

# A Periodic Table Predicament

Dr. Ellie Mint is periodically puzzled. Recently she received the answer to an important question, but it was written in secret code. By understanding how to read the periodic table, you can help the dear doctor out of her predicament.

Study the key below. Then use the information in each problem to determine which symbol is being represented. Finally, write each symbol in the corresponding blank at the bottom of the page to decode the answer to Dr. Ellie Mint's question.



|                                      |                                       |                                       |  |                                       |  |                                       |  |                                       |  |                                     |                                      |                                       |                                       |                                       |  |                                      |                                     |
|--------------------------------------|---------------------------------------|---------------------------------------|--|---------------------------------------|--|---------------------------------------|--|---------------------------------------|--|-------------------------------------|--------------------------------------|---------------------------------------|---------------------------------------|---------------------------------------|--|--------------------------------------|-------------------------------------|
| 1<br>1.01<br><b>H</b><br>Hydrogen    |                                       |                                       |  |                                       |  |                                       |  |                                       |  |                                     |                                      |                                       |                                       |                                       |  |                                      | 2<br>4.00<br><b>He</b><br>Helium    |
| 3<br>6.94<br><b>Li</b><br>Lithium    | 4<br>9.01<br><b>Be</b><br>Beryllium   |                                       |  |                                       |  |                                       |  |                                       |  |                                     |                                      | 13<br>10.81<br><b>B</b><br>Boron      | 14<br>12.01<br><b>C</b><br>Carbon     | 15<br>14.01<br><b>N</b><br>Nitrogen   | 16<br>16.00<br><b>O</b><br>Oxygen      | 17<br>19.00<br><b>F</b><br>Fluorine  | 18<br>20.18<br><b>Ne</b><br>Neon    |
| 11<br>22.99<br><b>Na</b><br>Sodium   | 12<br>24.31<br><b>Mg</b><br>Magnesium |                                       |  |                                       |  |                                       |  |                                       |  |                                     |                                      | 13<br>26.98<br><b>Al</b><br>Aluminum  | 14<br>28.09<br><b>Si</b><br>Silicon   | 15<br>30.97<br><b>P</b><br>Phosphorus | 16<br>32.06<br><b>S</b><br>Sulfur      | 17<br>35.45<br><b>Cl</b><br>Chlorine | 18<br>39.95<br><b>Ar</b><br>Argon   |
| 19<br>39.10<br><b>K</b><br>Potassium | 20<br>40.08<br><b>Ca</b><br>Calcium   | 21<br>44.96<br><b>Sc</b><br>Scandium  | 22<br>47.90<br><b>Ti</b><br>Titanium     | 23<br>50.94<br><b>V</b><br>Vanadium   | 24<br>52.00<br><b>Cr</b><br>Chromium   | 25<br>54.94<br><b>Mn</b><br>Manganese | 26<br>55.85<br><b>Fe</b><br>Iron       | 27<br>58.93<br><b>Co</b><br>Cobalt    | 28<br>58.71<br><b>Ni</b><br>Nickel     | 29<br>63.55<br><b>Cu</b><br>Copper  | 30<br>65.38<br><b>Zn</b><br>Zinc     | 31<br>69.72<br><b>Ga</b><br>Gallium   | 32<br>72.59<br><b>Ge</b><br>Germanium | 33<br>74.92<br><b>As</b><br>Arsenic   | 34<br>78.96<br><b>Se</b><br>Selenium   | 35<br>79.90<br><b>Br</b><br>Bromine  | 36<br>83.80<br><b>Kr</b><br>Krypton |
| 37<br>85.47<br><b>Rb</b><br>Rubidium | 38<br>87.62<br><b>Sr</b><br>Strontium | 39<br>88.91<br><b>Y</b><br>Yttrium    | 40<br>91.22<br><b>Zr</b><br>Zirconium    | 41<br>92.91<br><b>Nb</b><br>Niobium   | 42<br>95.94<br><b>Mo</b><br>Molybdenum | 43<br>97<br><b>Tc</b><br>Technetium   | 44<br>101.07<br><b>Ru</b><br>Ruthenium | 45<br>102.91<br><b>Rh</b><br>Rhodium  | 46<br>106.4<br><b>Pd</b><br>Palladium  | 47<br>107.87<br><b>Ag</b><br>Silver | 48<br>112.40<br><b>Cd</b><br>Cadmium | 49<br>114.82<br><b>In</b><br>Indium   | 50<br>118.69<br><b>Sn</b><br>Tin      | 51<br>121.75<br><b>Sb</b><br>Antimony | 52<br>127.60<br><b>Te</b><br>Tellurium | 53<br>126.90<br><b>I</b><br>Iodine   | 54<br>131.30<br><b>Xe</b><br>Xenon  |
| 55<br>132.91<br><b>Cs</b><br>Cesium  | 56<br>137.34<br><b>Ba</b><br>Barium   | 71<br>174.97<br><b>Lu</b><br>Lutetium | 72<br>178.49<br><b>Hf</b><br>Hafnium     | 73<br>180.95<br><b>Ta</b><br>Tantalum | 74<br>183.85<br><b>W</b><br>Tungsten   | 75<br>186.21<br><b>Re</b><br>Rhenium  | 76<br>190.2<br><b>Os</b><br>Osmium     | 77<br>192.22<br><b>Ir</b><br>Iridium  | 78<br>195.09<br><b>Pt</b><br>Platinum  | 79<br>196.97<br><b>Au</b><br>Gold   | 80<br>200.59<br><b>Hg</b><br>Mercury | 81<br>204.37<br><b>Tl</b><br>Thallium | 82<br>207.2<br><b>Pb</b><br>Lead      | 83<br>208.98<br><b>Bi</b><br>Bismuth  | 84<br>209<br><b>Po</b><br>Polonium     | 85<br>210<br><b>At</b><br>Astatine   | 86<br>222<br><b>Rn</b><br>Radon     |
| 87<br>223<br><b>Fr</b><br>Francium   | 88<br>226.03<br><b>Ra</b><br>Radium   | 103<br>262<br><b>Lr</b><br>Lawrencium | 104<br>261<br><b>Rf</b><br>Rutherfordium | 105<br>262<br><b>Db</b><br>Dubnium    | 106<br>263<br><b>Sg</b><br>Seaborgium  | 107<br>262<br><b>Bh</b><br>Bohrium    | 108<br>265<br><b>Hs</b><br>Hassium     | 109<br>266<br><b>Mt</b><br>Meitnerium | 110<br>272<br><b>Uun</b><br>Ununillium | 111<br>272<br><b>Uuu</b><br>Ununium | 112<br>277<br><b>Uub</b><br>Unubium  |                                       |                                       |                                       |  |                                      |                                     |

