

Forensic tests 1

Before you answer the puzzle below fill in the table of colours for the flame tests of four metals.

| Metal | Colour of flame test | lon |
|-------|----------------------|------------------|
| | | Na ⁺ |
| | lilac (purple) | K ⁺ |
| | brick red | |
| | | Ba ²⁺ |

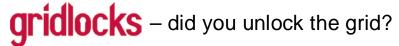
Gridlock 1

Each row, column and 2 x 2 box contains information about each of the four metals and their flame tests. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

| metal | | colour of flame test | |
|-----------|------------|----------------------|---------|
| potassium | | | |
| | | green | |
| | | Na ⁺ | |
| | brick red | | |
| colour of | flame test | cation f | formula |







Gridlock 2

Before you answer the puzzle below fill in the table of hydroxide precipitates of cations.

| Name | Colour of ppt when NaOH(aq) is added | Cation formula | Ppt formed |
|------------|--------------------------------------|------------------|---------------------|
| copper(II) | | Cu ²⁺ | Cu(OH) ₂ |
| iron(II) | | Fe ²⁺ | Fe(OH) ₂ |
| iron(III) | | | Fe(OH) ₃ |
| aluminium | | Al³+ | |

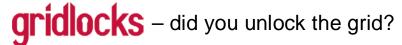
Gridlock 3

Each row, column and 2 x 2 box contains information about each of the four metals and their hydroxide precipitates Use your problem solving skills and the answers in the table above to fill in the blank boxes.

| name | | colour of ppt when NaOH(aq) is added | |
|----------|------------------|--------------------------------------|---------|
| iron(II) | | | blue |
| | | | |
| | Fe ³⁺ | | Al(OH)₃ |
| | | | |
| form | nula | ppt fo | rmed |







Forensic tests 1 – answers

Before you answer the puzzle below fill in the table of colours for the flame tests of four metals.

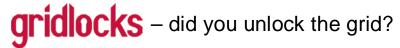
| Metal | Colour of flame test | lon |
|-----------|----------------------|------------------|
| sodium | orange | Na ⁺ |
| potassium | lilac (purple) | K ⁺ |
| calcium | brick red | Ca ²⁺ |
| barium | green | Ba ²⁺ |

Puzzle 1 - answers

Each row, column and 2 x 2 box contains information about each of the four metals and their flame tests. Use your problem solving skills and the answers in the table above to fill in the blank boxes.

| metal | | colour of flame test | |
|----------------------|----------------|----------------------|------------------|
| potassium | barium | brick red | orange |
| calcium | sodium | green | lilac (purple) |
| green | lilac (purple) | Na⁺ | Ca ²⁺ |
| orange | brick red | K ⁺ | Ba ²⁺ |
| colour of flame test | | ion | |





Puzzle 2 - answers

Before you answer the puzzle below fill in the table of hydroxide precipitates of cations.

| Name | Colour of ppt when NaOH(aq) is added | Cation formula | Ppt formed |
|------------|--------------------------------------|------------------|---------------------|
| copper(II) | blue | Cu ²⁺ | Cu(OH) ₂ |
| iron(II) | white or pale green | Fe ²⁺ | Fe(OH) ₂ |
| iron(III) | orange-brown | Fe ³⁺ | Fe(OH) ₃ |
| aluminium | white | Al³+ | Al(OH)₃ |

Puzzle 3 - answers

Each row, column and 2 x 2 box contains information about each of the four metals and their hydroxide precipitates Use your problem solving skills and the answers in the table above to fill in the blank boxes.

| name | | colour of ppt when NaOH(aq) is added | |
|------------------|------------------|--------------------------------------|---------------------|
| iron(II) | aluminium | orange-brown | blue |
| iron(III) | copper(II) | white | white or pale green |
| Cu ²⁺ | Fe ³⁺ | Fe(OH) ₂ | Al(OH)₃ |
| Al ³⁺ | Fe ²⁺ | Cu(OH) ₂ | Fe(OH) ₃ |
| cation formula | | ppt fo | rmed |



