#  Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Hour: \_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

# Chemistry: *Atomic Number and Mass Number*

Complete the following chart and answer the questions below.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Element******Name*** | ***Atomic******Number*** | ***Number of******Protons*** | ***Number of******Neutrons*** | ***Mass Number*** |
| carbon |  |  |  | 12 |
|  | 8 |  | 8 |  |
| hydrogen |  |  |  | 1 |
|  |  | 6 |  | 14 |
| hydrogen |  |  | 2 |  |
| nitrogen |  |  |  | 14 |
|  |  |  | 1 | 2 |
|  | 92 |  | 146 |  |
| cesium |  |  | 82 |  |
|  | 11 |  | 12 |  |
|  |  | 47 |  | 108 |
| tungsten |  |  | 110 |  |
|  |  |  | 45 | 80 |
|  |  | 24 |  | 52 |
|  |  |  | 89 | 152 |
| silver |  |  |  | 107 |
|  | 76 |  | 114 |  |

How are the *atomic number* and the *number of protons* related to each other?

How do the *number of protons*, *number of neutrons*, and the *mass number* relate to each other?

What is the *one thing* that determines the identity of an atom (that is, whether it is an oxygen atom or a carbon atom, etc.)?

#  KEY

# Chemistry: *Atomic Number and Mass Number*

Complete the following chart and answer the questions below.

##  [Atomic # = # Protons] P + N = Mass #

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| ***Element******Name*** | ***Atomic******Number*** | ***Number of******Protons*** | ***Number of******Neutrons*** | ***Mass Number*** |
| carbon | **6** | **6** | **6** | 12 |
| **oxygen** | 8 | **8** | 8 | **16** |
| hydrogen | **1** | **1** | **0** | 1 |
| **carbon** | **6** | 6 | **8** | 14 |
| hydrogen | **1** | **1** | 2 | **3** |
| nitrogen | **7** | **7** | **7** | 14 |
| **hydrogen** | **1** | **1** | 1 | 2 |
| **uranium** | 92 | **92** | 146 | **238** |
| cesium | **55** | **55** | 82 | **137** |
| **sodium** | 11 | **11** | 12 | **23** |
| **silver** | **47** | 47 | **61** | 108 |
| tungsten | **74** | **74** | 110 | **184** |
| **bromine** | **35** | **35** | 45 | 80 |
| **chromium** | **24** | 24 | **28** | 52 |
| **europium** | **63** | **63** | 89 | 152 |
| silver | **47** | **47** | **60** | 107 |
| **osmium** | 76 | **76** | 114 | **190** |

How are the *atomic number* and the *number of protons* related to each other?

***equal (same number)***

How do the *number of protons*, *number of neutrons*, and the *mass number* relate to each other?

### P + N = mass number

What is the *one thing* that determines the identity of an atom (that is, whether it is an oxygen atom or a carbon atom, etc.)?

***number of protons***