

January 2019 wordoku

		I	N		E		U		E
	O						S	T	I
	R	T	S	I			M		M
O		R	E				I		N
			M	O			R		O
E	I			R				O	R
T		S	O	N					S
					T	E	S		T
	M	N	U					R	U

Solve this wordoku in the same way as a sudoku with letters instead of numbers (each of the nine letters in each row, column and nine-square cell). Once solved, one of the overall diagonals can be rearranged into the name of a chemical element with Scottish connections.

January 2019 word grid

U	Nd	Es
Ti	Ti	I
C	Co	V

Prize entry: Using each element symbol in the grid only once, combine them together to make a single word of 14 letters.

Word.....

Just for fun: Construct as many other words as you can using a minimum of three symbols, and each symbol only once.
 6 words: OK
 9 words: Good
 12+ words: Excellent

January 2019 crossword

1		2		3		4		5	6		7		8
							9						
10									11				
12						13							
14	15					16				17			
									18				
19						20							
						21							
22								23		24		25	
26						27							
28								29					

January 2019 science scramble

New prize entry puzzle: Similar to a word ladder, each answer provides letters that must appear - including duplicates - in the answer immediately following it. The puzzle's final answer is a scientist or someone who contributed to science.

For example:

- 1 sail
- 2 snail
- 3 saline
- 4 minerals
- 5 Neil Armstrong

Entry form

There are four prize puzzles on this page: crossword (cryptic answers only); wordoku; science scramble; and word grid. For each puzzle, a winner will be selected from all the correct entries received and awarded a £25 book voucher.

You can enter any or all of the prize draws, but each entrant is only eligible to win one of the individual puzzle prizes each month.

Please enter your details below and either post or email this page with your completed entries to us by **20 January 2019**. The winners of this month's puzzles will be published in the February 2018 issue, along with the solutions.

Chemistry World puzzles, Royal Society of Chemistry, Thomas Graham House, Science Park, Milton Road, Cambridge, CB4 0WF, UK
 Email: chemistryworld@rsc.org

Name

Address

Participants are advised that any personal information supplied will be processed in connection with this competition and only in accordance with our privacy statement (www.chemistryworld.com/privacy).

1 _____

Biomolecule whose structure 5 helped elucidate (3)

2 _____

British princess (5)

3 _____

US State (7)

4 _____

Composition of Jean Sibelius (9)

5 _____

English chemist and x-ray crystallographer (8, 8)

Cryptic (prize entry)

Across

- 1 Metal drum I constructed in Beirut oddly (8)
- 5 Read about extremely lovelorn physicist (6)
- 10 Dance around goal with many sides (9)
- 11 March around for a spell? (5)
- 12 Bouncer carrying a little weight (5)
- 13 Knowing nothing initially about coatings (9)
- 14 The extremely youthful there surprisingly solvent (5, 5)
- 17 Stray right off but remain? (4)
- 19 Cross about shortened Ames test? (4)
- 20 Cry pax and bury the hatchet before Margot returns? It's a puzzle! (10)
- 22 Bacterium in colon is Erysipelothrix? (9)
- 24 Inside festering compound (5)
- 26 Physicist began proposing an unwelcome local initiative (5)
- 27 Extremely anxious, go around humid capital (9)
- 28 Reportedly get rid of winter transport (6)
- 29 Pressing prime minister? (4, 4)

Down

- 1 Precede a soloist playing astronomical instruments (5, 10)
- 2 See 23 down
- 3 Cooked egg oddly with determination (8)
- 4 Porous nickel containing acid (5)
- 6 I play endless Cluedo with mathematician (6)
- 7 Altar base-reconstituted mineral (9)
- 8 Hermit crudely upsets my compound (8, 7)
- 9 French beach has reconstructed spoil tip (4, 4)
- 15 House deal surprisingly leads to scratching of heads? (4, 5)
- 16 Sort of storm heading east that is tedious (8)
- 18 Somehow poisoned god (8)
- 21 Palaeontologist planning to ignore old record (6)
- 23, 2 Down Philosopher rang Rob about odd chore (5, 5)
- 25 Tales about an electric car (5)

Quick (just for fun)

Across

- 1, 17 Across Å (8, 4)
- 5 Frozen area at the poles (3, 3)
- 10 Person suffering from a disorder of the nervous system (9)
- 11 Character in *Wind in the Willows* (5)
- 12 First programmable general-purpose electronic digital computer built in the US during the second world war (5)
- 13 Bigfoot (9)
- 14 High social class or lithosphere (5, 5)
- 17 See 1 Across
- 19 One way of administering medicine (4)
- 20 Result of extreme tectonic movement (10)
- 22 Openings (9)
- 24 He²⁺ when applied to a particle (5)
- 26 Saltpeter KNO₃ (5)
- 27 Where Henry Moseley, English physicist was killed in 1915 (9)
- 28, 18 Down Important relationship in electrochemistry named after a German chemist (6, 8)
- 29 Causing fracture (8)

