

Atoms, Elements, and Compounds

Digital Interactive Notebook

PLUS 5 LESSONS

Chapter 1 – Particle Theory
and Classification of Matter

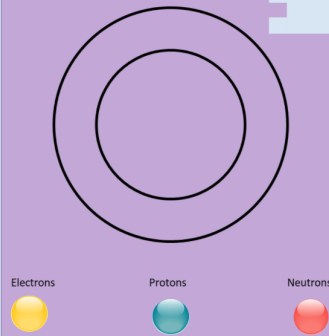
Chapter 2 – Atomic Theory

Chapter 3 – Atomic Structure
and Notation

**100% Digital and
Interactive**

Build

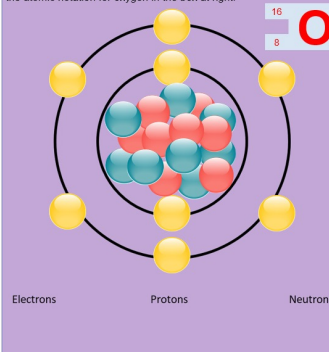
Directions: Drag and drop the subatomic particles onto the rings below to build an atom of oxygen. Use the copy and paste function to create as many of each type of subatomic particle as you need. Write the atomic notation for oxygen in the box at right.



Electrons Protons Neutrons

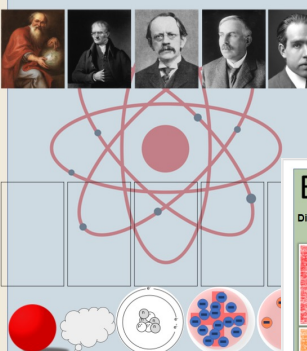
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Electrons Protons Neutrons

Directions: Drag and drop the contribution to the Atomic Model into the space beneath the appropriate scientist. In the text boxes below, label the scientist and briefly describe their contribution to the Atomic Theory, including any experiments they ran.



Elemental

Directions: Find a periodic table on the internet and use it to find the following information for the elements Iridium, Krypton, and Lead.

Iridium

Family: Number of valence electrons: Atomic number: Atomic mass: Reaction potential: Conduction potential:

Krypton

Family: Number of valence electrons: Atomic number: Atomic mass: Reaction potential: Conduction potential:

Lead

Family: Number of valence electrons: Atomic number: Atomic mass: Reaction potential: Conduction potential:

Build

Directions: Using the table of combining capacities (CC) and the criss-cross rule, fill out the table below.

Element	CC	Formula
Calcium and oxygen		
Hydrogen and chlorine		
Silicon and oxygen		
Aluminum and chlorine		
Nitrogen and hydrogen		
Calcium and chlorine		
Carbon and sulfur		
Hydrogen and fluorine		
Lithium and chlorine		
Magnesium and chlorine		
Potassium and chlorine		
Sodium and chlorine		
Sodium and sulfur		
Beryllium and oxygen		
Phosphorus and hydrogen		
Boron and nitrogen		
Aluminum and oxygen		

Chapter 4 – The Periodic
Table

Chapter 5 – Chemical
Symbols, Formulas, and
Compounds

Atoms, Elements, and Compounds

Digital Interactive Notebook

Thank you so much for taking the time to sample my **Atoms, Elements, and Compounds** digital interactive notebook.

This notebook contains **18** activities and **27** total pages which will allow your students to bring their notes and thoughts together.

The notebook is fully editable and slides can be removed if needed as well as added. Additional slides are a great way for students to add their own notes, thoughts, questions, etc. and can be easily inserted at any point.

Atoms, Elements, and Compounds

Digital Interactive Notebook

- So easy to understand and post.
Have your students working in under 10 minutes
- The majority of the items in this resource are fully editable
- Slides can be added or removed easily to suit your classroom needs.

Click here to immediately download a sample Space Digital INB →

<http://bit.ly/TWF-DINB>

What's Included?

This Digital Interactive Notebook is broken down into 5 chapters. Chapters can easily be removed if they don't correspond to your curriculum needs.

