TEACHER INSTRUCTION PAGE - Activity 3.41A - ELEMENT DATA CARDS

For the data sheet assignment (3_41 A), students are required to gather the selected information and present it on a specifically sized card.

"Building the Periodic Table" Extension

These cards can then be used to build a periodic table as a class (or in small groups if you photocopy sets of the class' cards). To do this, it is important to select **most** elements from each of the key families, (halogens, alkali metals etc) remembering to leave one blank in each of these. After being evaluated, the cards can be used to design the table as Mendeleev had done. (See image 3_41 Mendeleev table)

Have the class start with a simple property like atomic mass. They are asked to organize the "known" elements (which have been screened to mimic Mendeleev's known elements). Then add in a second property (reactivity, conductivity etc). How does this change our structure? If the continuum of elements based on mass is broken into a 2 -dimensional structure, you should be able to maintain the original system and add the new information (parameters)

If you have left blanks in the right spaces, these blanks will hopefully emerge as students try to maintain both of their organization systems. You can explain that these are the same blanks that Mendeleev saw. This also illustrates how a good model or theory can be used to predict and explain outcomes that are not known at the time the model is designed. If the model holds up as new information is discovered, then it is a good model.

INTRO ACTIVITY

A good introduction to this is to have students classify a variety of leggo blocks. Groups of students are given an assortment of blocks of different sizes and colours. They are required to classify the blocks by both colour and size using a single system.

Most students will eventually gravitate to a horizontal and vertical system with colours across one axis and size along the other.

This can either be done in place of or in conjunction with the mapping and organization of the data cards.

SNC 1D - Chemistry Project : Element Data Sheets

DUE DATE: _____
Teacher: _____
Name:_____
Date handed in: _____

1. You will be assigned one element from the periodic table.
2. Using the internet or other resources, you will compile a data sheet on your chosen element. The data sheet must contain, as a minimum, the following information on your element.

Name
Symbol (top center of page)
Atomic Number (top left of page)
Atomic Mass (top right of page)
Date of discovery/isolation
Name of discoverer
Physical description (list properties in red)
Chemical Properties
Occurrence(where, how is it found)
Uses: how is it used, and which of its properties make it useful in this way. (eg. diamond is very hard so it is used as a cutting tool)
Other pertinent information may be used if it adds to our understanding of the element.

3. Print the information neatly on a sheet of paper and glue it to a sheet of bristol board or other stiff paper. Your card will be no larger than 8 ½ ”W x 5 ½”H TOTAL.

4. Include your name, teacher’s name, course code and date in the lower right hand corner.

5. Write your works cited, including web sites, on the reverse side of the card. Be sure this is in proper format.
6. Be sure to answer each question as it pertains to what we have learned. Do not worry about properties we have not discussed in class, focus on material at the grade 9 level only.

SNC 1D Rubric for Elements Data Card

	LEVEL 1	LEVEL 2	LEVEL 3	LEVEL 4
Science Investigation - Research (A1R) Use of resources and restructuring of information	- lacks much of the requested information -less than ½ of the questions answered - only 1 source of information	- much of the required information has been found - at least 60% of the questions answered - more than 1 source or source listed accurately in works cited format	- most of required information is restructured in students' own words - most of info is relevant - 2 or more sources listed accurately	- has presented all information correctly - clearly presented in own words - information is relevant - 3 sources properly listed in works cited
Communication(A1R) Communication of information and ideas	- information not organized on paper, difficult to follow - kept to size restrictions	- Information has some structure but not yet easy to follow - typed or printed with some use of images	- Information well organized by required format - appealing use of colour and or graphics	- information guides reader in a practical manner - eye catching appearance.
Connections (OE1) Understanding connections	- Only explains 1 use of the element - physical and chemical properties distinguished.	- Suggests 2 uses of the element and its occurrence. - Information re useful properties is present if not clearly linked	- Describes some uses of the element. -Uses clearly linked to properties - at least one graphic of the element	-several uses and occurrence are listed and explained with clear dialogue or graphics.