

Atomic Structure and the Periodic Table Unit

- Covers: Atomic Mass, Subatomic Particles, Isotopes, Periodic Table, Elements, and Trends
- Lesson & Engaging Activities
- Daily Teaching Schedule

Periodic Table of the Elements



Atomic Structure and the Periodic Table

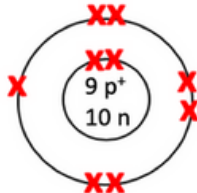
Unit - Atomic Structure and the Periodic Table

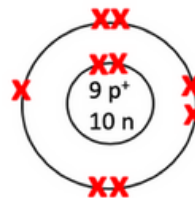
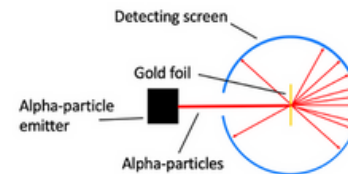
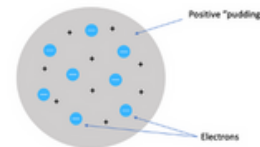
- 4 Lessons
- 9 Activities

Atomic Mass, Subatomic Particles, and Isotopes:

- Atomic Theory
- Democritus, Dalton – Ball Model, J.J. Thompson – Raisin Bun Model, Rutherford – Gold Foil Experiment
- Bohr – Energy Level Model and BR Diagrams

Periodic Table, Elements, and Trends:

- History – Mendeleev
 - Element squares, Atomic Number, Atomic Mass
 - Valence Electrons
 - Metals/Non-Metals and Metalloids
 - Groups, Families, and Periods
 - Properties of Elements
 - Periodic Table Groups
 - Shielding
 - Periodic Table Trends
 - Atomic Radius, Ionic Radius, Ionization Energy, and Electronegativity
- 



The Periodic Table of the Elements

Group	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
1	1 H																	18 Ar
2	3 Li	4 Be											19 K	20 Ca				36 Kr
3	11 Na	12 Mg											21 Sc	22 Ti	23 V	24 Cr	25 Mn	37 Rb
4	19 K	20 Ca	21 Sc	22 Ti	23 V	24 Cr	25 Mn	26 Fe	27 Co	28 Ni	29 Cu	30 Zn	31 Ga	32 Ge	33 As	34 Se	35 Br	54 Xe
5	37 Rb	38 Sr	39 Y	40 Zr	41 Nb	42 Mo	43 Tc	44 Ru	45 Rh	46 Pd	47 Ag	48 Cd	49 In	50 Sn	51 Sb	52 Te	53 I	86 Rn
6	55 Cs	56 Ba	57 La	58 Ce	59 Pr	60 Nd	61 Pm	62 Sm	63 Eu	64 Gd	65 Tb	66 Dy	67 Ho	68 Er	69 Tm	70 Yb	71 Lu	118 Og
7	87 Fr	88 Ra	89 Ac	90 Th	91 Pa	92 U	93 Np	94 Pu	95 Am	96 Cm	97 Bk	98 Cf	99 Es	100 Fm	101 Md	102 No	103 Lr	

Lanthanides: 57 La, 58 Ce, 59 Pr, 60 Nd, 61 Pm, 62 Sm, 63 Eu, 64 Gd, 65 Tb, 66 Dy, 67 Ho, 68 Er, 69 Tm, 70 Yb, 71 Lu

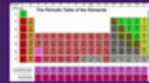
Actinides: 89 Ac, 90 Th, 91 Pa, 92 U, 93 Np, 94 Pu, 95 Am, 96 Cm, 97 Bk, 98 Cf, 99 Es, 100 Fm, 101 Md, 102 No, 103 Lr

Lesson Includes Teacher and Student Versions - Videos Embedded in Lessons

Trends in the Periodic Table

- Properties
- Periodic Table Groups
- Metals, Nonmetals, Metalloids
- Shielding
- Periodic Table Trends
- Atomic Radius
- Ionic Radius
- Ionization Energy
- Electronegativity



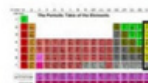


TWF

This digital presentation includes both Google and Office resources and is Google Classroom Ready

Halogen Family – Group 17

- The elements in this family are fluorine, chlorine, bromine, iodine, and astatine



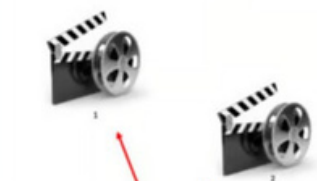
Halogen Family – Group 17

The elements in this family are fluorine, chlorine, bromine, iodine, and astatine. **Halogens have 7 valence electrons and are very reactive therefore, they are never found free in nature**



Student and Teacher versions of the presentations

The Atom is Really, Really Small!