Chapter 1 – Particle Theory and Classification of Matter

Chapter 2 – Atomic Theory – The History of the Atom

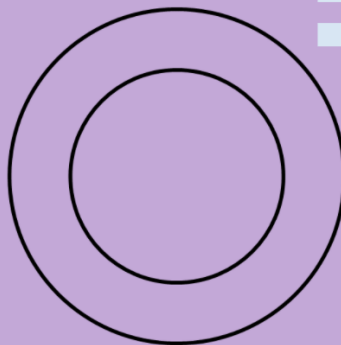
Chapter 3 – Atomic Structure and Notation

Chapter 4 – The Periodic Table

Chapter 5 – Chemical Symbols, Formulas, and Compounds

Build

Directions: Drag and drop the subatomic particles onto the rings below to build an atom of oxygen. Use the copy and paste function to create as many of each type of subatomic particle as you need. Write the atomic notation for oxygen in the box at right.



Electrons



Protons



Science Notebook

Your Name Here:

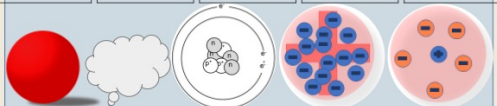
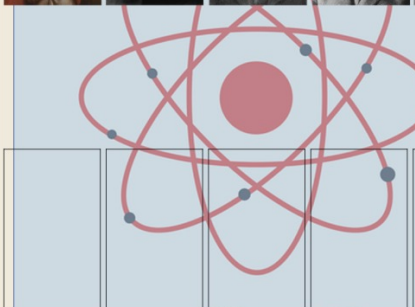
Atoms, Elements, and Compounds

Elemental Properties

Directions: Find a periodic table online and fill in the table below.

Family: Alkali metals Number of valence electrons: 1 Atomic number: 19 Atomic mass: 39 Reaction potential: Highly reactive with water Conduction potential: High
Family: Number of valence electrons: Atomic number: Atomic mass: Reaction potential: Conduction potential:
Family: Number of valence electrons: Atomic number: Atomic mass: Reaction potential: Conduction potential:
Family: Number of valence electrons: Atomic number: Atomic mass: Reaction potential: Conduction potential:

Directions: Drag and drop the contribution to the Atomic Model into the space beneath the appropriate scientist. In the text boxes label the scientist and briefly describe their contribution to the Atomic Model, including any experiments they ran.



F	1
Na	1
Mg	2
Al	3
Si	4
P	3
S	2
Cl	1
K	1
Ca	2

Build

Using the table of combining capacities (CC) and the table, fill out the table below.

Elements	Formula
Calcium and oxygen	
Hydrogen and chlorine	
Silicon and oxygen	
Aluminum and chlorine	
Nitrogen and hydrogen	
Calcium and chlorine	
Carbon and sulfur	
Hydrogen and fluorine	
Lithium and chlorine	
Magnesium and chlorine	
Potassium and chlorine	
Sodium and chlorine	
Sodium and sulfur	
Beryllium and oxygen	
Phosphorus and hydrogen	
Boron and nitrogen	
Aluminum and oxygen	

