a correct statement is "iron metal has a silver/grey COLOUR"

Sulphur burns with a blue flame

Magnesium burns with a bright, white light

Never, EVER clear, if there is no colour, then write COLOURLESS

As regards observations, bubbling is the SAME as fizzing which is the SAME as effervescence

Don’t say, you see “bubbles of carbon dioxide” but you see “bubbles of a colourless gas”

RTQ2 read the question twice

<http://www.chemical-minds.com>