MONDAY, JANUARY 7th

DO NOW

Know: Chemical Elements each have unique properties and characteristics, such as a specific Density and Metallic Character.

Asked: How can you tell that Copper, Zinc, and Oxygen are all Chemical Elements?

A: They have unique densities

B: They can all conduct electricity well

C: They can be found in nature

TODAY'S PLAN

1. Do and review the **DO NOW** and **Qualitative Prompt (QP)**!
   - Today's **QP** = LIST and DRAW as many different SPECIFIC FLAVORS of ice cream as you can and then DEFINE the terms "Atom", "Element", "Molecule", "Compound", and "Isotope"!
2. Open books, WORK on today's **AO!**
3. ***HW** = Read & Do Pg. 174-175!

TODAY'S ACADEMIC OBJECTIVE

Today you will COMPETE amongst yourselves in order to LEARN how to READ Chemical Nomenclature and CALCULATE Chemical Numbers!

TUESDAY, JANUARY 8th

DO NOW

- In your notebooks, to be checked, solve this problem…

There are 1000 picometers in 1 nanometer. These are units of Nuclear Length!

Know:

$$1000pm = 1nm$$

Asked: How many picometers are in 40 nanometers?

TODAY'S PLAN

1. Do and review the **DO NOW** and **Qualitative Prompt (QP)**!
   - Today's **QP** = Using your Periodic Tables LOCATE the # of PROTONS (Atomic Number), the MASS NUMBER, and the NAME for these Elements; Mn, Xe, Zn, C, Po, & Rn!
2. Open books, WORK on today's **AO!**
3. ***HW** = Read & Complete Pg. 176 - 177!

TODAY'S ACADEMIC OBJECTIVE

Today you will COMPETE amongst yourselves in order to LEARN how to READ Chemical Nomenclature and CALCULATE Chemical Numbers!

WEDNESDAY, JANUARY 9th

DO NOW

- In your notebooks, to be checked, solve this problem…

There are 10 Ångströms in 1 nanometer and 1000 nanometers in 1 micron. These are units of Atomic Length!

Know:

$10Å = 1nm$ $1000nm = 1\mu m$

Asked: How many microns are in 50,000 Ångströms?

TODAY'S PLAN

1. Do and review the **DO NOW** and **Qualitative Prompt (QP)**!
   - Today's **QP** = QP QUIZ PREP = Using Pg. 174-175 of your book, WRITE 4 examples of Metalloids and then CALCULATE the number of Protons, Neutrons, and Electrons, in a NEUTRAL atom of Calcium!
2. Open books, WORK on today's **AO!**
3. ***HW** = Study for Vocal QUIZ!

TODAY'S ACADEMIC OBJECTIVE

Today you will COMPETE amongst yourselves in order to LEARN how to READ Chemical Nomenclature and CALCULATE Chemical Numbers!

THURSDAY, JANUARY 10th

DO NOW

Know: The boiling point of liquid Carbon increases following a set pattern as the number of Carbon Atoms increase.

Asked: Which sets of numbers could possibly be the boiling points of three solutions of Carbon with 1000, 2000, and 3000 Atoms?

A: 40°C, 20°C, 10°C

B: 50°C, 100°C, 101°C

C: 45°C, 90°C, 180°C

TODAY'S PLAN

1. Do and review the **DO NOW** and **Qualitative Prompt (QP)**!
   - Today's **QP** = LIST the NAME, CHEMICAL SYMBOL, AND whether it's a "Metal", "Nonmetal", or "Metalloid" for each of the 21 Chemical Elements on today's VOCAL QUIZ!
2. Open books, WORK on today's **AO!**
3. ***HW** = Read & Do Pg. 178 - 179!

TODAY'S ACADEMIC OBJECTIVE

Today you will HARNESS your knowledge of Chemical Element Symbols in order to TOPPLE today's Vocal Quiz!

The SGS - Study Guide Slide – Atomic Basics Quiz

- **Students must KNOW:**

1. What is all Matter made of?
2. What are the 3 parts of an Atom, where are they located, what are their masses & charges, and how can you use the numbers on the Periodic Table to find each one?
3. What was JJ Thompson's contribution to the model of the Atom?
4. What are Groups/Families and Periods on the Periodic Table, and how does the Periodic Table organize the Elements?
5. Know the history of Atomic Theory.
6. What is an Isotope? What is an Ion?