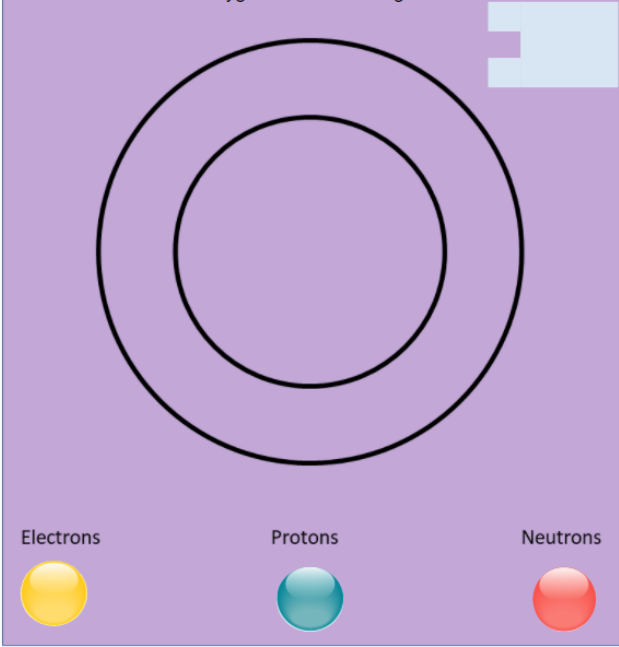


TWF

Interactive Drag and Drop Activities

Build

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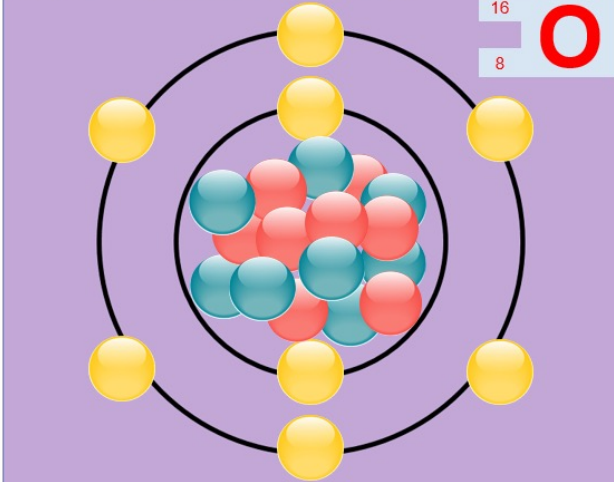


Electrons Protons Neutrons

Students are able to move objects around the screen to complete the activity

Build

Directions: Drag and drop the subatomic particles onto the rings below to build an atom of oxygen. Use the copy and paste function to create as many of each type of subatomic particle as you need. Write the atomic notation for oxygen in the box at right.



Electrons Protons Neutrons

Creative Activities



Report!

Directions: You are a newspaper reporter. A scientist has just updated the atomic model.

Your task is to write about this discovery (choose one of the models from the previous page). Come up with a gripping headline and a brief article, including how the model has been changed, what prompted the change, and why the discovery is important.

Type your answer here:



Write!



Directions: Write a song or poem to help you remember the five particle theory rules.

Type your answer here:

Students are able to express their creativity while demonstrating knowledge of the topic.

Vocabulary and Extension Activities

As additional activities for early finishers or part of the main notebook assessment, your digital interactive notebook comes with three extension activities/projects plus a vocabulary section where students match terms with their definitions.

Extension Activity #1

Create an ABC book covering the material learned in this unit.

1. Write out the letters of the alphabet.
2. Come up with a word or phrase related to the unit that begins with each letter.
3. Define/describe each word or phrase.

Submission

- You will fulfill the requirements above and filling out, subsequent slides

Extension Activity #2

Give three false statements about the material covered in this unit.

1. Write each statement.
2. Trade devices with another student.
3. Each of you must rewrite the false statements to make them correct.
4. Note the student with whom you completed the activity.

Submission

- You will fulfill the requirements above and filling out, subsequent slides

Extension Activity #3

Create an extensive and detailed account of what you learned in this unit. You should include:

1. The big picture - what are the concepts that really summarize this unit?
2. What were the new things you learned?
3. What surprised you?
4. What was most interesting?
5. What questions do you now have about completing it?
6. A summary of each lesson's key concepts including pictures and information.

Submission

- You will fulfill the requirements above and filling out, subsequent slides
- Numbers 1-5 above can be done on subsequent slides
- Number 6 will utilize at least a page for each lesson to properly summarize

Vocabulary

Drag and drop the definition into the space next to the correct term.

