THE PERIODIC TABLE

INTRODUCTION:

GREETINGS PERIODIC PUNDITS! YOUR PRESENT KNOWLEDGE OF CHEMISTRY AND PERIODIC LAW HAS AFFORDED YOU THE OPPORTUNITY TO ENGAGE IN SOME INVESTIGATIVE AND RESEARCH ANALYSIS FOR THE PRESTIGIOUS FIRM OF CANNIZZARO, MENDELEEV, AND MOSELEY, LLC. EACH PARTNER HAS CONTRIBUTED SIGNIFICANTLY TO THE PERIODIC LAW AND THEY HAVE ENLISTED YOUR ASSISTANCE TO ANALYZE THEIR DATA AND OBSERVATIONS TO MAKE SOME GENERAL CONCLUSIONS CONCERNING THE PERIODIC ELEMENTS. THIS TASK WILL HAVE UNENDING INSTRINSIC VALUE. I WILL BE CHECKING IN WITH YOU "PERIODICALLY."

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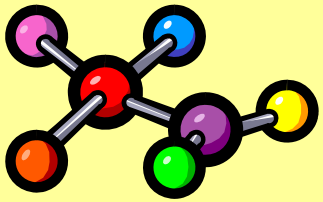
TASK:

USING THE RESOURCES PROVIDED AND ANY OTHERS YOU ARE ABLE TO LOCATE, EACH INVESTIGATIVE TEAM WILL GATHER DATA FOR THE ELEMENTS OF THE PERIODIC TABLE AND ASSIMILATE GRAPHICAL REPRESENTATIONS USING EITHER COMPUTER OR CALCULATOR GRAPHICS SOFTWARE. YOU MAY NOT CONSULT WITH ANY OTHER TEAM DURING THIS INVESTIGATION. EACH TEAM HAS TWO WEEKS TO COMPLETE THE INVESTIGATION. THE GRAPHICAL REPRESENTATIONS WILL THEN BE ANALYZED TO FORMULATE CONCLUSIONS AS TO THE PERIODIC TRENDS IN AN ELEMENTS:



1. VALANCE ELECTRONS
2. ELECTRON AFFINITY
3. ELECTRONEGATIVITY
4. ATOMIC RADII
5. IONIC RADII
6. IONIZATION ENERGY

YOUR FINDINGS WILL BE PRESENTED TO CANNIZZARO, MENDELEEV, AND MOSELEY, LLC'S BOARD OF DIRECTORS OF WHICH I AM ACTING

	CHAIRMAN. ADDITIONALLY, BE PREPARED TO DISCUSS THE ORDERLY NATURE OF OUR CREATOR AND THE FACT, THAT YOU AS IMAGE BEARERS, HAVE EMULATED YOUR RATIONAL AND LOGICAL CREATED NATURES.

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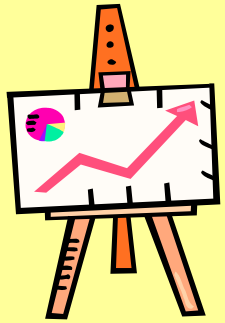
PROCESS:



EACH STUDENT WILL BE ASSIGNED TO AN INVESTIGATIVE TEAM COMPRISED OF THREE (3) RESEARCHERS. ONCE ASSIGNED, STUDENTS WILL COMPLETE THE FOLLOWING:

1. DIVIDE THE PERIODIC TABLE INTO THIRDS TO MAKE THE ACQUISITION OF DATA ACHIEVABLE—ASSIGNMENT RESPONSIBILITIES ARE TO BE SHARED WITH THE TEACHER.
2. EACH STUDENT WILL COLLECT THE DATA FOR THEIR PARTICULAR ELEMENTS: VALENCE ELECTRONS, ELECTRON AFFINITY, ELECTRONEGATIVITY, ATOMIC RADII, IONIC RADII, AND IONIZATION ENERGY. THIS DATA IS TO BE COLLECTED IN CHART FORM USING EXCEL OR SIMILAR SPREADSHEET SOFTWARE.
3. CHECKPOINT ONE OCCURS AT THIS PARTICULAR JUNCTURE: STUDENTS ARE TO SHARE THEIR DATA WITH ALL TEAM MEMBERS AND THE TEACHER BEFORE PROCEEDING.
4. 6 **LINE** GRAPHS WILL BE FORMULATED BASED ON THE DATA

