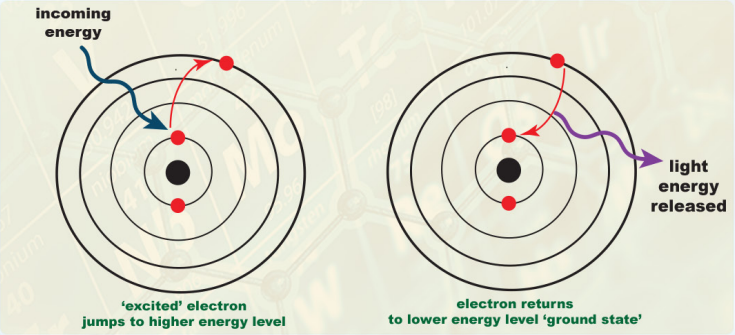
MODULE 1 FLAME TEST

ATOMIC STRUCTURE

- The Bohr model can explain flame test colours (on a basic level)
- Colours are produced as wavelengths of light are released when 'excited' electrons return to their ground state.
- Different return distances cause different coloured wavelengths that are SPECIFIC to an atom / element.



Syllabus statement:

* investigate energy levels in atoms and ions through:
– collecting primary data from a flame test using different ionic solutions of metals

Video in course 6.6, 6.7

- Calcium ions give a yellow red colour when electrons return to their 'ground' state

Syllabus statement:
* investigate energy levels in atoms and ions through:
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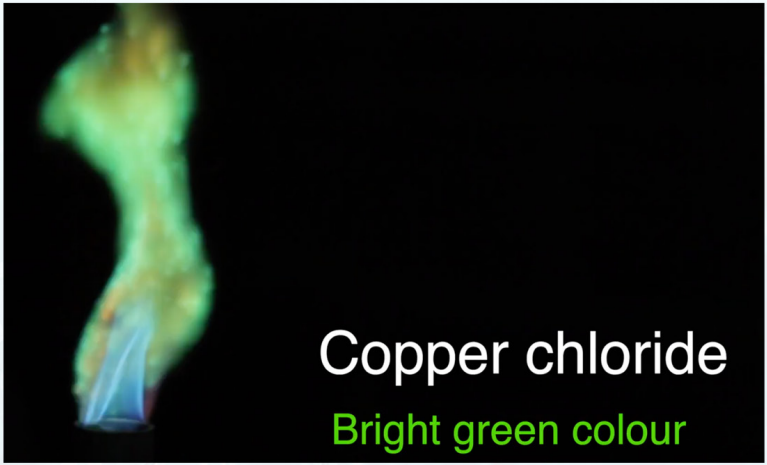
Video in course
6.6, 6.7

MODULE 1

FLAME TEST ANALYSIS

- Copper ions give a green colour when electrons return to their 'ground' state



Syllabus statement:

* investigate energy levels in atoms and ions through:
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Video in course
6.6, 6.7

- **Potassium** ions give a **lilac colour** when electrons return to their 'ground' state

Syllabus statement:
* investigate energy levels in atoms and ions through:
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Video in course
6.6, 6.7

MODULE 1

FLAME TEST ANALYSIS

- Sodium ions give a yellow colour when electrons return to their 'ground' state

Syllabus statement:

* investigate energy levels in atoms and ions through:
  – collecting primary data from a flame test using different ionic solutions of metals

Video in course
6.6, 6.7

FLAME TEST ANALYSIS

- Strontium ions give a red colour when electrons return to their 'ground' state

Syllabus statement:
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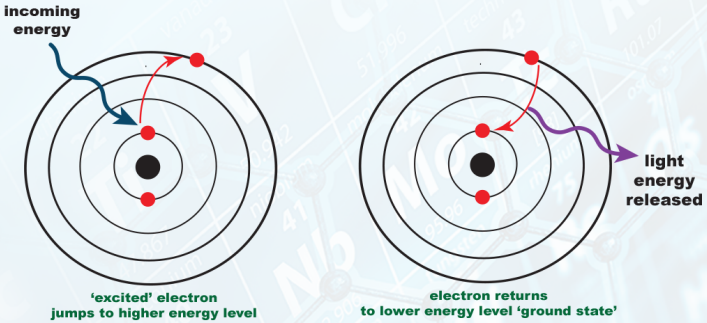
Video in course
6.6, 6.7

MODULE 1 FLAME TEST

SPECTRAL EVIDENCE

- Flame tests can identify a metal ion by its colour.
- If a spectroscope is used, the light can be analised into an 'emission spectra'
- This spectra shows each wavelength as a coloured line. It is like a chemical fingerprint of an element due to be characteristic to a specific atomic structure.



Helium

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Video in course 6.6, 6.7