

Middle School Science Learning Plans

These plans are also available on our website:

www.accomack.k12.va.us

Please note: The online portion of these plans is optional.

Middle School Learning Plans



8th Grade Physical Science

Activities to Support Instruction During Extended School Closures

The purpose of this document is to provide an overview of suggested activities available to ACPS students. These suggestions can be used by families to support the continuity of education. The learning experiences developed and provided will give students opportunities to go deeper into concepts, ideas, and skills independently. These activities do not require copies or additional supplies.

Elemental Sports Team

Online Option (see Supporting Materials, below):

- Create a sports team from the Periodic Table of Elements. Create a slide for each team member.
- Create a clever team name based on the elements you select. Your athletic team can be any sport of your choice. Your team should have a minimum of 5 players (Starting 5). Ex: basketball, football, cheerleading, hockey, soccer, tennis, track, swimming, ect. For each of your players (elements), you are to report the stats (properties) of the players. Each player should include the following:
 - Player's Name—include a clever name for your player by using part of the element's name
 - o Ex: Flying Flourine
 - Player's Number- The player's number is the atomic number of the element
 - o Ex: Sodium's number is 11.
 - Player's Nickname- The player's nickname Is the chemical symbol
 - o Ex: The nickname for Potassium is "k".
 - **Player's Position-** The player's position is its location on the Periodic Table. This can be determined by finding the row (period) and Group (family).
 - o Ex: Lithium's position is R2, C1 which is row 2 and column 1.
 - Player's Weight- The weight of the player is the atomic mass (# of protons and neutrons)
 o Ex: Helium's weight is 4.
 - **Other Stats**: List other physical and chemical characteristics of the player. This can include standard state at room temperature, density, color, reactivity (how easy it reacts with other elements). You may or may not utilize the information to describe how this player has been selected for your team if you would like to include the 'other stats' section with the 'Justification for Team' section.
 - o Ex: King Krypton is a member of the Noble class and is a great leader to the team. He doesn't react when faced with any struggle. He is also very good at getting the ball into the net because he is colorless.
 - **Justification for Team**: In 2 to 3 sentences, explain why you selected the element for your team. What characteristics make it a great fit for your team?
 - **Illustration:** Each player should have an illustration of its atom. Use Bohr's model for illustrations. These can be hand-drawn or printed.
 - Advertisement to the Public: Create a clever way to present your team to the public. Include the different types of players you included. Your advertisement can be in any form. Examples could include, but are not limited to a handout, trading cards, song, rap, or chant.

Offline Option:

- Create a sports team from the Periodic Table of Elements. Create an 8.5" x 11" poster for each team member.
- Include the same information required in the online option for each team member.

Supporting Materials:

- Jlab: https://education.jlab.org/indexpages/
- Duckster https://www.ducksters.com/science/chemistry/
- Periodic Table Link <u>https://ptable.com/</u>

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19 K Potassium 39.038	20 Ca Dateuro 40 078	21 Sc 55000000 44.950	22 Ti Tilanium 47.56	23 V Vatedium 50542	24 Cr Diramium 51100	25 Mn Nanganase T4108	Fe Fe	27 Co Gobaž 34 RXI	28 Ni Nicial Sk (H3	29 Cu Strife			32 Ge Germentum 72 (01)	33 As Nosenic 74 (92)	34 See 56/601am 78/971	35 Br Bronnine 75/04	36 Kr Krypton 84.754
37 Rb Rebildium 85.154	Stortiam	39 Y	40 Zr Zrconkum 9/221	41 Nb Natkam 92,905	42 Mo Molybdanum M.P5	43 TC Technetium DK.007	A4 Ru Butherium 101.07	45 Rh Readium	Pelledium 10542	47 Ag 5869 107.888	48 Cd Gadmium 112,416	49 In Indum 114 818	50 Sn 118,211	51 Sb Antimony 121,263	52 Te Totherkam	53 100ho 126,304	54 Xe Manon 131.294
55 CS Desium 102.966	56 Ba Banum 137.328	57-71	72 Hf Harnum 178,49	73 Ta Tantatum 190:348	74 W Tungster 183.85	75 Re Rhanium 195/207	76 Os 08 mkm 19023	77 Ir 10222	78 Platinum 19508	79 Au 600 106.907	B0 Hg Marcuty 20150	81 TI Thalitum 204-360	⁸² Pb 1444 2012	Bi Bi Dismath 20180	Petenium [208.972]	Asterina 20097	Radon 222-518
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Create Your Own Periodic Table

Online Option: (see Supporting Materials, below)

- Research the arrangement of the periodic table, then use your creativity and ingenuity to create your own periodic table.
- Some topics ideas include: candy, TV shows, movies, mall stores, music, sports teams, animals, clothes, countries, states, food, etc.
- You will create a digital presentation of your periodic table and explain your arrangement to your parents.
- Create a slide for each "element" on your periodic table that is similar to the information provided for each element on the periodic table. Drawing a square with sample information, and then label what characteristic each piece of information represents.
- Once you have identified your elements, arrange them into a periodic table. Your periodic table should contain 4 periods and 8 families of a representative (short) periodic table. You do not have to include any "Transition elements."
- The items in vertical columns (groups) must be similar in some manner and have some variation and gradual change as you move up or down the column. In other words, it should exhibit periodicity. Label each group by family name.
- You may get pictures from the internet, magazines, catalogs, use your own photos or actual objects.
- Explain your periodic table. Identify the trends in your table. Explain what each column or family in your table represents, what the trend or periodicity is as you move across a row (period). Explain how your trends compare to the trends in the actual periodic table.
- A "Key" is required for the information given for each "element" on the periodic table by drawing a sample square with sample information, and then label what characteristic each piece of information represents.

Offline Option (please see the printed Periodic Table above):

- You will create a poster, book, or other visual presentation of your periodic table and explain your arrangement to your parents.
- Include the same information required in the online option for each element.

Supporting Materials:

https://www.youtube.com/watch?v=-wu0LixSBpk https://www.youtube.com/watch?v=IgA37CNa7Ow

Hints for Planning:

- Remember that a chemical symbol can be 1 or 2 letters, but only the first letter is capitalized.
- Remember that atomic mass can be in decimal or whole number form.
- You cannot use the same characteristic for 2 different pieces of information. For example, 1994 can only be used for atomic mass or atomic number, not both.
- Sketch out each square and manipulate the pieces to help discover patterns
- Old catalogs and magazines are helpful for getting topic ideas or information and can be cut out to use as a part of the table.