- **Students must be able to DO:**

1. Compare and Contrast Atoms, Elements, Molecules, and Compounds.
2. Locate where Metals, Nonmetals, and Metalloids are on the Periodic Table, and identify the properties of each.
3. Use the Periodic Table to find the Name, Chemical Symbol, Atomic Number, Protons, Neutrons, Electrons and average Atomic Mass of an Element.
4. Draw a diagram of a Neutral Atom using information on the Periodic Table.
5. Find the number of Neutrons in an Atom using its Atomic Mass.

THE SGS - STUDY GUIDE SLIDE – ATOMIC BASICS QUIZ

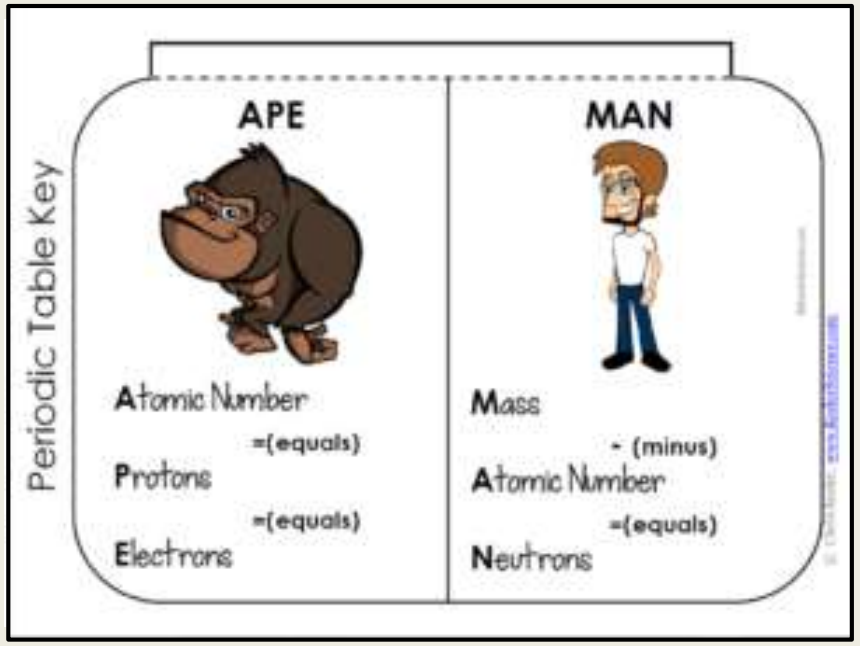
- **Students must KNOW:**

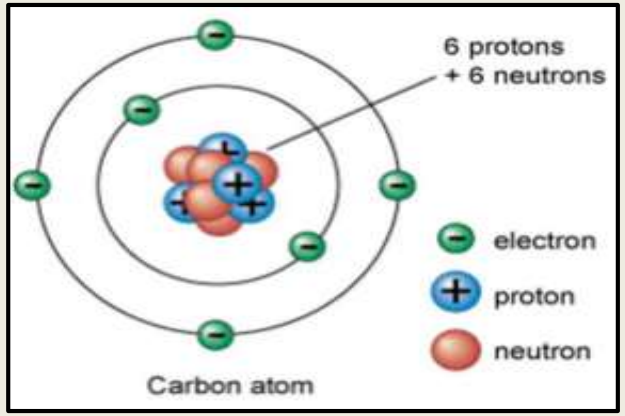
1. Atoms
2. Protons, Neutrons, & Electrons. Protons & Neutrons are in the Nucleus, Electrons are orbiting around. Neutrons are the biggest, then Protons, and then Electrons which are much smaller. Protons are Positive, Neutrons are Neutral, and Electrons are Negative. On the periodic Table the "Atomic Number" is Protons (and Electrons if the Atom is "Neutral"), and the "Mass Number" is Protons + Neutrons (Subtract Mass Number – Atomic Number to find the Neutrons!)
3. He discovered the Electron
4. Groups/Families are Columns, Periods are Rows, and the Periodic Table is organized by increasing Atomic Number
5. See Pg. 160 of your book!
6. Isotope = Version of an Element with a Varying Number of Neutrons. Ion = Version of an Element with a Varying Number of Electrons.

