Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period \_\_\_\_\_\_\_

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| **Periodic Trends** |

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| **Your Tasks (Mark these off as you go)** |
| * Assign group roles * Define key vocabulary * Arrange the elements in a way that “makes sense” * Arrange the newly discovered elements * Complete the reflection * Receive credit for this lab |

* + **Assign group roles**

Before you continue, record your group number, then collaborate with your group and assign each person a role. Each role and a description is provided below.

|  |  |
| --- | --- |
| **Project manager (PM)** | Leads the team discussion and keeps the team on task and on schedule. Make sure the final lab is submitted. |
| **Communication Specialist (CS)** | Presents answers (or questions) to the class, instructor, or other teams. |
| **Recorder (R)** | Ensures that all members have correct answers. Considers how the team is working and ensures all voices are heard. |

|  |  |
| --- | --- |
| **Group Number:** | |
| **Name** | **Role** |
|  |  |
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* + **Define key vocabulary**

**Groups** (as they apply to the periodic table)

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**Periods** (as they apply to the periodic table)

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**Alkali metals**

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**Alkali earth metals**

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**Halogens**

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**Noble Gases**

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**Ionization energy**

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**Atomic radius**

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| --- |
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**Cation**

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**Anion**

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**Electronegativity**

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* + **Arrange the elements in a way that “makes sense”**

Inspect the properties of the known elements below,

|  |  |  |  |
| --- | --- | --- | --- |
| Graphical user interface, application  Description automatically generated | Graphical user interface, application  Description automatically generated | Graphical user interface, application  Description automatically generated | Graphical user interface, application  Description automatically generated |
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| Graphical user interface, application  Description automatically generated | Graphical user interface, application  Description automatically generated |  |  |

Locate the JamBoard the corresponds to your group.

<https://jamboard.google.com/d/1cWC2KjaZ6aSXp66Ir_1joQGcp8j8ff2ThUOI1HmupQQ/edit?usp=sharing>

WITHOUT LOOKING AT A PERIODIC TABLE, arrange the cards of the known elements in a way that makes sense based on the data you have been provided for each element.

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| Provide an explanation for why you arranged the elements the way you did. |
|  |

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| --- |
| Looking at your table from left to right, which property or properties increase or decrease? Looking at your table from top to bottom, which property or properties increase or decrease? |
|  |



Have Pluska Approve your period table before you continue

* + **Arrange the newly discovered elements**

Inspect the properties of the newly discovered elements below,

|  |  |  |  |
| --- | --- | --- | --- |
| A picture containing table  Description automatically generated | A picture containing text  Description automatically generated |  | A picture containing table  Description automatically generated |
| A picture containing table  Description automatically generated | A picture containing text  Description automatically generated | A picture containing table  Description automatically generated |  |

Locate the newly discovered elements,

<https://drive.google.com/drive/folders/1neyNtKDoFmb7YK0aWBuCdgCoMlQEuufW?usp=sharing>

Work with your group to decide where these new elements should fit in your table.

|  |
| --- |
| For each newly discovered element, provide an explanation as to why you chose to place it where you did on your periodic table. |
| Atomic mass 27  Atomic mass 11  Atomic mass 19  Atomic mass 73  Atomic mass 24  Atomic mass 28  Atomic mass 32 |

* + **Complete the reflection questions**

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| How does the arrangement of your elements and the “newly discovered elements” compare to the actual location on the periodic table? |
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| Look at your periodic table. In general, what happens to each of the following properties as you (a) go down a group (b) Across a period. (c) For each trend provide a rational. |
| I. Density   1. Down a group 2. Across a period 3. Rational     II. Oxidation number   1. Down a group 2. Across a period 3. Rational   III. Melting point   1. Down a group 2. Across a period 3. Rational   IV. Atomic radius   1. Down a group 2. Across a period 3. Rational   V. Conductivity   1. Down a group 2. Across a period 3. Rational |

* + **Receive Credit for this lab**

Each group member must complete and submit their own lab to receive credit