

October 2017 wordoku

			E					
	R	L		Z		S		
M								I
	E	I			U			
	B						S	
			S			R	Z	
Z								R
		S		M		B	U	
	L			B				

B
E
I
L
M
R
S
U
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 into the name of an early chemist.

October 2017 word grid

Mo	O	U
S	Nh	Ge
I	Ne	O

Prize entry: Using each element symbol in the grid only once, combine them together to make a single word of 13 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

Entry form

There are four prize puzzles on this page: crossword (cryptic answers only); wordoku; molecule search; 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 October 2017**. The winners of this month's puzzles will be published in the November 2017 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

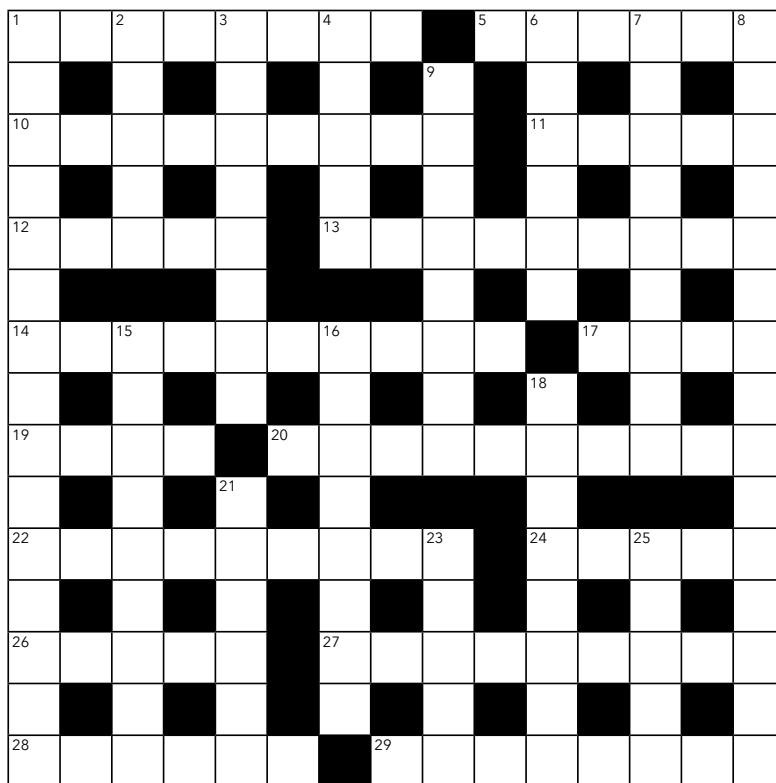
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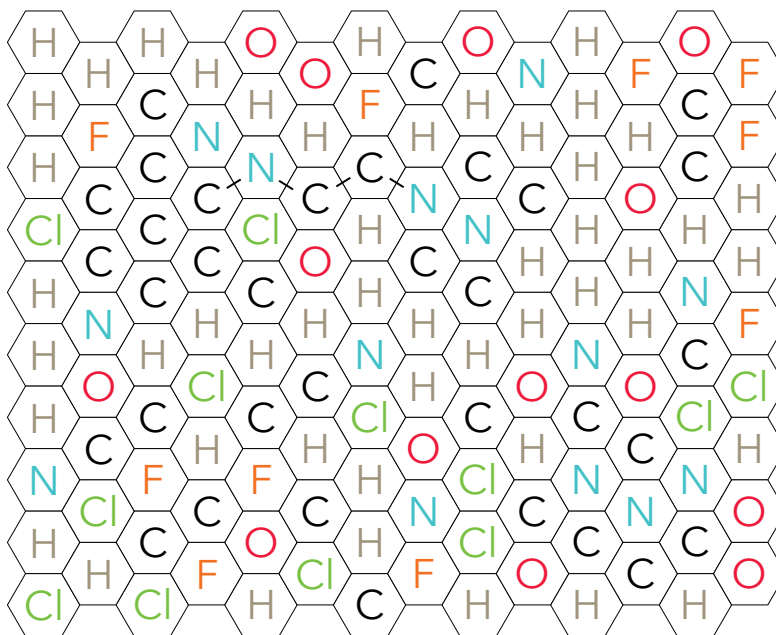
Participants are advised that any personal information supplied will be processed in connection with this competition and only in accordance with our privacy statement (www.chemistryworld.com/privacy).

