

10 Digital notebooks covering over 35 topics

Acids

Bases

pH

Wrap Up

0 1 2 3 4 5 6 7 8 9 10 11 12 13 14

bleach Milk Lemon banana soap

Strongest Base Strongest Acid Neutral Weakest Base Weakest Acid

Periodic Table

Atomic Number (A.P.E.)

A = Equals

P = which equals

E =

Atomic Mass (M.A.N.)

M = Equals


A = + (Plus)

N =

| | Atomic Number | Atomic Mass | Protons | Neutrons | Electrons |
|-------------|---------------|-------------|---------|----------|-----------|
| Carbon (C) | | | | | |
| Neon (Ne) | | | | | |
| Sodium (Na) | | | | | |

Proton atomic mass Neutron Electron atomic number

movable pieces just drag and drop

**Atomic Number (APE)**


A=
Equals

P=
which equals

E=

| | Atomic Number | Atomic Mass |
|-------------|---------------|-------------|
| Carbon (C) | | |
| (e) | | |
| Sodium (Na) | | |

atomic mass Neut

**Atomic Mass (MAN)**

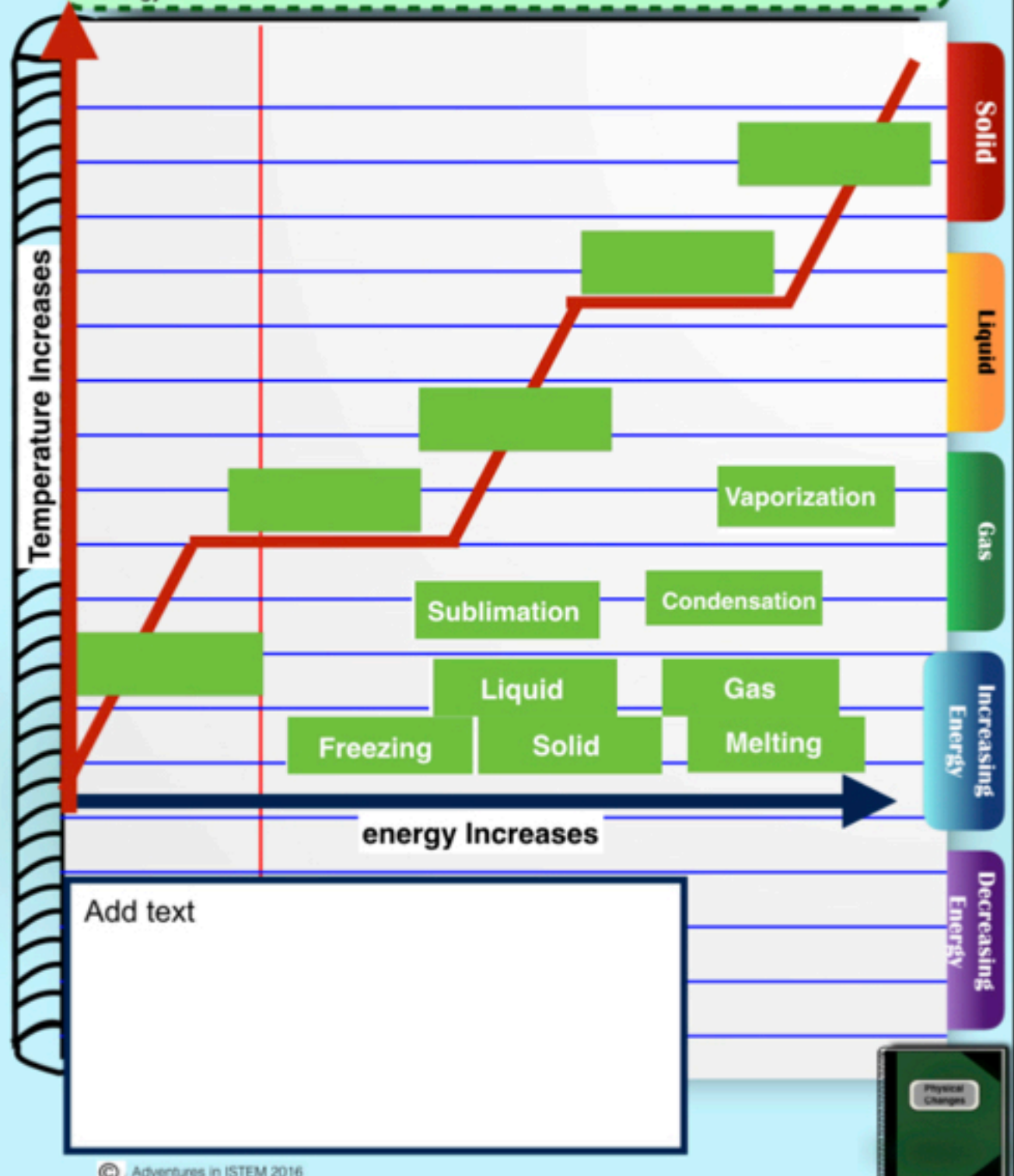
M=
Equals

A=

ic
ure
Periodic Table
Isotopes

Directions:

