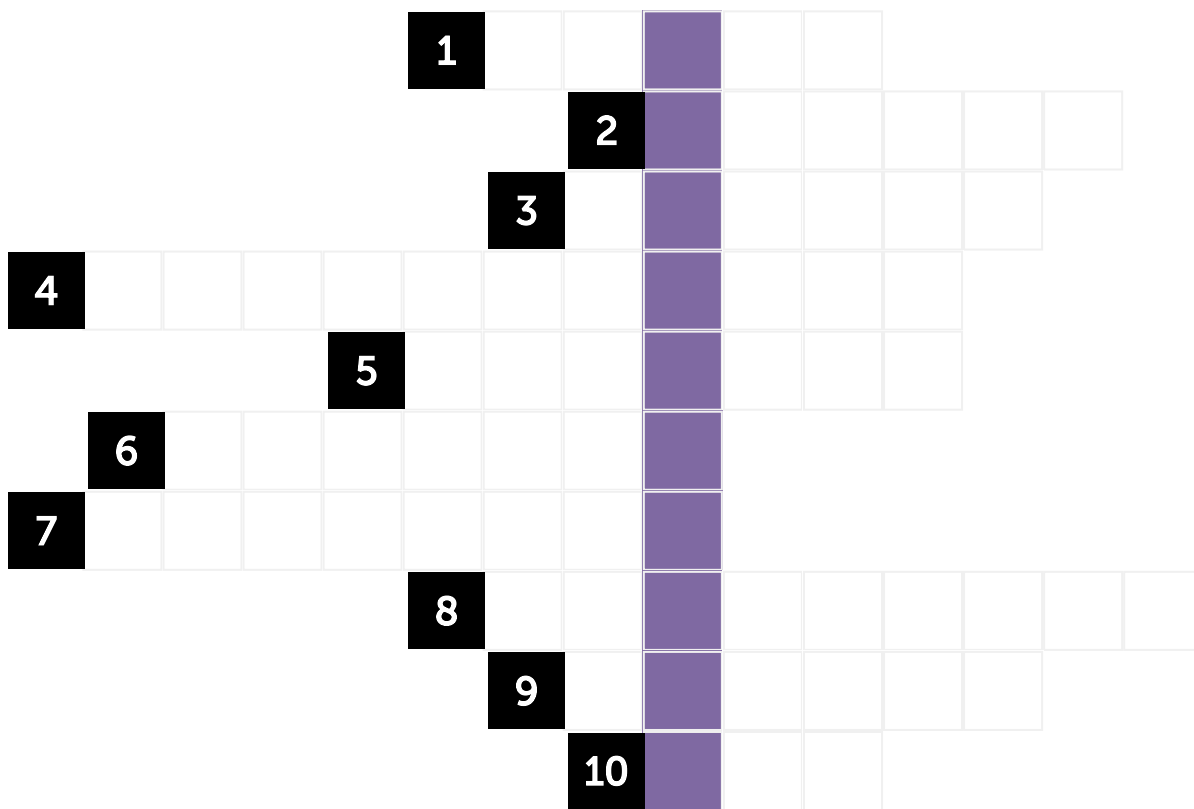


P	R	V	A	N	T	D	A	V	P	P	L	T	O	N
J	T	Q	E	C	Z	N	D	K	R	D	Q	S	N	U
F	T	D	K	E	I	I	U	U	E	V	L	P	O	A
L	V	D	M	O	O	R	G	D	C	F	L	W	C	P
A	Z	F	N	N	M	E	F	G	I	L	A	M	Y	T
C	J	S	S	M	R	T	L	T	P	A	T	Y	B	E
I	Z	S	V	O	I	E	I	W	I	M	N	T	M	S
T	R	N	S	M	L	M	I	B	T	E	E	S	U	W
Y	T	O	U	E	S	O	P	T	A	T	M	H	R	O
L	U	I	A	T	L	T	P	E	T	E	U	F	T	Q
A	I	T	B	A	T	O	B	L	I	S	R	Z	C	K
N	T	A	P	L	L	H	Q	M	O	T	T	Z	E	F
A	I	C	T	Y	T	P	Q	R	N	R	S	R	P	V
B	W	U	Y	M	L	N	O	F	W	V	N	P	S	Z
I	U	O	E	F	K	V	X	H	J	B	I	S	L	S

