

The grand end of term quiz: answers

Education in Chemistry

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Round 1: science fiction

None of these chemicals are real, but who cares?

Q1. What colourful device would you power with a kyber crystal? *A lightsaber*

Q2. Captain America's shield is made from which element? *Vibranium*

Q3. What can you make with lacewing flies, leeches, bicorn horn, knotweed, fluxgrass, boomslang skin and a strand of hair? *Polyjuice potion from Harry Potter*

Q4. What famous starship is powered by dilithium? *USS Enterprise and many of the spaceships from Star Trek*

Q5. Which upcoming movie starring Timothée Chalamet is about a battle over the spice Melange? *Dune*

Round 2: what's happening?

Test your knowledge with these GCSE questions.

Q1. A hydrogen and a chlorine atom bond together, each contributing one electron to a shared pair. What type of bonding has occurred? *Covalent*

Q2. One atom of one isotope of calcium has an atomic number of 20 and a mass number of 42. How many protons does it have? *20*

Q3. Chlorine has a boiling point of -35°C and a melting point of -101.5°C . What state would it be in if I cooled it to -20°C ? *Gas*

Q4. How many times smaller is 1nm relative to 1cm? *10 million*

Q5. Why do metals conduct electricity? *They have delocalised electrons.*

(In case you have covered different areas of the syllabus so far...)

Bonus questions

Q6. I need to separate two different coloured substances from each other. What technique should I use? *Chromatography*

Q7. I pour a solution through filter paper. What is the term for the particles left on the filter paper? *Residue*

Round 3: chememojis

Can you work out what term is lurking behind these symbols?

-  Noble gas
-  Cation
-  Indicator paper
-  Fossil fuel
-  Bunsen burner

Round 4: name that element

Name the element being described in the question.

- Q1.** When combined with iron, I make mild steel. *Carbon*
- Q2.** I'm the most abundant element in the universe. *Hydrogen*
- Q3.** When two of me bond to oxygen, I make you laugh. *Nitrogen*
- Q4.** My chemical symbol is K, although the letter isn't in my name! *Potassium*
- Q5.** When exposed to oxygen, I turn green. *Copper*

Round 5: current science

Have you been paying attention to science news?

- Q1.** In September, scientists found phosphine in a planet's atmosphere, which could be evidence of alien life. On what planet did they make the discovery? *Venus*
- Q2.** What disease is caused by SARS-CoV-2? *Covid-19 or coronavirus*
- Q3.** Two letters of the alphabet aren't in the name of any element on the periodic table. Name either of them. *J and Q*
- Q4.** What brand of washing powder shares its name with the European Space Agency's new space telescope? *Ariel*
- Q5.** 2019's Nobel prize for chemistry was won for batteries typically used in laptops and smartphones. What chemical element do these batteries use? *Lithium*

Bonus round: musical elements

For advanced students only! Can you work out the artists sounded out by these elements' symbols?

Q1. Lanthanum – Dysprosium – Gallium – Gallium *LaDy GaGa – Lady Gaga*

Q2. Tantalum – Yttrium – Lawrencium – Sulfur – Tungsten – Hafnium – Tellurium *TaYLr SWHfTe – Taylor Swift*

Q3. Sulfur – Americium – Samarium – Iodine – Thorium *Sam SMITH – Sam Smith*

Q4. Carbon – Argon – Dysprosium – Boron *CARdyB – Cardi B*

Q5. Boron – Tennessine *BTs – BTS*