- place the labels where they belong to identify the three states of matter and the phase changes taking place. You will not use all labels.
- Write a summary describing what is happening to the particles and the temperature when energy is increased.



Temperature Increases

energy Increases

Add text

© Adventures in ISTEM 2016

Physical Changes

Solid

Liquid

Gas

Increasing Energy

Decreasing Energy

Freezing

Melting

Vaporization

Sublimation

Condensation

Liquid

Solid

Gas

Teacher answer key included

chloride a chemical reaction occurs. In the experiment the data shows that the temperature went up from 18°C to 23°C, bubbles formed, and the color changed from white and red to yellow. The increase of temperature demonstrates that it was an exothermic reaction. I know that color change, gas formation, and energy

ence of
Reactants

Physical vs
Chemical change

Exothermic
Endothermic

Wrap Up

Directions:

- Identify the parts of an equation
- Determine if the equation is balanced
- Balance the bottom equation

Identify: Look at the equation below. Use the words on the side to label the chemical equation

Reactants

Products



Subscript

Yield

Coefficient

Vocabulary

Conservation
of Mass

Balancing
Equations

Wrap Up

Using shapes to demonstrate chemical reactions

- Count how many you have of each shape on the reactant side and the product side
- Determine if the chemical reaction is balanced or not and place the red circle on your answer

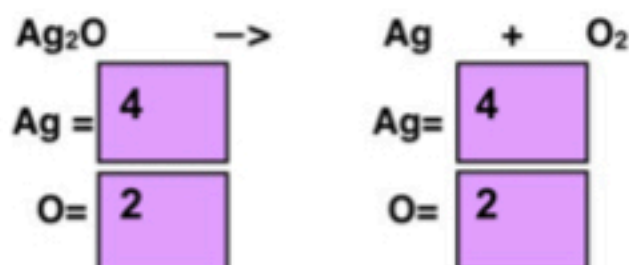


Is this equation balanced?
Yes / No



Is this equation balanced?
Yes No

Beginning:



Balanced Equation



Each digital notebook covers

Directions:

- Use the puzzle pieces below to make five ionic compounds (see example). Once you have made a compound, complete the data table with the compound's information.
- Fill in the boxes to complete the sentences.

| Ionic Bonds | | | |
|-------------|---------|----------|-------------------|
| | Metal | Nonmetal | Compound |
| Example | Lithium | Oxygen | Li ₂ O |
| 1 | | | |
| 2 | | | |
| 3 | | | |
| 4 | | | |
| 5 | | | |

Ionic bonds occur between and .

The electrons are .

Example:

Lithium Li + Oxygen O 2-

Lithium Li + Oxygen O 2-

Puzzle Pieces:

Oxygen O 2- Sulfur S 2- Chlorine Cl- Lithium Li + Sodium Na + Magnesium Mg 2+ Calcium Ca 2+

Key Vocabulary

Element or Compound
Ionic Bond
Covalent Bond
Wrap Up

Each digital notebook covers

Directions:

- Compare elements and compounds and move the labels at the bottom into the appropriate place
- Use the research tool to add a picture of an element and a picture of a compound
- Write a sentence that explains the difference between elements and compounds

Element or compound

Element

Compound

element or compound

Directions:

- Move the pieces found on the left to the correct place on the periodic table.
- Move the pieces found at the bottom to the correct place on the Venn diagram to comparing metals and nonmetals.
- Write two sentences that explain the difference between metals and nonmetals.