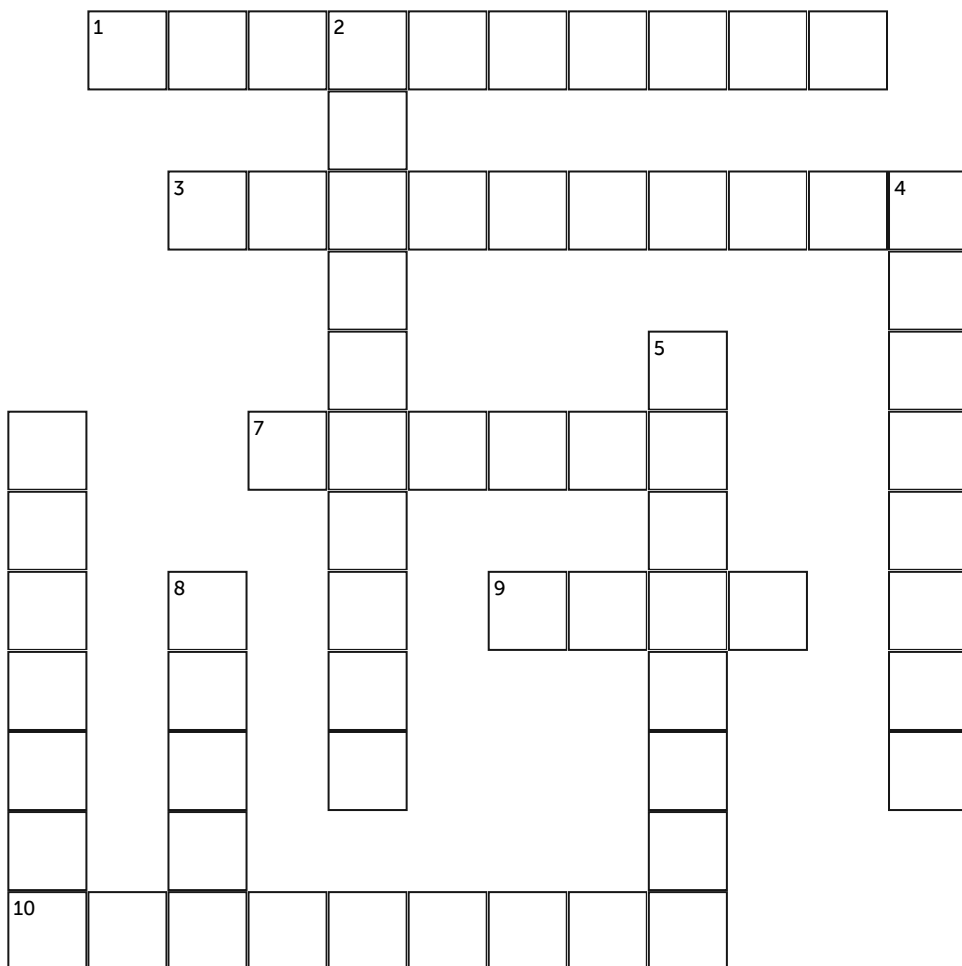
### HINTS

flametest    ions    cations    anions    precipitation    instrumental    photometer  
spectrum    analytical    metal



### HINTS

- 1 Advantage to instrumental methods
- 2 You test for these ions using silver nitrate
- 3 Flame test: Ion produces a blue green colour
- 4 Flame photometer readings can be used to plot a \_\_\_\_\_ curve
- 5 Cation test: turns damp, red litmus paper - blue
- 6 Flame test: Ion produces a orange red colour
- 7 \_\_\_\_\_ test result for sulfate ions produces a white precipitate
- 8 Flame test: on produces a lilac colour
- 9 Flame test: Sodium ions
- 10 Flame test: Lithium ions



1	2	3	4	5	6	7	8	9	10	11	12	13
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### ACROSS

- 1** Used if there is a mixture of ions, one colour may be covered up by another in a flame test.
- 3** This ion test involves heating metal ions to produce colours
- 7** Acid used in the first step of testing for halides
- 9** Colour of precipitate of copper(II) ions using NaOHH
- 10** Advantage of instrumental methods

### DOWN

- 2** The type of metals that produced coloured ions
- 4** Every element has its own specific set of wavelengths, so every pattern is unique (can be thought of as an element's 'fingerprint')
- 5** Advantage of instrumental methods
- 6** The types of ions that metals form
- 8** Colour of precipitate of iron(III) ions using NaOHH