

# Who Wants to be a Science Millionaire

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*This article first appeared in The Irish Times, February 22, 2004*

Readers will be familiar with the popular quiz show Who Wants to be a Millionaire? Today I offer you a science version of this quiz game. I cannot include the 'phone a friend', 'ask the audience', or '50:50' features in this paper version of the quiz, but readers who wish to play the full version of this game can visit the website <http://education.jlab.org/million>. The solution to the quizzes is printed upside-down at bottom of column.

## First Quiz

Question 1. H is the letter symbol for which element?: (a) Hydrogen; (b) Calcium; (c) Bromine; (d) Magnesium.

Correct answer wins 100 Euro.

Question 2. Which of these shapes had 5 sides?: (a) Square; (b) Hexagon; (c) Pentagon; (d) Triangle.

Correct answer brings winnings to 200 Euro.

Question 3. A scientist measures temperature using a: (a) Barometer; (b) Ammeter; (c) Voltmeter; (d) Thermometer.

Correct answer brings winnings to 300 Euro.

Question 4. Geologists call the earth's centre the: (a) Crust; (b) Mantle; (c) Core; (d) Lithosphere.

Correct answer brings winnings to 500 Euro.

Question 5. What is the average of  $8+5+7$ ?: (a) 10; (b) 20; (c) 12; (d) 9.

Correct answer brings winnings to 1,000 Euro. These winnings are locked in.

Question 6. In the southern hemisphere, where does the sun rise?: (a) North; (b) South; (c) East; (d) West.

Correct answer brings winnings to 2,000 Euro.

Question 7. The electron has what form of electrical charge?: (a) Positive; (b) Negative; (c) No charge; (d) Neutral.

Correct answer brings winnings to 4,000 Euro.

Question 8. The second planet from the sun in our solar system is: (a) Earth; (b) Mercury; (c) Mars; (d) Venus.

Correct answer brings winnings to 8,000 Euro.

Question 9. In a triangle, a 90 degree angle is called: (a) A Main Angle; (b) A Right Angle; (c) An Upright Angle; (d) An Acute Angle.

Correct answer brings winnings to 16,000 Euro.

Question 10. A temperature of 100<sup>o</sup> Celsius [o is superscript] is equivalent to a temperature of how many degrees Fahrenheit (F)? (a) 212<sup>o</sup>F; (b) 120<sup>o</sup>F; (c) 31<sup>o</sup>F; (d) 200<sup>o</sup>F.

Correct answer brings winnings to 32,000 Euro. Winnings are locked in.

Question 11. Add the correct number to balance this chemical equation – 2 H<sub>2</sub>O<sub>2</sub> = ?H<sub>2</sub>O + O<sub>2</sub>. (a) 2; (b) 3; (c); (d) 1/2.

Correct answer brings winnings to 64,000 Euro.

Question 12. How far is the moon from the earth? (a) 120,000km; (b) 240,000km; (c) 310,000km; (d) 380,000km.

Correct answer brings winnings to 125,000 Euro.

Question 13. The unit of magnetic flux density is called: (a) The Ohm; (b) The Tesla; (c) The Amp; (d) The Newton.

Question 14. The weakest of the 4 fundamental forces of nature is: (a) Gravity; (b) The Weak Nuclear Force; (c) The Electromagnetic

Force; (d) The Neutron.

Correct answer brings winnings to 500,000 Euro.

Question 15. When Uranium 238, found naturally in rocks, decays by alpha emission, it is transformed into: (a) Uranium 234; (b) Uranium 238; (c) Thorium 234; (d) Thorium 230.

Correct answer brings winnings to 1,000,000 Euro.

## **Second Quiz**

Question 1. The Chemical symbol for carbon is: (a) Cl; (b) Cs; (c) C; (d) Cr.

Question 2. Which is the 8-sided figure: (a) Square; (b) Circle; (c) Rectangle; (d) Octagon.

Question 3. The earth revolves annually around this body: (a) Moon; (b) Sun; (c) Milky Way Galaxy; (d) Mars.

Question 4. The earth's atmosphere is a: (a) Liquid; (b) Solid; (c) Gas; (d) Gel.

Question 5. If you mix yellow paint with blue paint you get: (a) Red Paint; (b) Orange Paint; (c) White Paint; (d) Green Paint.

Question 6. Two of the 3 angles in a triangle are  $60^\circ$  and  $40^\circ$ , what is the third angle?: (a)  $80^\circ$ ; (b)  $40^\circ$ ; (c)  $30^\circ$ , (d)  $90^\circ$ .

Question 7. Green plants harness the energy of the sun in a process called: (a) Evaporation; (b) Transpiration; (c) Photosynthesis; (d) Respiration.

Question 8. The subatomic particle, the proton, has what sort of electrical charge?: (a) Negative; (b) Neutral; (c) Positive; (d) Excited.

Question 9. Science discovers new knowledge using this method. (a) Scientific Method; (b) Academic Method; (c) Method Acting; (d) Logical Method.

Question 10. He/she studies structure, composition and history of rocks: (a) Palaeontologist; (b) Chemist; (c) Zoologist; (d) Petrologist.

Question 11. 32o Fahrenheit (F) is equal to how many degrees Celsius (C): (a) 0; (b) 20; (c) 60; (d) 100.

Question 12. Balance this chemical equation –  $\text{H}_2\text{SO}_4 + \text{NaOH} = \text{Na}_2\text{SO}_4 + 2 \text{H}_2\text{O}$ : (a) 2; (b) 3; (c) 1/2 (d) 4.

Question 13. Pick the unit of electrical potential: (a) Ohm; (b) Newton; (c) Amp; (d) Volt.

Question 14. How far from earth is the sun?: (a) 54 million miles; (b) 93 million miles; (c) 72 million miles; (d) 121 million miles.

Question 15. Electrons are bound into atoms by: (a) Strong nuclear force; (b) Weak nuclear force; (c) Gravity; (d) Electromagnetic force.