The Periodic Table of Elements

Patterns

Metals

Nonmetals

Metalloids

Wrap Up

Important Concepts

substances

into a simpler substance

Pure Substance

Made of two or more substances

Simplest substance

Differences between metals and nonmetals

Add your text here

Dull

Shiny

High melting and boiling point

Low melting and boiling point

Good Conductors

Malleable

Brittle

Conductors

Ductile

Periodic Table

nSTEM.com

Each digital notebook covers

Directions:

-Watch the video and explain if a chemical changed happened. Write your answer as a CER

When you mix sodium bicarbonate and calcium chloride a chemical reaction occurs. In the experiment the data shows that the temperature went up from 18°C to 23°C , bubbles formed, and the color changed from white and red to yellow. The increase of temperature demonstrates that it was an exothermic reaction. I know that color change, gas formation, and energy change, are all evidence of a chemical reaction. Therefore, I can conclude that a chemical reaction between sodium bicarbonate and calcium chloride occurs because there was a color change, gas formation, and energy change.

Analyzing and Applying

Evidence of Chemical Reaction

Physical vs Chemical change

Wrap Up



Some digital notebook cover

Directions:

- Identify the parts of an equation
- Determine if the equation is balanced
- Balance the bottom equation

Identify: Look at the equation below. Use the words on the side to label the chemical equation

2H₂ + O₂ → 2H₂O

Reactants Products

Using shapes to demonstrate chemical reactions

1. Count how many you have of each shape on the reactant side and the product side

2. Determine if the chemical reaction is balanced or not and place the red circle in your answer

Is this equation balanced?
Yes/ No

Ag + O₂

Ag =

O =

Balanced Equation

Ag₂O → Ag + O₂

Vocabulary

Conservation of Mass

Balancing Equations

Wrap Up

Solving Math Problems

© Adventures in ISTEM 2017

Some digital notebook cover

Directions:

- Write the definition
- Drag the correct formula and graph that represent that law
- solve the problem
- answer the question

Charles's Law

State the definition

Add text

Solve the problem

to a volume of 2.40 L at a temperature of 295 K. The balloon is left in a hot car and the temperature rises to 400 K. What is the new volume of the balloon?

Answer

Add text

Explain using Charles's law, how hot air balloons work.

