Metal ion flame test colours

COMPOUND INTEREST

(Note: the metal ions shown on the bottom row have flame colours that are faint and difficult to distinguish)

A flame test is an analytical procedure chemists use to detect the presence of particular metal ions, based on the colour of the flame produced. When heated, the electrons in the metal ion gain energy and can jump into higher energy levels. Because this is energetically unstable, the electrons tend to fall back down to where they were before, releasing energy as they do so. This energy is released as light energy. As the differences between energy levels varies from one metal ion to another, different metal ions give different characteristic colours.