Quiz: elemental pursuit

Quanto sapete sugli elementi chimici? Ciascuna delle seguenti domande evidenzia come un particolare elemento viene impiegato o il ruolo dei vari elementi nel nostro mondo – siete in grado di identificarli?

Tutti gli elementi di questo quiz sono stati descritti in vari articoli di *Science in School*, che sono tutto ciò che vi servirà per completare le risposte. Potete consultare e leggere tutti gli articoli all’indirizzo https://www.scienceinschool.org

Per ogni domanda, annotate il nome dell’elemento, il numero della rivista e il titolo dell’articolo nel quale avete trovato l’informazione, quindi aggiungete almeno un’altra informazione sull’elemento.

**Questions**

1. Which dangerous element is used at facilities such as the European X-ray Free-Electron Laser Facility (European XFEL) to focus X-ray beams?
   
   Elemento
   
   Numero della rivista e titolo dell’articolo

   Informazioni aggiuntive

2. Which transition metal has been used to strengthen samurai swords and tank armour, and is also vital for plant and animal life?
   
   Elemento
   
   Numero della rivista e titolo dell’articolo

   Informazioni aggiuntive

3. Which toxic element is responsible for the vibrant yellows of many Vincent van Gogh paintings?
   
   Elemento
   
   Numero della rivista e titolo dell’articolo

   Informazioni aggiuntive

Materiale aggiuntivo per:

www.scienceinschool.org/2019/issue47/PTquiz
4. **Which element helped Clyde Cowan and Frederick Reines detect neutrinos from radioactive beta decay for the first time in 1956?**

5. **The only stable isotope of which element is used to define seconds, the standard unit for time?**

6. **Mixing which element with salt water results in an exothermic reaction that can be used to warm up self-heating meal packs?**

7. **Which metal with a high melting point is used to line the walls of the Joint European Torus (JET) and ITER nuclear fusion reactors?**

8. **Which element and its radioisotope allow scientists to study gene regulation and adaptation in long-lived neurons?**

Materiale aggiuntivo per:
9. Which element is essential for the synthesis of thyroid hormones that regulate growth, development and cell metabolism?

Elemento

10. Atoms of which element were fired into berkelium (element 97) by German scientists to try to create the predicted element 119 (ununennium)?

Elemento

11. Which trace metal is now rarely used in thermometers because of its toxicity?

Elemento

12. Which element can be found in computer hard drives and is used in the most powerful permanent magnets known?

Elemento

Materiale aggiuntivo per:
www.scienceinschool.org/2019/issue47/PTquiz
13. Which Group 1 metal is commonly found as part of rechargeable batteries in cell phones and laptops?

Elemento

Numero della rivista e titolo dell’articolo

informazioni aggiuntive

14. Which element allows scientists to reconstruct past climates based on the ratio of the element’s isotopes in the ‘rings’ of mollusc seashells?

Elemento

Numero della rivista e titolo dell’articolo

Informazioni aggiuntive

15. Which element is considered a potential energy carrier of the future, and can be released from food waste by microorganisms?

Elemento

Numero della rivista e titolo dell’articolo

Informazioni aggiuntive

16. ‘Doping’ which element with phosphorus or boron can alter its conductivity?

Elemento

Numero della rivista e titolo dell’articolo

Informazioni aggiuntive

17. Which element is allowed into neurons and muscle cells, in a controlled way, to create an action potential?

Elemento

Materiale aggiuntivo per:
www.scienceinschool.org/2019/issue47/PTquiz
18. Which mineral is present at around 5 mg per 100 g of fresh mushrooms?
Elemento

19. Which element can exit neuron cells via specialised ion channels to restore a resting membrane potential?
Elemento

20. Ions of which common metallic element are found in Fehling’s solution, used to detect the presence of reducing sugars (fructose, glucose or lactose)?
Elemento

21. Which element has more stable oxidation states than any other transition metal?
Elemento
22. NASA uses which inert gaseous element to protect extraterrestrial samples from contamination during investigations?

Elemento

23. Which element forms free radicals which speed up the reaction that destroys ozone in the stratosphere?

Elemento

24. Which rare metal took chemists Ida Tacke and Walter Noddack three years to isolate 120 mg of?

Elemento

25. Which element can be used to thinly coat plastics in order to give them a ‘structural colour’?

Elemento