TERM	DEFINITION
MIXTURE	
PURE SUBSTANCE	
ELEMENT	
ATOM	
PERIODIC TABLE	
PROTON	
NEUTRON	
ELECTRON	
COMBINING CAPACITY	
ATOMIC MASS	
ONE SUBSTANCE EITHER CHEMICALLY MIXED TOGETHER OR ON ITS OWN	NEGATIVELY CHARGED PARTICLE
THE NUMBER OF CONNECTIONS AN ATOM CAN MAKE	PROTONS + NEUTRONS
THE SMALLEST PART OF AN ELEMENT THAT STILL RETAINS THE PROPERTIES OF THAT ELEMENT	NEUTRAL PARTICLE
TWO OR MORE SUBSTANCES MIXED TOGETHER, BUT NOT CHEMICALLY COMBINED OR BONDED	KEY TO ALL ELEMENTS ON EARTH
	POSITIVELY CHARGED PARTICLE
	THE SIMPLEST PURE SUBSTANCE

Atoms, Elements, and Compounds: Digital Interactive Notebook

- Works with Google and OneDrive cloud services
- If you don't currently have a Google account, you can sign up for one completely free and get started in 5 minutes. If you're a OneDrive user, no problem. Simply download the notebook as a PowerPoint file to your computer then upload it to your OneDrive account.
- The majority of the items in this resource are fully editable. In addition, slides can be added or removed easily to suit your classroom needs.

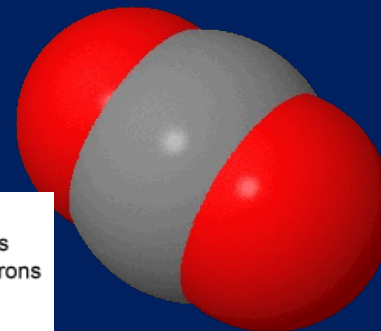
Interactive Notebooks

THEN: Before computers, we used interactive notebooks to engage our students and keep their notebooks organized and accessible. This, however, required a lot of material and the unwelcomed task of lugging them all home with you to mark. But we used them because they were effective and allowed us to effectively assess our students' understanding.

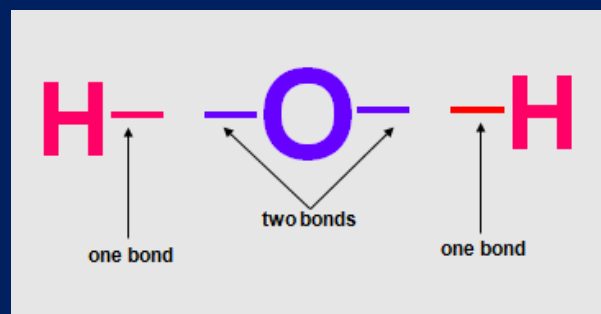
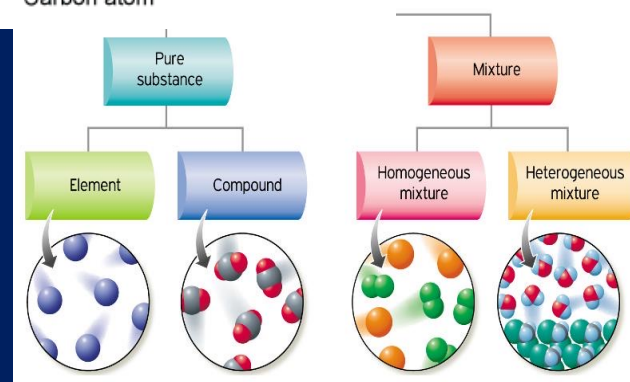
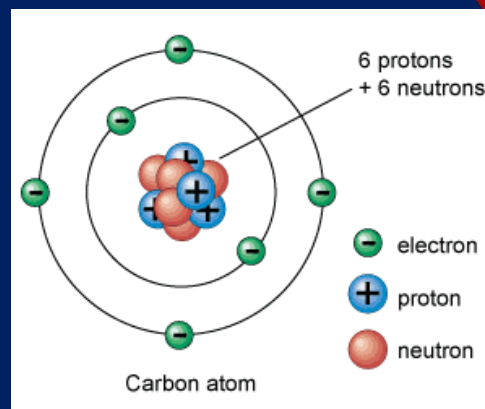
NOW: Why use digital interactive notebooks? As prices decrease, many schools are moving towards a 1:1, computer-student ratio and are becoming digital. The way we teach needs to keep up. You don't even need a class set of computers; a personal device (cell phone, laptop, tablet, etc.) will work just as well.