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October 2017 crossword



October 2017 molecule search



Connect atoms in adjacent cells using single or multiple bonds to reveal the hidden molecules. The hexagonal grid necessitates some minor distortion of bond angles, for example in five membered rings.

Find these three molecules - we've already started one of them for you.
 $C_{14}H_{22}N_2O$ $C_4H_4N_2O_3$ $C_3H_4Cl_2F_2O$

Clues: Two of the molecules contain a ring, one of them is a highly oxidised heterocycle. One of the molecules is aromatic, the other two aliphatic. One molecule contains a methoxy group.

Cryptic (prize entry)
Across

- See 21 down (8)
- Turn endless square around a heavenly transmitter (6)
- Treat cholera with extremely lethal algae (9)
- A little bit of classic rumba (5)
- Seizing immediate control then allowing leniency to begin with (5)
- Victor cooked reconstituted quorn (but no diet stunt!) (9)
- Oddly potty about geology study of the ancients (10)
- Plant a selection of Cosmo's seeds (4)
- Journalist joins Welsh politician for cheese (4)
- Complaint of last chum upset (7, 3)
- Instrument emits real concoction (9)
- Laid last cable twisted? Perfect! (5)
- Return Kuwaiti cash to frog (5)
- Nick surprises Joan with initially unfurled flag (5, 4)
- Right away, I'm confusing words' sagacity (6)
- Composer a German breed (8)

Down

- I searched crew for extremely mysterious pump (10, 5)
- Tow around the Spanish bird (5)
- Synthesised a treacly ester (8)
- Left rice around antiquity (5)
- Hooked us on copper compound (6)
- Quaff rosé cocktail and prepare to fight? (6, 3)
- Moll returns bike to American scientist (6, 1, 8)
- Tree upset Northern Guam man (5, 3)
- Eli's angry about these young horses (9)
- On reflection, oddly dull metal (8)
- Dance around his anteaters (8)
- 1 Across Evade good aroma around Italian scientist (6, 8)
- Pachyderm not sore about iron horse (5)
- Get rid of some of Vera's effects (5)

Quick (just for fun)
Across

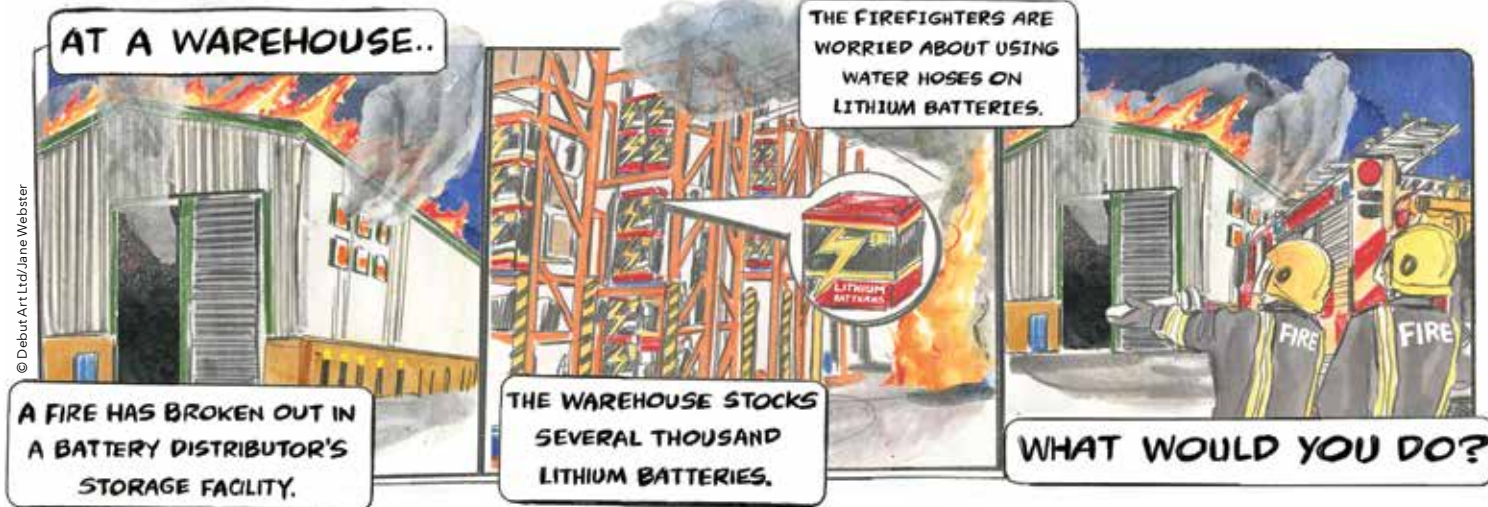
- Shame (8)
- Small fish (6)
- Ferrous metalworker (9)
- Join up (5)
- Castor oil plant toxin (5)
- Italian chemist and author (5, 4)
- Antifungal medication (10)
- Bug (4)
- Require (4)
- Italian physicist and mathematician (10)
- Rich in nutrients (to the detriment of animal life) (9)
- See 28 Across (5)
- Japanese physicist, Nobel prize winner in 1973 (5)
- Tearfully (music) (9)
- 28, 24 Across Weak interatomic force (3, 3, 5)
- Large crustacean (4, 4)

