**Create your own Periodic Table Assignment** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Skills: Communicating, Processing and Analyzing

Dmitri Mendeleev created cards for the known elements and organized them according to their **increasing mass** and their **repeating properties**. Think it’s easy? You give it a try. Below are 20 imaginary elements of which cards have already been made. You are to organize them into a table using similar reasoning as Mendeleev. You will need to justify your arrangement. Note: there will be gaps in your periodic table.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Element (symbol)** | **Mass (g)** | **State** | **Metal or non metal?** | **Density (g/cm3)** | **Reactivity** |
| Atkinsonium (A) | 2.0 | Solid | Metal | 2.0 | Very reactive |
| Cooksonium (Ck) | 4.0 | Solid | Metal | 2.5 | Reactive |
| Ewardium (Ed) | 6.0 | Solid | Metal | 3.0 | Reactive |
| Hnativium (Hn) | 8.0 | Solid | Metal | 4.0 | Reactive |
| Hughesinium (Hg) | 12 | Gas | Non metal | 0.1 | Not reactive |
| Lovedinium (Lv) | 14 | Solid | Metal | 3.0 | Very reactive |
| Mizunonium (Mz) | 18 | Solid | Metal | 5.0 | Reactive |
| Mlieczkonium (M) | 20 | Solid | Metal | 6.0 | Reactive |
| Predanium (Pr) | 22 | Liquid | Non metal | 1.0 | Very reactive |
| Purdinium (Pd) | 24 | Gas | Non metal | 0.3 | Not reactive |
| Shorthoosinium (Sh) | 28 | Solid | Metal | 4.0 | Reactive |
| Vanbylandium (V) | 30 | Solid | Metal | 6.0 | Reactive |
| VanDuynhoveninium (Vd) | 32 | Solid | Metal | 7.0 | Reactive |
| Wilsonium (Wi) | 34 | Liquid | Non metal | 2.0 | Very reactive |
| Woolfonium(Wo) | 36 | Gas | Non metal | 0.5 | Not reactive |
| Zulicium (Z) | 38 | Solid | Metal | 4.0 | Very reactive |
| Turpinium (T) | 40 | Solid | Metal | 6.0 | Reactive |
| Williamsinium (Ws) | 42 | Solid | Metal | 7.0 | Reactive |
| Yehsium (Y) | 46 | Liquid | Non metal | 3.0 | Very reactive |
| Davisium (Dv) | 48 | Gas | Non metal | 1.0 | Not reactive |

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

**Questions:**

1. Justify your choice of arrangement of the elements with respect to the rows and how you decided to start a new column.
2. You just discovered 4 new elements and incredibly they fit exactly in your empty spaces. Because you discovered them, you get to name them. Go back to the gaps in your periodic table and fill in the missing elements by giving them each: a **Name**, **Elemental symbol** (must be different from all others), **Atomic mass**, **state**, **density**, and **reactivity**.
3. Explain why the word “periodic” is used in the name of the table of elements.
4. How does density change as you read through your periodic table? How did you predict the density of the four missing elements?
5. How is this activity similar to the process Mendeleev used to classify the elements? How is it different?

|  |  |  |  |
| --- | --- | --- | --- |
| **Atkinsonium** **A**2.0 gSolidMetal2.0 g/cm3Very reactive | **Cooksonium****Ck**4.0 gSolidMetal2.5 g/cm3Reactive | **Ewardium** **Ed**6.0 gSolidMetal3.0 g/cm3Reactive | **Hnativium** **Hn**8.0 gSolidMetal4.0 g/cm3Reactive |
| **Hughesinium****Hg**12 gGasNon metal0.1 g/cm3Not reactive | **Lovedinium** **Lv**14 gSolidMetal3.0 g/cm3Very reactive | **Mizunonium****Mz**18 gSolidMetal5.0 g/cm3Reactive | **Mlieczkonium****M**20 gSolidMetal6.0 g/cm3Reactive |
| Predanium**Pr**22 gLiquidNon metal1.0 g/cm3Very reactive | Purdinium**Pd**24 gGasNon metal0.3 g/cm3Not reactive | **Shorthoosinium Sh**28 gSolidMetal4.0 g/cm3Reactive | Vanbylandium**V**30 gSolidMetal6.0 g/cm3Reactive |
| **VanDuynhoveninium** **Vd**32 gSolidMetal7.0 g/cm3Reactive | Wilsonium**Wi**34 gLiquidNon metal2.0 g/cm3Very reactive | Woolfonium**Wo**36 gGasNon metal0.5 g/cm3Not reactive | Zulicium**Z**38 gSolidMetal4.0 g/cm3Very reactive |
| **Turpinium** **T**40 gSolidMetal6.0 g/cm3Reactive | **Williamsinium** **Ws**42 gSolidMetal7.0 g/cm3Reactive | **Yehsium** **Y**46 gLiquidNon metal3.0 g/cm3Very reactive | **Davisium****Dv**48 gGasNon metal1.0 g/cm3Not reactive |