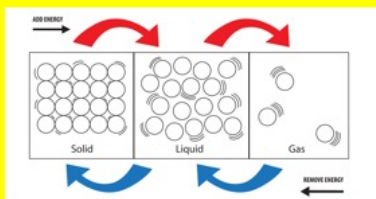
Atoms, Elements, and Compounds

- 2 weeks of teaching material
- 5 Power Points totalling 120 slides.



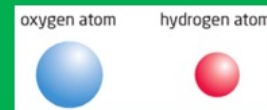
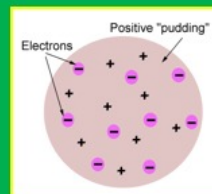
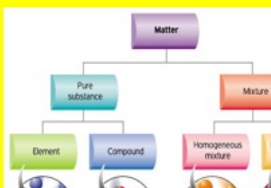
1. Particle Theory and Classification of Matter
2. Atomic Theory and Model
3. Atomic Structure and Notation
4. The Periodic Table
5. Chemical Symbols, Formulas, and Compounds





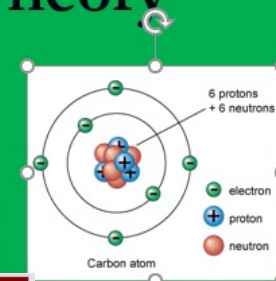
The Particle Theory of Matter

1. The 5 Particle Theory Rules
2. Matter review
3. Pure Substances
 - Elements & Compounds
4. Mixtures
 - Homogeneous & Heterogeneous



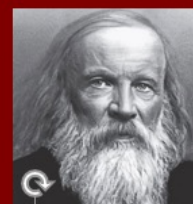
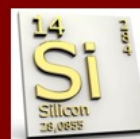
The Atomic Theory

1. Atomic Theory Matching
2. Atom Size
3. Democritus
4. Dalton – Ball Model
5. J.J. Thompson – Raisin Bun Model
6. Rutherford – Gold Foil Experiment



The Periodic Table

- 1) History – Mendeleev
- 2) Element squares
- 3) Atomic Number
- 4) Atomic Mass
- 5) Valence Electrons
- 6) Metals/Non-Metals and Metalloids
- 7) Groups and Families
- 8) Periods



Atomic Structure

1. Atoms

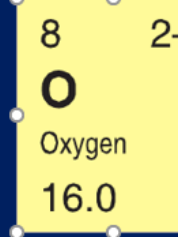
- Protons
- Neutrons
- Electrons

2. Atomic Number

3. Mass Number

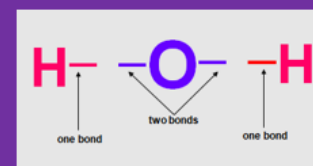
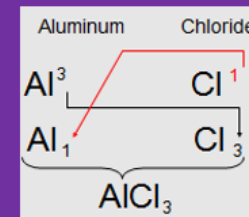
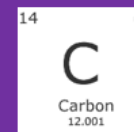
4. Atomic Symbols

5. Calculations



Chemical Symbols, Formulas & Compounds

- 1) Symbols
- 2) Element names
- 3) Counting Atoms
- 4) Naming compounds
- 5) Combining capacity
- 6) Criss-cross rule
- 7) Naming compounds
- 8) Periods



Thank you for your interest

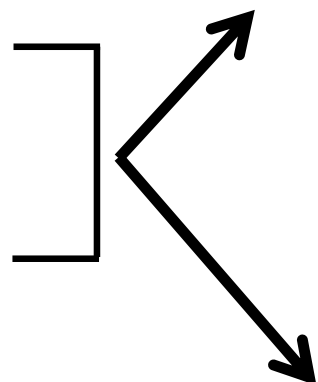
Inside the Unit

- 2 weeks of teaching material
- 5 Power Points totalling 120 slides
- Teacher and student versions for each lesson
- Many videos embedded into the slides
- Student notes in word

1. All matter is composed of particles.

- These particles are the smallest pieces of matter that identifies a substance

- If you take a substance and break it into successively smaller pieces, eventually you come to the smallest piece...a particle



Rare Earth Elements

- The thirty rare earth elements are composed of the lanthanide and actinide series

- _____
- _____

Assign rare earth elements a colour and use the second periodic table to colour it in. **Include it on your legend**

Thank you for your interest

- The following lessons are included. Please click on any to preview.