**Key**

|               |           |       |               |
|---------------|-----------|-------|---------------|
| Atomic Number | 20        | 40.08 | Atomic Weight |
| Element Name  | <b>Ca</b> |       | Atomic Symbol |
|               | Calcium   |       |               |

|  |                                      |   |  |  |                                      |                                       |   |                                      |   |                                       |                                     |  |  |
|--|--------------------------------------|---|--|--|--------------------------------------|---------------------------------------|---|--------------------------------------|---|---------------------------------------|-------------------------------------|--|--|
| 57<br>138.91<br><b>La</b><br>Lanthanum | 58<br>140.12<br><b>Ce</b><br>Cerium  | 59<br>140.91<br><b>Pr</b><br>Praseodymium | 60<br>144.24<br><b>Nd</b><br>Neodymium | 61<br>145<br><b>Pm</b><br>Promethium   | 62<br>150.4<br><b>Sm</b><br>Samarium | 63<br>151.96<br><b>Eu</b><br>Europium | 64<br>157.25<br><b>Gd</b><br>Gadolinium | 65<br>158.93<br><b>Tb</b><br>Terbium | 66<br>162.50<br><b>Dy</b><br>Dysprosium | 67<br>164.93<br><b>Ho</b><br>Holmium  | 68<br>167.26<br><b>Er</b><br>Erbium | 69<br>168.93<br><b>Tm</b><br>Thulium   | 70<br>173.04<br><b>Yb</b><br>Ytterbium |
| 89<br>227<br><b>Ac</b><br>Actinium     | 90<br>232.04<br><b>Th</b><br>Thorium | 91<br>231.04<br><b>Pa</b><br>Protactinium | 92<br>238.03<br><b>U</b><br>Uranium    | 93<br>237.05<br><b>Np</b><br>Neptunium | 94<br>244<br><b>Pu</b><br>Plutonium  | 95<br>243<br><b>Am</b><br>Americium   | 96<br>247<br><b>Cm</b><br>Curium        | 97<br>247<br><b>Bk</b><br>Berkelium  | 98<br>251<br><b>Cf</b><br>Californium   | 99<br>254<br><b>Es</b><br>Einsteinium | 100<br>257<br><b>Fm</b><br>Fermium  | 101<br>258<br><b>Md</b><br>Mendelevium | 102<br>259<br><b>No</b><br>Nobelium    |

- |                              |                                |                                 |
|------------------------------|--------------------------------|---------------------------------|
| 1. hydrogen _____            | 2. atomic weight = 244 _____   | 3. atomic number = 74 _____     |
| 4. astatine _____            | 5. atomic weight = 14.01 _____ | 6. atomic number = 39 _____     |
| 7. atomic number = 77 _____  | 8. thorium _____               | 9. atomic weight = 126.90 _____ |
| 10. sulfur _____             | 11. oxygen _____               | 12. boron _____                 |
| 13. atomic number = 15 _____ |                                |                                 |

**Question: What is barium?**

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!

**Bonus Box:** Use the symbols of the periodic table to write a message to a friend similar to the one above.

## Answer Key for “A Periodic Table Predicament”

1. H
2. Pu
3. W
4. At
5. N
6. Y
7. Ir
8. Th
9. I
10. S
11. O
12. B
13. P

What is barium?

WHAT PuPPY DOGS DO WITH THEIr BONES!

**Bonus Box:** Answers will vary.