	OBTAINED IN STEP 2 OF THIS ASSIGNMENT. IT IS SUGGESTED THAT EACH STUDENT BE RESPONSIBLE FOR 2 GRAPHS EACH (REMEMBER: YOU WILL USE THE DATA COLLECTED BY YOUR TEAM MATES WHEN CONSTRUCTING YOUR GRAPHICAL REPRESENTATION). THE GRAPHS ARE TO BE COMPLETED USING GRAPH PAPER AND A STRAIGHT-EDGE. GRAPHS ARE REQUIRED TO BE NEAT AND LEGIBLE. 5. CHECKPOINT TWO (2) OCCURS NOW—SHOW GRAPHICAL REPRESENTATIONS TO YOUR TEAM AND THETEACHER BEFORE PROCEEDING. 6. WITH THE GRAPHS COMPLETED, EACH INVESTIGATIVE TEAM WILL DISCLOSE THEIR FINDINGS IN WRITTEN FORM—THIS MAY BE SUBMITTED IN THE FORM OF ONE PAPER; BE SURE TO FOLLOW MLA GUIDELINES WHEN WRITING. ANY SCHOLARLY RESOURCES OUTSIDE OF WEBSITES AND THE TEXT MUST BE RECORDED IN A BIBLIOGRAPHY. THE PAPER SHOULD BE ONE TO TWO PAGES IN LENGTH. 7. INDIVIDUALLY EACH TEAM MEMBER WILL WRITE A ONE-PAGE REFLECTION AS TO THE ORDERLY NATURE OF GOD, OUR CREATOR AND TO HOW YOU, AS CREATED IN GOD'S IMAGE REFLECTED THE NORMATIVE NATURE OF BEING A LOGICAL AND RATIONAL BEING. MLA FORMAT FOR THIS REFLECTION APPLIES AS WELL. 8. EACH INVESTIGATIVE TEAM WILL REPORT TO THE CANNIZZARO, MENDELEEV, & MOSELEY, LLC BOARD OF DIRECTORS AT THE CONCLUSION OF THIS TASK (TWO WEEK DEADLINE). REPORT WILL BE IN THE FORM OF A PRESENTATION.

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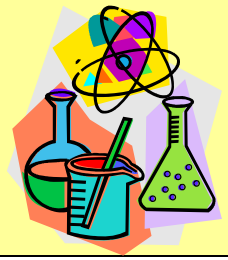
RESOURCES: THE FOLLOWING WEBSITES WILL ASSIST YOU IN YOUR INVESTIGATIVE EFFORTS. ADDITIONALLY, YOU MAY CONSULT YOUR TEXTBOOK OR ANY OTHER SCHOLARLY RESOURCE:

http://www.scilinks.org/
GO.HRW.COM
CHEMICAL ELEMENTS.COM - AN INTERACTIVE PERIODIC TABLE OF THE ELEMENTS
INTERACTIVE PERIODIC TABLE
PERIODIC TABLE - FLASH VERSION
A PERIODIC TABLE OF THE ELEMENTS AT LOS ALAMOS NATIONAL LABORATORY
ACS PERIODIC TABLE



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EVALUATION:

The Periodic Table

CATEGORY	4	3	2	1	Score
Elements assigned	all elements were divided and assigned equitably	many of the elements were divided and assigned equitably	some of the elements were divided and assigned equitably	few of the elements were divided and assigned equitably	
Data collected	data was collected for 34-40 elements in chart form	data was collected for 25-33 elements in chart form	data was collected for 16-24 elements in chart form	data was collected for 15 or fewer elements in chart form	
Checkpoint 1	student reported to all team members and the teacher	student reported to only 1 team member and the teacher	student reported to at least 1 team member	student reported to the teacher only	

	Line graphs (2 each)	2 line graphs were completed using graph paper and a straight-edge; graph was neat and legible	1 line graph was completed using graph paper and a straight-edge; graph was neat and legible	2 line graphs were completed, but not using graph paper; graph was sloppy and illegible	1 line graph was completed, but not using graph paper; graph was sloppy and illegible		
	Checkpoint 2	student reported to all team members and the teacher	student reported to only 1 team member and the teacher	student reported to at least 1 team member	student reported to the teacher only		
	Group paper	length is 2 pages, grammatically correct, proper MLA format; responses are complete, thorough, and demonstrate comprehensive knowledge of the material	length is 1-2 pages, contains few grammatical and MLA format errors; responses are thoughtful and complete	length is 1 page with some grammatical and format errors; responses are satisfactory, but not thorough or well thought out	length is less than 1 page, contains many grammatical and MLA format errors; responses are not explained and show little synthesis and interaction with the material		