Down

- 1 American astronomer instrumental in stellar classification who has an award named after her (5, 4, 6)
- 2 Spanish architect, perhaps best known for his works in Barcelona (5)
- 3 Forty (8)
- 4 Gemstones that are hydrated amorphous forms of silica (5)
- 6 Element named after pioneers of radioactivity and discoverers of radium (6)
- 7 State of psychomotor immobility and also the name of a group headed by Cerys Matthews (9)
- 8 Shrink (15)
- 9 Board game with 32 pieces (5, 3)
- 15 Artificial fibre often used in fabrics (9)
- 16 Song by group in 7 Down (4, 4)
- 18 See 28 Across
- 21 Compounds which contain an oxygen atom connected to two alkyl or aryl groups (6)
- 23 Concerning the sun (5)
- 25 Validate (5)

December 2018 solutions and winners

Solutions to last month's puzzles and December's winners can be found on page 63.

On the spot



Answer to On the spot

Don't panic! Modern gas safety systems are designed to isolate the supply in the event of a power outage. The building services team should be able to confirm this. The smell is probably a common solvent. Even an experienced chemist would struggle to identify most chemicals by smell; a layperson might easily misidentify solvent vapours as a gas leak. During a power cut, ventilation systems aren't functioning and solvent smell is likely to seep out. Since many safety systems aren't working either, the building should be evacuated.

Charles Harrison is a safety adviser at a UK university.

Featured product Parallel reaction station with simple sampling

The DrySyn Octo Mini conversion kit from Asynt enables chemists to efficiently sample reactions performed using the DrySyn Octo 8-position parallel synthesiser. The new Mini conversion kit quickly adapts a standard DrySyn Octo unit for use with shorter length reaction tubes, enabling faster reaction sampling with disposable needles. Therefore, using the conversion kit, a standard DrySyn Octo can



provide a simple solution for both sampling and reflux applications.
www.asynt.com/product/drysyn-octo-mini-conversion-kit

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December 2018 puzzles: solutions and winners

Cryptic elements crossword

H	Er	O	In	As	S	As	S	I	N	S	W	Al	La	Ce	C	Ar	O	Th	Er	S		
O	P	U	U	U	U	O					P				Ra		Ir		Y			
P	O	Ti	O	N	B	U	C	H	N	Er	C	In	C	H	O	N	I	D	I	Ne		
K		O	D	S	C		F	I	I					Ge		La		Re				
In	Si	N	C	Er	I	T	I	Es		I	O	N	O	S	P	He	Re		Ne	W	T	S
S		S	S	At	S		C	C	Ts	Xe	B			O						I		
		S	H	Og	I		I	N	T	Ag	Li	O		Bi	N	D	I		F	Ir	S	
C		B	Er	O	O		I	Na	Po	Es	O			Mo								
O	B	La	T	I	O	N		N	O	O	N	T	I	D	Es	S	T	Ra	Ti	F	Y	
N		I	O	F						N	I	O	D		I		O					
Se	N	Se	O	F	T	O	U	C	H	Pr	O	Se	C	C	O		N	Er	N	S	T	Er
N					U	Am	K	N	Am	D												
S	U	P	I	Ne	S	Ti	P	U	La	Te	Am	P	H	O	T	Er	I	C	In	B		
U		O	W	Ts	Si	U	S							W		O						
S	W	I	F	T	S		S	T	Re	S	S	Te	S	T	S	T	I	B	N	I	Te	
		S	O	S	Es	F	Re	O		U		N		Es	S							
Ru	In	S		N	I	T	Re	S	U	D	O	K	U	P	As	C	Al					
S		O	S	Er	C	C	S	C		Er	H	Sc	As									
Se	Co	N	D	Mo	N	O	Li	T	H	I	C	H	I	P	P	Ar	C	H	U	S		
T		S	B				N	S	O	I	O		Gs	I								
S	T	Ra	T	Os	P	H	Er	I	C	C	P	S	N	O	W	F	La	S	K	S		
Ca		Ti	S			C				I	Es	Er	F	T	T							
B	I	O	S	Y	N	T	He	S	Es	Ba	C	K	S	La	S	H	U	S	Er	S		

Quick crossword

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

December winners

Cryptic elements crossword
Ben Hanby, Rugby UK

Quick crossword
Lynn Nickerson, Harwell, UK