

1. Hang-glider frames must be sturdy, yet light enough to set sail through the air. While metals such as Iron and Zinc may make strong frames, they are too heavy for liftoff. The solution: Melt in some of the mystery metal, which is light and soft, to create an alloy.

- A. Iron (Fe)
- B. Tin (Sn)
- * C. Aluminum (Al)
- D. Copper (Cu)

2. This metalliod spends most of its time at the beach because sand is made in part from the weathering of granite rocks into quartz particles up to 4 mm in diameter. Quartz is the most abundant mineral compound on Earth and this Group 14 element is the second most abundant.

- * A. Silicon (Si)
- B. Tin (Sn)
- C. Carbon (C)
- D. Mangesium (Mg)

3. This period 6 metal once added color to paints until scientists discovered it damages the central nervous system. Gasoline containing it helped car engines run smoothly, but tiny particles of the metal shot from exhaust pipes polluting the air so it was banned from gas pumps.

- A. Phosphorous (P)
- * B. Lead (Pb)
- C. Mercury (Hg)
- D. Chlorine (Cl)

4. The mystery element, which is found in the same period as Krypton, helps you stand up straight and chomp through meals because it's a major part of bones and teeth.

- A. Helium (He)
- B. Copper (Cu)
- C. Potassium (K)
- * D. Calcium (Ca)

5. Students everywhere use this transition element to scribble notes and take tests. Pencil lead is actually graphite, a pure form of this element. Hint: Lead is in the same group on the periodic table as the mystery element.

- * A. Carbon (C)

B. Tin (Sn)

C. Mercury (Hg)

D. Aluminum (Al)

6. The lightbulbs in "halogen" headlights are filled with a gas of either the mystery element or Bromine which is in the same group. This mystery element combines with Sodium and rubbing alcohol to create a strong antiseptic, or germ killer. Just a dab on a cut can rid it of harmful germs.

A. Astatine (At)

B. Fluorine (F)

C. Chlorine (Cl)

* D. Iodine (I)

7. Exposure to air damages documents like the Declaration of Indep., so in 1951 it was sealed in a glass box filled with the mystery element. This noble gas doesn't react with the paper or ink like Oxygen, but it is so tiny (second-smallest) that over time it leaks through tiny holes in the box.

A. Neon (Ne)

* B. Helium (He)

C. Xenon (Xe)

D. Hydrogen (H)

8. Even though this metal is a liquid at room temperature, if you had it in a bathtub you could probably walk across it. You could even float a steel ball on it. This member of the Zinc family has the highest density of any liquid on the periodic table.

A. Lead (Pb)

B. Silver (Ag)

C. Manganese (Mn)

* D. Mercury (Hg)

9. Rockets use this element's liquid form to blast into space. Much like a car engine, rockets use this element in the process of combustion, but while a car sucks it from the air, a rocket needs so much of it that it's equipped with storage tanks that feed into the rocket's main engines.

A. Nitrogen (N)

* B. Oxygen (O)

C. Hydrogen (H)

D. Neon (Ne)

10. To stock up on this Alkaline Earth Metal, scientists turn to the ocean because it's the third most abundant element dissolved in seawater, after Cl

and Na. Both of these elements are members of the same period as the mystery element.

- * A. Magnesium (Mg)
- B. Mercury (Hg)
- C. Calcium (Ca)
- D. Silicon (Si)

11. It's the heaviest element found in nature. In its metallic form, it's 19 times denser than water--a property that makes it useful in yacht keels and as counterweights in airplane rudders. A single pound of this metal can generate as much energy as 1,500 tons of coal.

- A. Mercury (Hg)
- B. Lead (Pb)
- * C. Uranium (U)
- D. Gold (Au)

12. A typical PC contains 5 - 8 pounds of environmentally hazardous materials. This toxic metalloid is used to make computer chips because it is a semiconductor. Until the 1990s, its toxic inorganic form was used in fertilizers and insecticides.

- A. Radon (Rn)
- B. Chlorine (Cl)
- C. Hydrogen (H)
- * D. Arsenic (As)

13. Love the tangy taste of your favorite soda? To help flavor the drinks, manufacturers add this element. In the soda, it combines with H and O, forming an acid. The mystery Nitrogen Family member gives a tart or sour taste to soft drinks and acts as a preservative.

- * A. Phosphorous (P)
- B. Nitrogen (N)
- C. Bismuth (Bi)
- D. Antimony (Sb)

14. What's four feet wide, eight feet tall, and stinks like a garbage dump? It's the "corpse flower." The plant heats this period 3 element in its flower stalk, then belches the rotten-egg odor to attract insects.

- A. Boron (B)
- B. Sodium (Na)
- C. Chlorine (Cl)
- * D. Sulphur (S)