Videos embedded directly into the slides. One-click access.

The Atomic Theory

- Atomic Theory
- Atom Size
- Democritus
- Dalton – Ball Model
- J.J. Thompson – Raisin Bun Model
- Rutherford – Gold Foil Experiment
- Bohr – Rutherford Model
- Bohr – Rutherford Diagrams



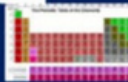


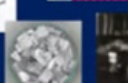


Google Slides and PowerPoint Versions Included
Google Classroom Ready

Periodic Table

- Before the Periodic Table
- Mendeléeev
- The Current Periodic Table
- The Elements
- Atomic Number
- Atomic Mass
- Valence Electrons
- Metals, Non-Metals, and Metalloids
- Columns and Families
- Rows and Periods



Google Slides and PowerPoint Versions Included
Google Classroom Ready

Google Access

Thank you for your purchase. Clicking the link button below will automatically create a copy of the Google resources and place them into your Google Drive. You'll find the folder inside the "Shared with me" section on the left side of your Drive.

Important: Before you click, make sure you're signed in to the Google account you'd like the resources placed into. If the resources are added to the wrong account, simply sign out and then into the correct one and repeat the process.

[Click here to place a copy of your resources into your Google account](#)

TWF

Google Classroom Ready
One-Click Google Slides Access

Engaging Activities



Atoms, Elements, and the Periodic Table Crossword Puzzle

- 15 - Term Crossword
- Includes 2 Versions
 - Version 1 - No Word Bank
 - Version 2 - Includes a Word Bank



Atoms, Elements, and the Periodic Table Word Search and Scramble

THREE Activities in One!

1. Basic 25-Term Word Search
2. Scrambled Words Word Search
3. Word Scramble and Define Activity



Periodic Table and Elements Matching Game



A fun and interactive way to learn and review element characteristics and the periodic table. Perfect for all grades as you can use whichever cards best fits your classroom.

Elements of the Periodic Table Word Search and Scramble

THREE Activities in One!

1. Basic 25-Term Word Search
2. Scrambled Words Word Search
3. Word Scramble and Define Activity



Device-Based Scavenger Hunt Elements and the Periodic Table



- Includes
- 5 Unique Locations
 - Online form submission
 - Answer Key

Works on all smartphones, tablets, Chromebooks and laptops

100% Digital

- Simulations
- Quizzes



Device-Based Scavenger Hunt Atoms: Atomic Theory and Structure

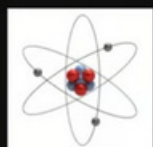


- Includes
- 5 Unique Locations
 - Online form submission
 - Answer Key

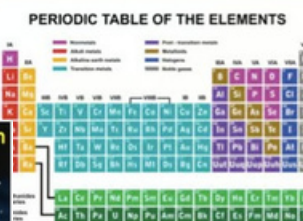
Works on all smartphones, tablets, Chromebooks and laptops

100% Digital

- Simulations
- Quizzes
- Videos
- Games
- Word Scramble
- and more

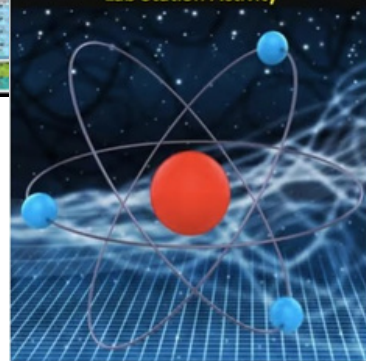


The Periodic Table Lab Station Activity



Lab Station Activities to get your kids out of their seats and engaged in their learning

