

Worksheet #1

Name: _____

Period: _____

Seat #: _____

DECK LETTER: _____

PowerPoint Shown In Class: <https://tinyurl.com/npp6cvtd>



Introduction

- Your task is to arrange the Aliens in some logical pattern so that they form an organized rectangular block.
- Within each **group**, all the Aliens in that group must be *exactly the same* in some way (the **Key Similarity**), AND must also *share a feature that changes regularly* as you move down the group (the **Varying Trait**).
- Within each **period**, all the Aliens in the period must be *exactly the same* in some way (the **Key Similarity**), AND must also *share a feature that changes regularly* as you move across the period (the **Varying Trait**).
- Two Aliens are missing from your set; simply leave empty spaces in your rectangular block for these Aliens.
- Once you have finished arranging your Aliens, have your teacher check it
- Be prepared to answer any questions the teacher may have about how you arranged the Aliens. Good luck!

1) GIVE DETAILED INFORMATION ABOUT YOUR TABLE OF ALIENS.

	How Many?	Key Similarity	Varying Trait
GROUPS			
PERIODS			

2) ALL ABOUT THE MISSING ALIENS – for each alien, list five descriptions of what it looks like and draw it neatly.

Description Of Missing Alien #1	Drawing Of Missing Alien #1
I.	
II.	
III.	
IV.	
V.	
Description Of Missing Alien #2	Drawing Of Missing Alien #2
I.	
II.	
III.	
IV.	
V.	

- 3) **PREDICT THE 'NEXT' ALIEN?** – Pick a *NEW* group and period that is not already part of your alien table. Describe what the 'Next' Alien might look like, and neatly draw what it might look like.

	Description Of The "Next" Alien	Drawing Of The "Next" Alien
GROUP #	The "next" alien almost certainly has....	
PERIOD #	Things about the "next" alien we really don't know...	

- 4) **CONNECTION TO THE ACTUAL PERIODIC TABLE** – The Periodic Table arranges the elements in a way that allows us to see several patterns in an easy and visual way based on where the element is placed on the table. Look at the diagrams below and try to figure out the patterns for each property. Fill in an estimate for the missing values.

Trends in Atomic Radius (Å)								Describe the reasoning for your predictions.
1A	2A	3A	4A	5A	6A	7A	8A	
H 0.37							He 0.5	
Li 1.52	Be 1.11	B 0.88	C 0.77	N 0.70	O 0.66	F 0.64	Ne 0.70	
Na 1.86	Mg 1.60	Al 1.43	Si 1.17	P 1.10	S 0.99	Cl 0.99	Ar 0.94	
K 2.44	Ca 1.97	Ga 1.22	Ge 1.22	As 1.21	Se 1.17	Br 1.14	Kr 1.09	
Rb 2.44	Sr 2.15	In 1.62	Sn 1.40	Sb 1.41	Te 1.37	I 1.33	Xe 1.30	
Predicted Radius for Sulfur				Predicted Radius for Potassium				

- 5) **PREVIEW OF NEW PROPERTIES/PATTERNS** – The Periodic Table has more properties/patterns than just the atomic radius seen in Question 4. Use the internet to research a chemistry definition for each of these other properties we will be learning about later in the chapter.

Ionization Energy	
Electronegativity	
Electron Affinity	