

April 2021 wordoku

					A			
I	Z			E			T	
E				T		Z		
		T			I		Z	R
			A	K		S		
		Z			S		I	E
Z				A		Y		
S	A			Z			R	
					R			

A
E
I
K
R
S
T
Y
Z

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 to give the name of a reaction mentioned in a recent issue of *Chemistry World*, in which primary amines are converted into pyridinium salts.

April 2021 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								30					

Entry form

There are four prize puzzles on this page: cryptic crossword; quick crossword; wordoku; and science scramble. For each puzzle, a winner will be selected from all the correct entries received and awarded a £25 UK 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 email a scan or photograph of this page with your completed entries to us by **20 April 2021**. The winners of this month's puzzles will be published in the May 2021 issue, along with the solutions.

Email: chemistryworld@rsc.org

Name

Address

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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).

April 2021 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

Ratio of a circle's circumference to diameter (2)

Greek letter found in the Schrödinger equation (3)

Pastries (4)

Tubes (5)

Neurological disorder (8)

Discoverer of 'dephlogisticated air' (6, 9)

Cryptic

- Across**
- 10 **Across** China's shivery nerd upset English natural philosopher (3, 5, 9)
 - 5, 3 **Down** Physicist enables nitrite transformation (6, 8)
 - 10 See 1 **Across**
 - 11 Plot about first unusual heavenly body (5)
 - 12 Throw towel around young bird (5)
 - 13 Con racist into drugs (9)
 - 14 Mendeleev's prediction: new coins alike (3-7)
 - 17 Oddly ignored Croatian weather (4)
 - 19 Pure torture now and again (4)
 - 20 Let wastrel upset the market (4, 6)
 - 23 No reduction cross about India too (9)
 - 25 Pure energy converted to cash (5)
 - 27 Dim idea has substance (5)
 - 28 Modified fluid line cancelled (9)
 - 29 Supremo mentioned a little point in time (6)
 - 30 Heat? Ha, plenty surprisingly! (8)

- Down**
- 1 Courses about sugar (7)
 - 2 Some brave little composer (5)
 - 3 See 5 **Across**
 - 4 Rule 17 **Across** by the sounds of it (5)
 - 6 Reportedly jumped on something particular (6)
 - 7 Clarify deal cutie confused (9)
 - 8 Oscar arranged months for physicist (7)
 - 9 Cleaner black stuff for the barbeque? (8)
 - 15 You can call me Al (but not in the US!) (9)
 - 16 Latin is a creation of these people (8)
 - 18 Right about fastish sea creature (8)
 - 19 Metal thrum I love to recreate (7)
 - 21 Sea duty abroad for 24 hours in the week (7)
 - 22 On arrangement carve Santa's third grotto (6)
 - 24 Loony Londoner concealing fabric (5)
 - 26 Small bottle discovered in Delphi alley (5)

Quick

- Across**
- 1 Element also known as wolfram (8)
 - 5, 2 **Down** Nobel prize-winning polymer chemist (7, 5)
 - 10 Discoverer of acetylcholine's role as a neurotransmitter (4, 5)
 - 11 Bedcover (5)
 - 12 Native of a Middle Eastern country (5)
 - 13 Beginning (9)
 - 14 Two time Nobel prize-winning Polish scientist (5, 5)
 - 17 Max _____, German physicist known for work on quantum mechanics (4)
 - 19 Woodwind instrument (4)
 - 20 Crystallographer who helped confirm the structure of penicillin (7, 3)
 - 23 Italian restaurant (9)
 - 25 Porous container used in the refining or assaying of precious metals (5)
 - 27 N₃ (5)
 - 28 Insert (9)
 - 29 Rudolf _____, German engineer and inventor of an eponymous engine (6)
 - 30 Radioactive element first reported by André-Louis Debierne in 1899 (8)

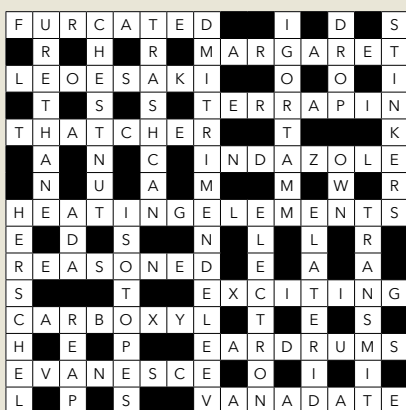
- Down**
- 1 Element named after the Norse god of thunder (7)
 - 2 See 5 **Across**
 - 3 Food preservatives often found in wines (8)
 - 4 Essential oil (5)
 - 6 Dye used in the production of denim (6)
 - 7 Port in northwest England (9)
 - 8 Type of bunting (7)
 - 9 Catchall term for a group of compounds including thiamine and riboflavin (7, 1)
 - 15 Tracer dye (9)
 - 16 Not scared (8)
 - 18 Member of the cabbage family (8)
 - 19 See 21 **Down**
 - 21, 19 **Down** Winner of the 1909 Nobel prize in chemistry for work in physical chemistry (7, 7)
 - 22 H₂C=CH₂ (6)
 - 24 Historical culture of central Mexico (5)
 - 26 Theoretical physicist known for the exclusion principle (5)

March 2021 solutions and winners

Cryptic crossword



Quick crossword



Wordoku

The fungicide was TECNAZENE

March winners

Science scramble
Michael Rabjohns
Leeds, UK

Science scramble

- 1 In
- 2 Tin
- 3 Thin
- 4 Think
- 5 Knighthood
- 6 Dorothy Hodgkin

Wordoku
Gillian McKenna
Montarnaud, France

Cryptic crossword
Kevin Gough
Hereford, UK

Quick crossword
S Barrie Walker
Dunblane, UK

Radon-222 is a naturally occurring alpha emitter that diffuses through concrete. It has a half life of four days, and decays to form radioactive aerosols containing Po-218 and Po-214. It is important to limit exposure of the lungs to alpha emitters - one Joule of alpha energy delivered to the lungs is as bad for you as about 144 joules of whole-body gamma ray exposure. Seal all the cracks in the concrete and then paint every surface in the basement (radon diffuses slowly through paint). By sealing any points where radon enters the basement and increasing ventilation, further decreases in the radon level can be made. Never inhale smoke in a radon-rich environment as smoke enhances the carcinogenic effect of the radon daughters. Mark Foreman works in the nuclear chemistry and industrial materials recycling section at Chalmers University of Technology, Sweden.

On the spot



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