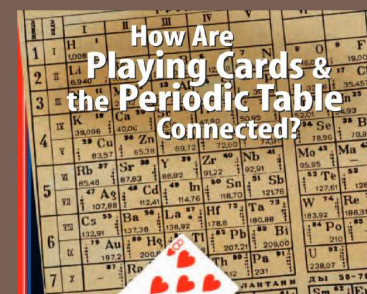


| | | | | | | | | | |
|---|--|---|---|--|---|---|--|---|---|
| Sodium Mass = 23 Combines with 0.5 O | Magnesium Mass = 24 Combines with 1 O | Carbon Mass = 12 Combines with 2 O | Sodium Mass = 23 Combines with 0.5 O | Magnesium Mass = 24 Combines with 1 O | Carbon Mass = 12 Combines with 2 O | Phosphorus Mass = 31 Combines with 3 H | Magnesium Mass = 24 Combines with 1 O | Carbon Mass = 12 Combines with 2 O | Phosphorus Mass = 31 Combines with 3 H |
|---|--|---|---|--|---|---|--|---|---|



INTRODUCTION TO ATOMS, ELEMENTS, AND IONS PART 3- "DEALING" WITH THE PERIODIC TABLE



Review of what Mendeleev did.



Mendeleev was a teacher as well as a chemist. He was writing a chemistry textbook and wanted to find a way to organize the 63 known elements so it would be easier for students to learn about them. He made a set of cards of the elements, similar to a deck of playing cards. On each card, he wrote the name of a different element, its atomic mass, and other known properties. Mendeleev arranged and rearranged the cards in many different ways, looking for a pattern. He finally found it when he placed the elements in order by increasing atomic mass.

Q: What is atomic mass? Why might it be a good basis for organizing elements?

A: Atomic mass is the mass of one atom of an element. It is about equal to the mass of the **protons** plus the **neutrons** in an atom. It is a good basis for organizing elements because each element has a unique number of protons and atomic mass is an indirect way of organizing elements by number of protons.

We will do what Mendeleev did.

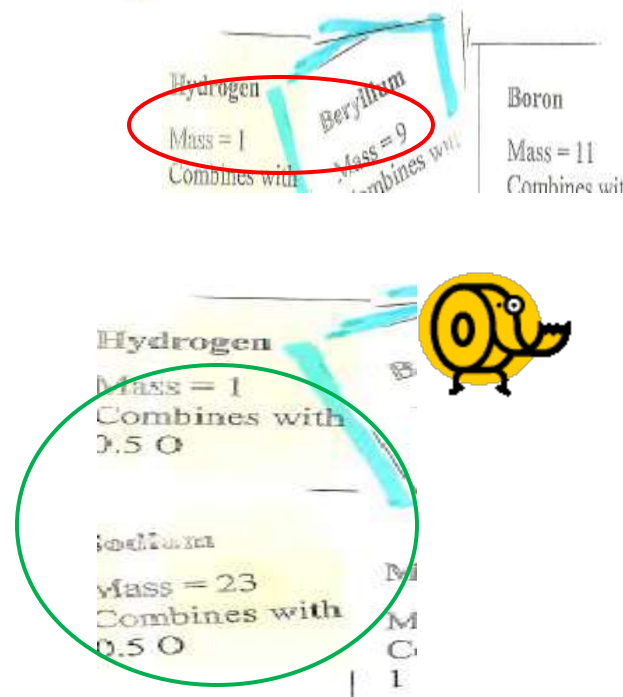
- Download the element cards in the lesson
- Cut out each element card.

□ Going **left to right** arrange the elements using **increasing atomic mass**.
(don't leave spaces for missing numbers)

□ Going **top to bottom** arrange in columns with **similar combining powers** –
the colors will help you
(don't leave spaces for missing numbers)

(You will have 7 elements across and 3 rows down)

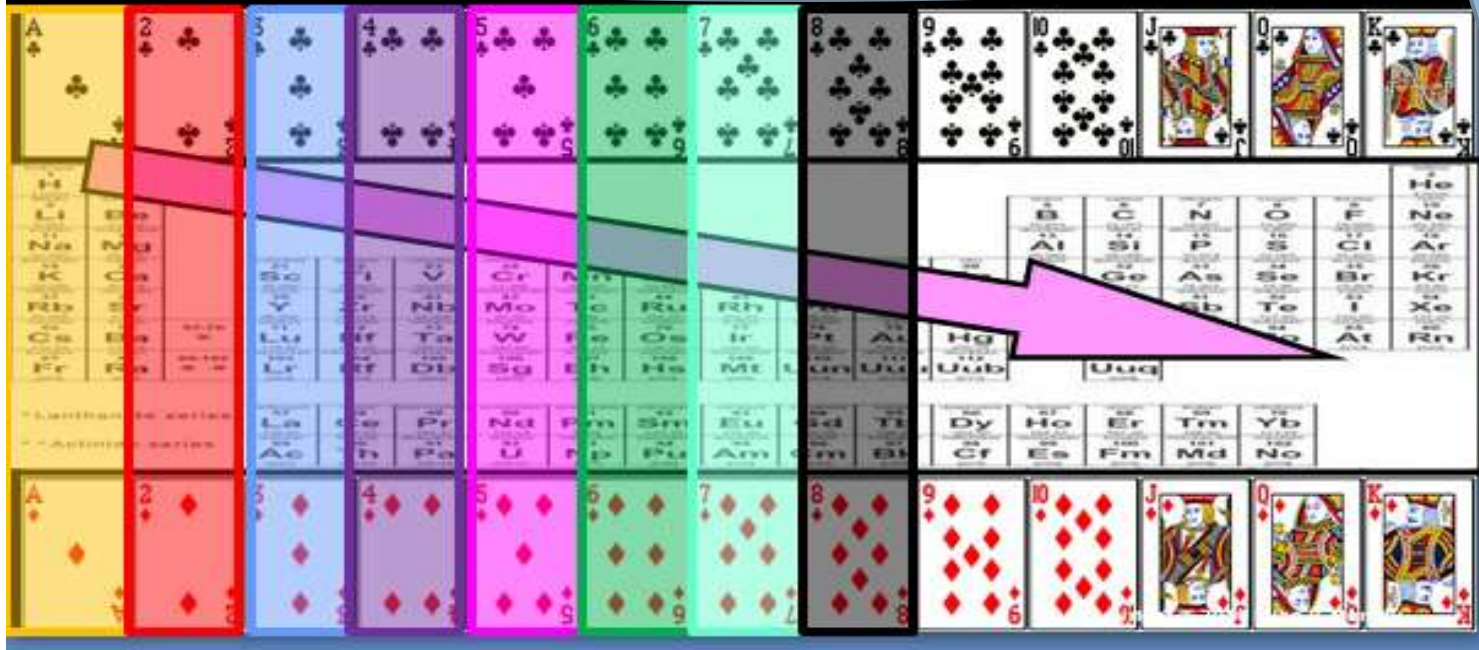
- Tape or glue down to hold in place.



These arrangements are similar to how you arranged your playing cards

- The Periodic Table increases in mass from left to right.
- Groups show the same number of valence E-

Same as
Combining
Power



- Take the Quiz to answer questions about this activity and how it relates to what Mendeleev did.

□ The End