Add text

Charles's Law

Boyle's Law

Gay-Lussac's Law

Avogadro's Law

Ideal Gas Law

Interpreting Graphs

P

V

P

V

n

T

$V_1 = P_2 V_2$

$\frac{V_1}{T_1} = \frac{V_2}{T_2}$

$V = nRT$

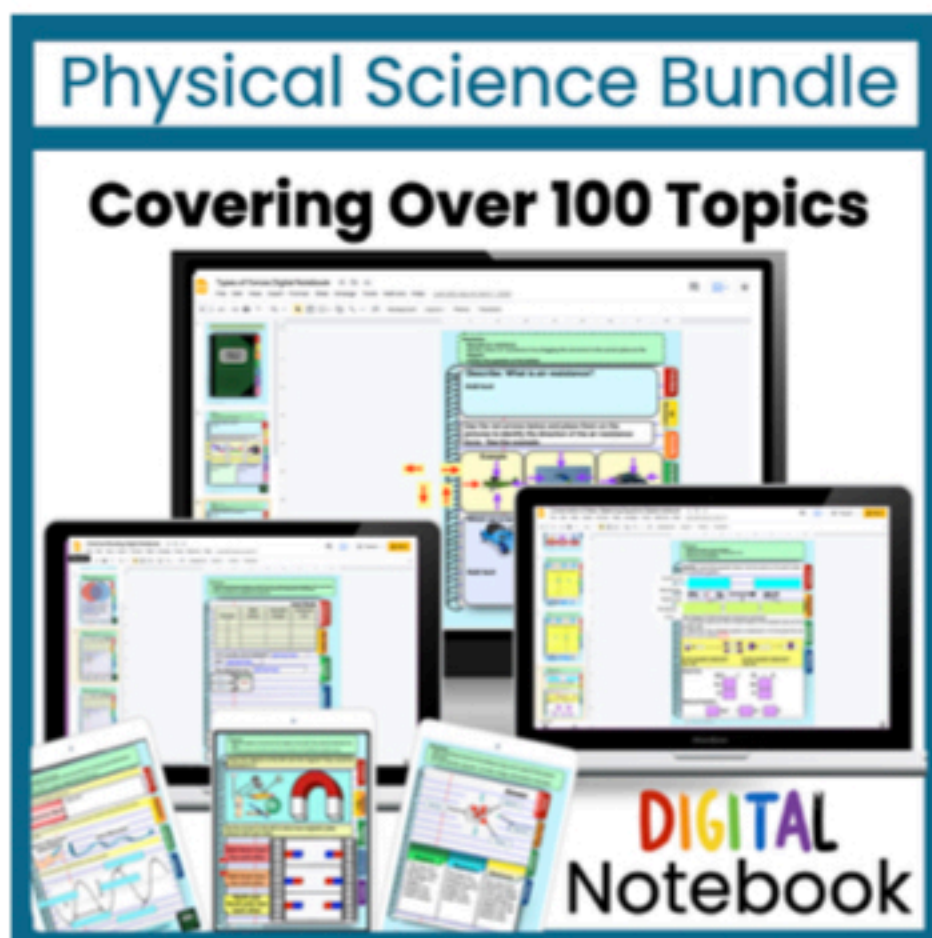
$\frac{V_1}{n_1} = \frac{V_2}{n_2}$

$\frac{P_1}{T_1} = \frac{P_2}{T_2}$

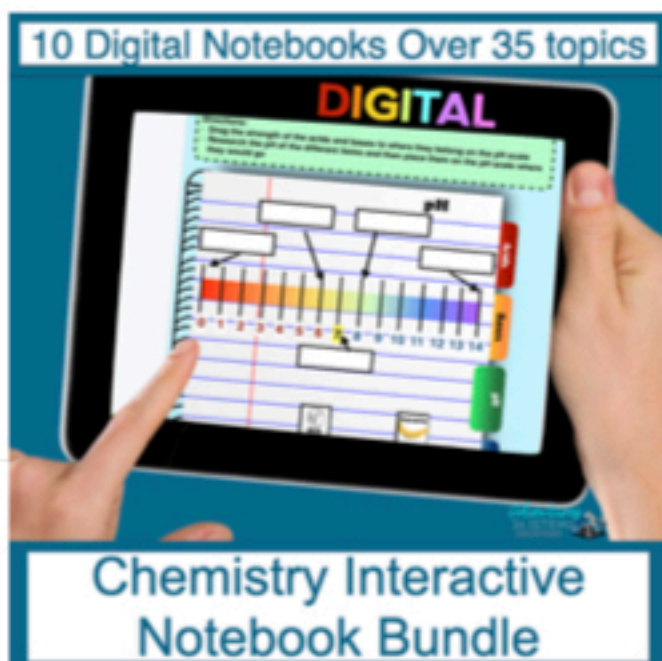
© Adventures in ISTEM 2016



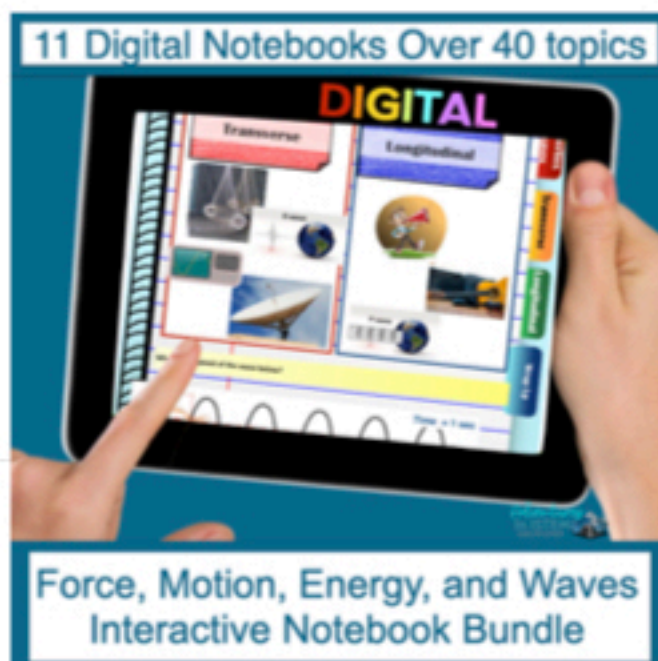
Save Money and Grab a Bundle



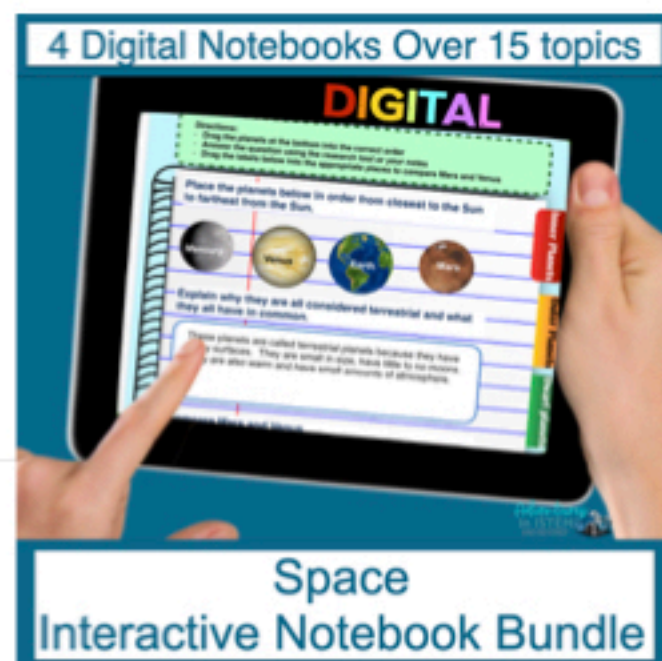
Years worth of digital notebooks covering over 100 physical science topics.