Atomic Model, Structure and Notation Lab Station Activity



7 Lab Station Activities to get your kids out of their seats and engaged in their learning

Daily Teaching Schedule

UNIT – Atomic Structure and the Periodic Table **12 DAYS TOTAL**

Atomic Models – 4 days			
Subatomic Particles			
Isotopes			
Number of Day(s)	Course Content	Teaching Resources	NGSS
1	- Atomic Theory Matching - Atom Size - Democritus - Dalton – Ball Model - J.J. Thompson – Raisin Bun Model - Rutherford – Gold Foil Experiment - Bohr – Energy Level Model - Bohr-Rutherford Diagrams	Atomic Theory, Model, and Bohr-Rutherford Diagrams - Lesson	HS-PS1-1 HS-PS1-2 HS-PS1-3 HS-PS1-8 HS-PS4-3
1	Hands-on review activity	Atomic Model, Notation, and Atoms - Lab Station Activity	
1	Review activity	Atoms: Atomic Theory and Structure - Digital Scavenger Hunt Activity	
1	Review activity	Atomic Structure and Notation - Lesson Subatomic Particle Worksheet	
Assessment(s)	There are multiple assessments included throughout this unit.		

Periodic Table, Elements, and Trends – 8 days			
Number of Day(s)	Course Content	Teaching Resources	NGSS
2	- History – Mendeleev - Element squares - Atomic Number - Atomic Mass - Valence Electrons - Metals/Non-Metals and Metalloids - Groups and Families - Periods	The Periodic Table - Lesson	HS-PS1-1 HS-PS1-2 HS-PS1-3 HS-PS1-8
2	- Properties - Periodic Table Groups - Metals, Nonmetals, Metalloids - Shielding - Periodic Table Trends - Atomic Radius - Ionic Radius - Ionization Energy - Electronegativity	Trends in the Periodic Table - Lesson	
1	Hands-on review activity	The Periodic Table - Lab Station Activity	
1	Hands-on review activity	Elements and the Periodic Table - Digital Scavenger Hunt Activity	
1	Review activity	The Elements of the Periodic Table Word Search and Scramble Activity or Periodic Table and Elements Card Matching Game	
1	Review activity	Atoms, Elements, and the Periodic Table Word Search and Scramble Activity or Atoms, Elements, and the Periodic Table Crossword Puzzle Activity	
Assessments	There are multiple assessments included throughout this unit. UNIT TEST		

The Following Resources are Included

Atomic Models, Subatomic Particles, and Isotopes:

- [Atomic Theory, Model, and Bohr-Rutherford Diagrams - Lesson](#)
- [Atomic Model, Notation, and Atoms - Lab Station Activity](#)
- [Atoms: Atomic Theory and Structure - Digital Scavenger Hunt Activity](#)
- [Atomic Structure and Notation - Lesson Subatomic Particle Worksheet](#)

Periodic Table, Elements, and Trends:

- [The Periodic Table - Lesson](#)
- [Trends in the Periodic Table - Lesson](#)
- [The Periodic Table - Lab Station Activity](#)
- [Elements and the Periodic Table - Digital Scavenger Hunt Activity](#)
- [The Elements of the Periodic Table Word Search and Scramble Activity](#)
- [Periodic Table and Elements Card Matching Game](#)
- [Atoms, Elements, and the Periodic Table Word Search Scramble Activity](#)
- [Atoms, Elements, and the Periodic Table Crossword Puzzle Activity](#)

Who's It For?

- High School Physical Science Teachers
- Teachers using NGSS
- Teachers who want to increase their student's engagement and retention
- Teachers not looking to reinvent the wheel

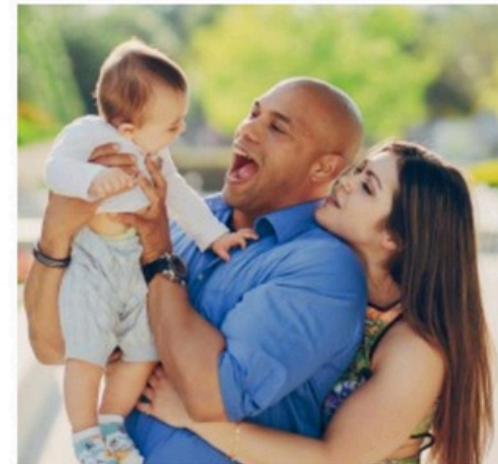


Save yourself the **STRESS AND TIME**



TWF

Spend your time WISELY



TWF