

NOTE: This is a computer lab class. Please make sure you have signed up for the lab in advance.

TITLE OF LESSON

Science 1 Unit 1 Lessons 22 – Final Project: Research Continued

Nature of Matter: How do tribes comprehend items at the atomic and molecular level?

TIME ESTIMATE FOR THIS LESSON

One class period

ALIGNMENT WITH STANDARDS

California – Sciences: Chem, Atomic and Molecular Structure 1a-e, g, i; Investigation and Experimentation 1

MATERIALS

Kirinyaga chapter 6 pp. 174-181 – Reading (not provided by ESubjects)

Internet access to <http://www.webelements.com/>, <http://www.chemicalelements.com>, and <http://pearl1.lanl.gov/periodic/default.htm>

LESSON OBJECTIVES

- To work in groups on their research project concerning a family of the periodic table
 - To complete their Internet research on a family of the periodic table
 - To create a visual aid to represent the elements in a family in the periodic table
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FOCUS AND MOTIVATE STUDENTS

- 1) Homework Check – Collect Lab Report 4 second drafts and check that all work has been completed to date. These will be handed back in Lesson 23 for peer edit and completion of final draft.
 - 2) Computer Etiquette – Quickly review appropriate computer lab behavior and the consequences for any misbehavior.
 - 3) Review – Have students take out their **Researching Family of Elements** worksheet with the columns they filled in yesterday. Have them look over what they found and what they still need to complete. As soon as they are ready, have them turn on the computers and continue with their research.
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ACTIVITIES – INDIVIDUAL AND GROUP

1. Group Work – Continue with the investigation of your family of the periodic table. Tell the students they will have 20 minutes today to complete their research.
2. Compare Sources – At the end of 20 minutes call time. They should take the next 20 minutes of class so that each student can share what they found to their group and pool their sources. Make sure students are aware of the number of sources they have to use by looking at the list below, and remind them that anything above and beyond that can go towards getting an A instead of a B on the assignment. Then as a group they should decide what they can use and what they should throw out. Tell them that once they've paired down the information, they need to all have a copy of it and the sources they will use and create a master list that all of them have so that they all have the exact information from that source.
3. Organizing Presentation Material – After creating the master list, students organize their presentation material. They have to determine if they have information to comply with the oral presentation requirements below. Once they have all the information, then the group needs to decide what visuals they will each create. Each member is responsible for creating a table and one image (sketch, photo, Internet, etc.) that depicts one part of their presentation. Thus, for each portion of the presentation that they are responsible for, each member should have an image and a table that helps to illustrate their ideas. As a group, they figure out which portions of the presentation make sense to have tables for them, and then decide what information the tables will house. Then



they decide what kind of images might effectively go with that table or that section of the presentation. In that way, they work as a group to divide up the presentation, organize it, and then figure out the tables and what will go in the tables and the images they could use. Once they complete the above requirements, they will decide who will present which pieces of information.

Information Requirements

- Define how your family relates to (bonding, chemical properties, etc.) the other elements in the periodic table – 2 ways in which they are similar and 2 ways in which they are different
- Compare these elements within a family to the class periodic table your group created – provide 2 ways in which they are similar and 2 ways in which they are different
- Compare your family to tribes such as those found in the independent reading assignment *Kirinyaga* – provide 2 ways in which they are similar and 2 ways in which they are different

Visual Aid Requirements

- At least 2 Images (from each group member) – can contain drawings, sketches, photos and at least 1 image downloaded from the Internet.
- One Table Created in Word (from each group member)– it must show information about the family of elements studied, it must have a title, at least 2 columns, headings, and show that the students understand how to create a table
- An illustration of your tribe and an illustration of the family of elements you are studying
- The visuals must describe an aspect of the family
- The visuals must provide information that helps the audience understand the family

Oral Presentation Requirements

- Length of presentation is 5 minutes
 - All members of the group must present
 - Information must describe the following:
 - a) Name of Family
 - b) Background Information
 - c) Physical Size
 - d) Group Size
 - e) Electrons in Outer Shell
 - f) 3 Characteristics + examples
 - g) 3 Functions + examples
 - h) 2 examples of reactivity with other elements
 - i) General themes or properties concerning the reactivity of their family
 - j) All information requirements
 - k) At least one table and 2 images per group member
4. **Binders** – Remind students that all work on for their final project and presentation will be placed in the PROJECT section of their binders for now and will be picked up again in lesson 41.
5. **Homework Review** – Tell students to read *Kirinyaga* Chapter 6 pp. 174-181 (begins with the beginning of the chapter and ends with “I left him standing there by the ashes, not totally convinced that he was wrong.”) Have students write **Dialectical Journal 14** with at least three entries. Review the rest of their homework assignments.
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HOMEWORK

- 1) Read *Kirinyaga* Ch. 6 pp. 174-181.
 - 2) Write **Dialectical Journal 14** with at least three entries.
 - 3) Continue working on any research that needs to be completed for the Final Project.
 - 4) Study notes and vocabulary to date.
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GROUP ROLES



Recorder – All students are recorders during the research of elements and tribe work. During the group work, your job will be to record the tribe's characteristics and after the research of elements record the group's findings and create a master list.

Facilitator – Your job will be to keep your group focused on making agreeable decisions. You will also be responsible for making sure that work is divided up evenly and fairly.

Manager – Your job will be to get and keep track of your materials and ensure that all research information has been cited correctly.

Time Keeper – Your job will be to keep the group on time.

Illustrator – Your job will be to illustrate your tribe and the elements in the family of elements your group is studying.

Reporter – Your job will be to report back to the class.

DOCUMENTATION FOR PORTFOLIO

Lab Report 2

Test 1: Matter

Lab Report 3

Class Periodic Table