10 digital notebooks covering over 35 chemistry topics.



11 digital notebooks covering over 35 physics topics.



4 digital notebooks covering over 35 space topics.



Teaching STEM Through Inquiry

Thank You

Thank You for taking the time to visit my store and downloading one of my products. I hope you find this resource a useful tool for your classroom. I appreciate your support and look forward to your feedback.

Giving Back

Cancer affects not only the person but everyone they know. A portion of the proceeds of this product are going to the organization LLS which helps to fund treatments and find a cure.

Have a Question?

I do my best to insure that this product is free from issues and mistakes. However, Sometimes links change and mistakes are missed by even the best editors, if you are experiencing any issues with this product please contact me first at kristi@adventuresinistem.com

Grab the FREE guides

Grab the free guides (flipped classroom guide / 5E model guide) to help empower students and then receive weekly tips, strategies, ideas, and freebies delivered right to your inbox.



Terms of Use

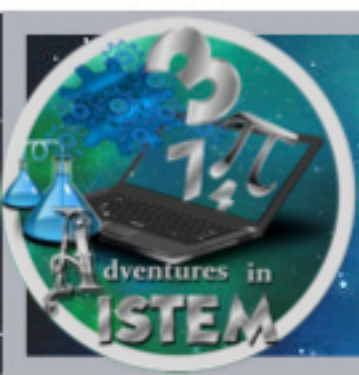
The purchase of this resource entitles the purchaser to share with students, print, photocopy for single classroom and personal use only and may not be put on the internet, sold, or distributed in any form. If you would like to share this with your colleagues, please purchase multiple licenses from the product page on Teachers Pay Teachers.

Copying any part of the product and / or placing it on the internet in an unsecured platform (school sharing site, school website, personal website...) is strictly forbidden and is a violation of the Digital Millennium Copyright Act (DMCA)

Special Thanks

Pixabay

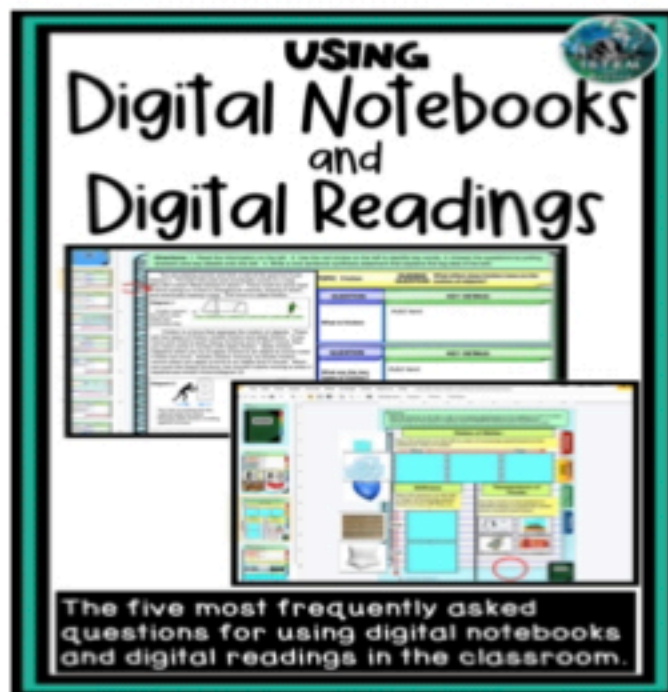




Digital Resources

Using Digital Products?

If you are new to using digital lessons than I recommend to check out my blog post that contains the most frequently asked questions. Click the picture for the link.



I would also recommend checking out my Google Slide videos that demonstrate how to drag and drop pieces, write in the text boxes, add objects, and more. These are short videos that can easily be shared with students and parents. Click the picture for the link

