

July 2019 wordoku

	I			M			T	
T	C				E	A		
						I		
		T	H				S	I
			S					
		M	I				A	H
						E		
C	M				T	S		
	E			S			H	

A
C
E
F
H
I
M
S
T

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 surname of an Italian chemist, known for their work on environmental pollutants.

July 2019 word grid

B	U	N
Li	P	I
C	O	At

Prize entry: Using each element symbol in the grid only once, combine them together to make a single word of 12 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

July 2019 crossword

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

July 2019 science scramble

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 July 2019**. The winners of this month's puzzles will be published in the August 2019 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	Vehicle (3)
2	Human group (4)
3	Units of area (5)
4	Lotions (6)
5	Cried out (8)
6	Greek polymath (10)

Cryptic (prize entry)

Across

- 1 Either way, it's a pop group (4)
 4 Given mixed salad with zinc supplement? (10)
 9 Privy hums around hardy chemist (3, 7, 4)
 10 A nomad sour about migrating? (10)
 11 Clean out of new ashtrays (4)
 12 In Paris, father follows assembly member to current unit (6)
 14 Doc's role to treat infection? (4, 4)
 15 U2 melt it playing metal (8)
 17 Pharaoh chopped chops with initial ease (6)
 18 Not even treatise returned without alteration (4)
 19 Yup, a hornet recreated nerve damage (10)
 21 Somehow odd geezer invents brew for physicist (6, 8)
 23 Dreamt about feasts and Indian leader (10)
 24 Band left out Slash? (4)

Down

- 2 See 20 Down
 3 Downsizing bad regiment abroad (11)
 4 Sugar glues small company manufactured (7)
 5 Perhaps parcel up most top processors? (6, 9)
 6 Axl Rose not cross about Bono's second suspension (7)
 7 Bomb originally in embassy's dustbin (3)
 8 Listen to roof fall? (9)
 11 Surprisingly swears at wet discharges (11)
 13 Volcano transformed one mutant (5, 4)
 16 Stretch some winning sides (7)
 17 Hit it on the head? (7)
 20, 2 Down Something particular bossing hog around (5, 5)
 22 Check out horse-doctor (3)

Quick (just for fun)

Across

- 1 Type of pollution that after a big outbreak in London in 1952 led to the Clean Air Act 1956 (4)
 4 Evaporimeters (10)
 9 Laboratory solvent (9, 5)
 10 Proposition (10)
 11 Birthplace of Enrico Fermi (4)
 12 Vomiting (6)
 14 Retorts once used for distillation (8)
 15 Attacker (8)
 17 Force per unit surface (as in Young's Modulus equation) (6)
 18 Be adjacent to (4)
 19 Mathematician and polymath who coined the term 'fractal' (10)
 21 C_4H_8O (14)
 23 Peptide that causes blood vessels to dilate (10)
 24 Test (4)

Down

- 2 Soiled (5)
 3 R as in $PV=nRT$ (3, 8)
 4 Gets off (7)
 5 Experimental particle physicist whose team proved the existence of the top quark in 1995 (7, 8)
 6 Dressmaker (7)
 7 Beverage (3)
 8 Bulrushes (9)
 11 Author of *The Sceptical Chymist* (6, 5)
 13 German physicist who has a type of spectroscopy named after him (9)
 16 French naturalist and early proponent of evolution (7)
 17 Illicit bar (7)
 20 Greek letter (5)
 22 Type of gas chromatography detector (abbrev) (3)

June 2019 solutions and winners

Cryptic elements (prize entry)

S	H	O	W	Ca	Se	U	N	D	Er	S	Co	Re	S		
Er	Ti	Pr	H	Ag	Ne	U	I	C							
F	I	C	T	I	Ti	O	U	S	S	O	N	I	C		
			C		T				T		T		K		
U	N	D	O	C	K	S		C	O	O	P	Er	At	Es	
S			I		I		Po		Al			C		T	
Er	N	S	T	O	T	T	O	F	I	S	C	H	Er		
S		T	S					T		E			He		
	N	I	C	O	La	U	S	Co	P	Er	Ni	C	U	S	
P		N			Rn		N		N		K		Si		
Ar	Ti	C	U	La	Te	S		C	Er	U	S	S	I	Te	
O		Ti	W				I		Ta						
D	I	O	Pt	Re			P	O	S	I	Ti	V	I	T	Y
I		N	N		Er		Er		O		O		Am		
C	Ru	S	Ta	Ce	O	U	S		Co	N	Te	N	T	S	

Quick (just for fun)

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

Wordoku

The name of the chemical element was YTTERRBIUM

Word grid

The nine-symbol word was REVOLUTIONISE

Science scramble

- Lap
- Alps
- Panels
- Planets
- Elephants
- Stephanie Kwolek

June winners

Science scramble
F J Peachey
Clacton-on-Sea, UK

Wordoku

Ian Burns
Huntingdon, UK

Word grid

Michael McCorkindale
Hebburn, UK

Crossword

Katie Bell
Whitehaven, UK

Wristband winner

John Applegarth
Kenilworth, UK

Charles Harrison is a safety adviser at a UK university. When restrictions on transporting chemicals allow for them to be moved in a normal vehicle, good practice should be followed such as travelling with the rear windows open. He should stop the car safely as soon as possible, and open the windows or doors to let in fresh air. It is likely that the dry ice, solid carbon dioxide, has started to sublime; the resulting change to the atmosphere is causing his drowsiness. It is important to consider ventilation when transporting any cryogen. The ideal mode of transport is a vehicle with a separate cab. Even

Answer to On the spot

On the spot