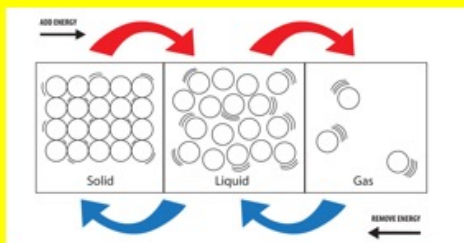
[Lesson 1 – Particle Theory and Classification of Matter](#)

[Lesson 2 – Atomic Theory and Model](#)

[Lesson 3 – Atomic Structure and Notation](#)

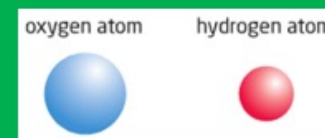
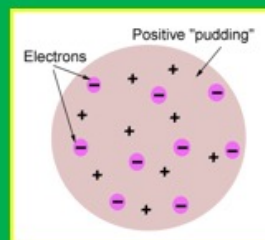
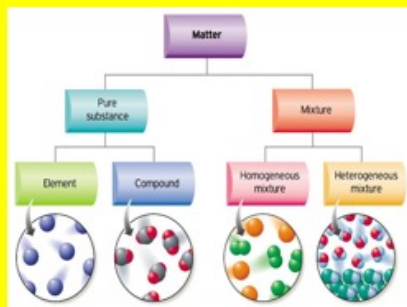
[Lesson 4 – The Periodic Table](#)

[Lesson 5 – Chemical Symbols, Formulas, and Compounds](#)



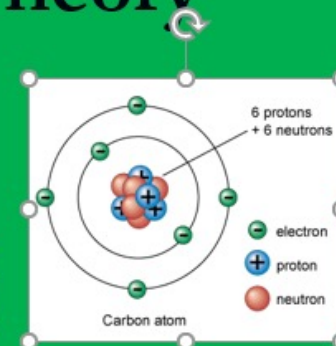
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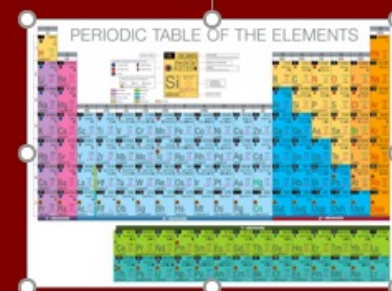
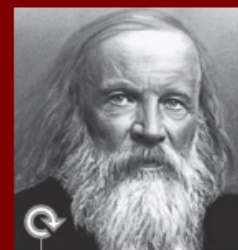
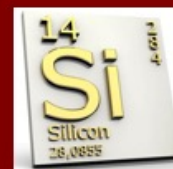
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6. Rutherford – Gold Foil Experiment
7. Bohr – Energy Level Model



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Atomic Structure & Notation

1. Atoms

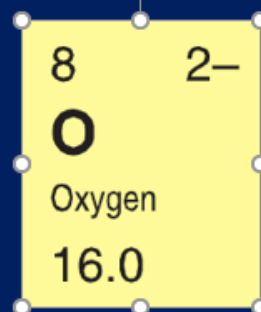
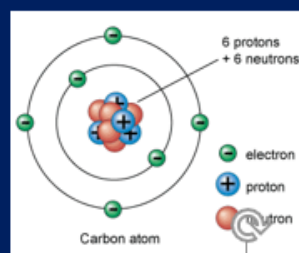
- Protons
- Neutrons
- Electrons

2. Atomic Number

3. Mass Number

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