	Individual reflection	length is one page, grammatically correct and in proper MLA format; ideas are strongly supported	length is 1 page with few grammatical and MLA format errors; responses are supported	length is less than 1 page with some grammatical and MLA format errors; responses are satisfactory, but not well supported	length is less than 1 page, contains many grammatical and MLA format errors; responses are unsupported.		
	Group presentation	Communication of an approach is evident through a methodical, organized, coherent, sequenced, and labeled response	Communication is achieved although not clearly evident; communication of arguments is limitedly supported	Some communication of an approach is evident through written and verbal explanations; arguments not well supported	Little or no communication of an approach is evident; no justification for reasoning is present		

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CONCLUSION:

IN THIS WEBQUEST YOU INVESTIGATED THE PERIODIC TRENDS (FAMILY AND PERIOD) OF THE ELEMENTS OF THE PERIODIC TABLE AS RELATED TO ELECTRON AFFINITY, VALENCE ELECTRONS, ELECTRONEGATIVITY, ATOMIC RADII, IONIC RADII, AND IONIZATION ENERGY. SECONDLY, YOU DEPICTED THIS INFORMATION GRAPHICALLY IN ORDER TO MAKE SOME CONCLUSIONS THAT TRANSCEND TIME AND CULTURE. MOST IMPORTANTLY YOU RECOGNIZED THE CONSTANCY OF OUR CREATOR AND YOUR GIFTS AS A RATIONAL/LOGICAL IMAGE BEARER OF CHRIST.

THE WEBSITES LISTED IN YOUR RESOURCES PAGE OF THIS QUEST SHOULD PROVIDE YOU WITH FURTHER OPPORTUNITY TO SEE GOD'S AWESOME POWER DISPLAYED IN CREATION AS RELATED TO THE ELEMENTS OF THE PERIODIC TABLE THAT ARE THE BASIS OF ALL LIFE!

THE PERIODIC TABLE

TEACHER NOTES:

THIS WEBQUEST PROVIDES STUDENTS WITH THE OPPORTUNITY TO CONSTRUCT A
OF PERIODIC LAW AS OPPOSED TO BEING TOLD WHAT THE CONNECTIONS EXIST BE
PERIODIC TABLE. THE INTERACTIVE WEBSITES LISTED ON THE STUDENT RESOURC
AREAS OF CHEMISTRY INSTRUCTION AS WELL, SO I ENCOURAGE YOU TO VISIT THE

NATIONAL SCIENCE EDUCATION CONTENT STANDARDS:
HTTP://WWW.NAP.EDU/READINGROOM/BOOKS/NSES/HTML/

ALABAMA SCIENCE CONTENT STANDARDS:
HTTP://WWW.ACADEMICBENCHMARKS.COM/SEARCH/?TOPIC_ID=77082&STANDARD

SPECIFIC STANDARDS, BOTH STATE AND NATIONAL, THAT THIS WEBQUEST ADDRE

- ABILITY TO UNDERSTAND AND PERFORM SCIENTIFIC INQUIRY
- STRUCTURE OF ATOMS
- UNDERSTANDING ABOUT SCIENCE AND TECHNOLOGY
- SYSTEMS, ORDER, AND ORGANIZATION
- ORCHESTRATE DISCOURSE AMONG STUDENTS ABOUT SCIENTIFIC IDEAS; TO F LEARNING
- CHALLENGE STUDENTS TO ACCEPT AND SHARE RESPONSIBILITY FOR THEIR O
- PRESENTING CONCLUSIONS BASED ON INVESTIGATIVE RESEARCH
- APPLY CRITICAL AND INTEGRATED SCIENCE THINKING SKILLS
- USING MATHEMATICAL/GRAPHICAL MODELS TO EXPRESS PATTERNS AND REI SETS OF SCIENTIFIC DATA
- USE WRITTEN AND ORAL COMMUNICATION SKILLS TO PRESENT AND EXPLAIN INDIVIDUALLY AND IN COLLABORATIVE GROUPS

	• PRACTICE RESPONSIBLE USE OF TECHNOLOGY SYSTEMS, INFORMATION, AND • COLLECT DATA TO CONSTRUCT AND ANALYZE GRAPHS USING TOOLS SUCH AS BASED/CALCULATOR-BASED SOFTWARE