Down

- Russian chemist (6, 9)
- Person with stiff upper lip (5)
- Ring a bell (8)
- Pinch and press down (5)
- Cooler (6)
- Neurone (5, 4)
- American Nobel prize-winning chemist (7, 8)
- Michael Jackson album (8)
- Sign of a possible heart attack (5, 4)
- Form of pollination (8)
- Grimacing (8)
- Halogen (6)
- Bacteria with spherical, ovoid, or generally round shape (5)
- Secretive relationship (5)

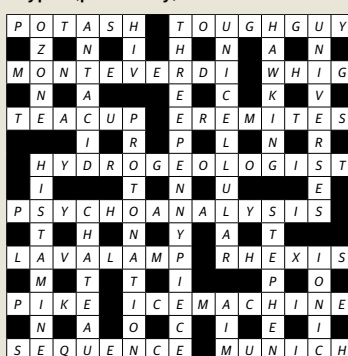
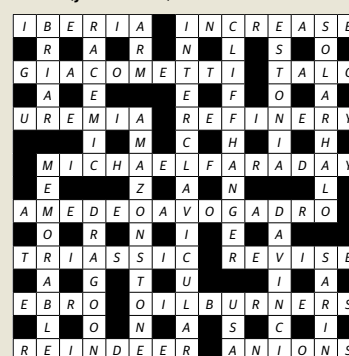
Answer to On the spot

Lithium reacts with water to produce hydrogen, and fires involving lithium metal batteries are challenging. Lithium ion batteries are quite safe with water as they contain only a compound of lithium. However, 'lithium batteries' could mean either the lithium metal or the lithium ion type. As it's a large fire, using dry powder can be ruled out as supplies are typically small. Water could be used regardless of the battery type. If the batteries are lithium ion, this may slow the fire. If they are lithium metal, water will make the fire burn more intensely but it will also burn out faster. Potentially hazardous battery electrolyte will be present in any fire water runoff, meaning it should be contained or the potential runoff problems should be discussed with the Environment Agency. In this scenario, allowing the fire to burn while applying water to prevent it spreading would be recommended. Tom Johnson is an emergency responder at the National Chemical Emergency Centre.

On the spot: Battery fire

Industry Leading Pharmaceutical Training

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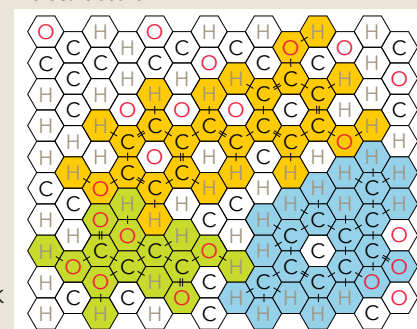
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September 2017 solutions and winners
Cryptic (prize entry)

Quick (just for fun)

Wordoku

The name of the organometallic chemist was José BARLUENGA

Word grid

The nine-symbol word was CARBONIFEROUS

Molecule search


The three molecules - resveratrol, wine lactone and tartaric acid - are commonly found in wine.

September winners
Molecule search

Marco Ferreira, Dundee, UK

Wordoku

Anne Whittam, Milton Keynes, UK

Word grid

A R Wilson, Broadstone, UK

Crossword

Iain Challis, Linton, UK