- **Students must be able to DO:**

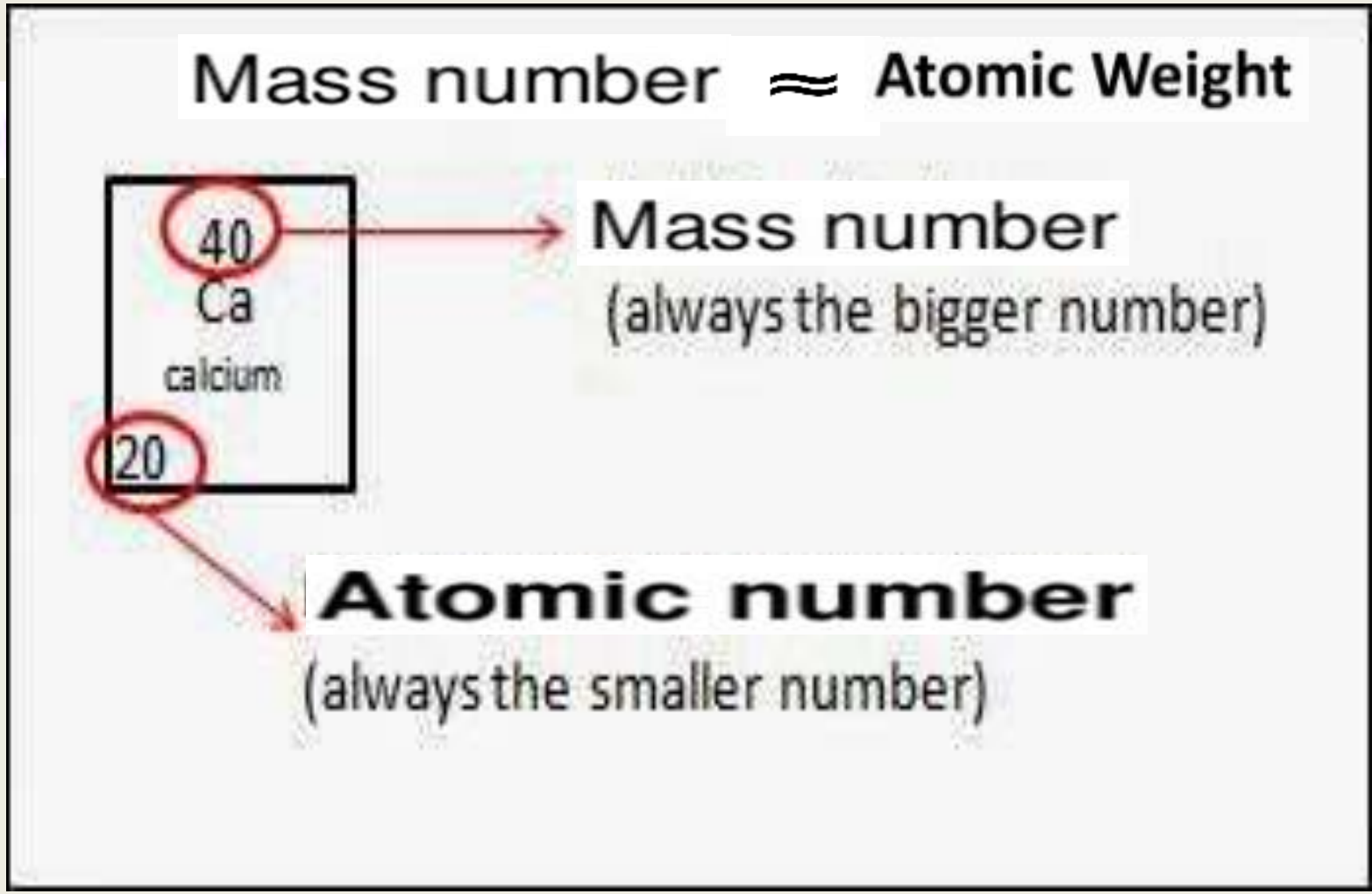
1. Atoms = Basic Particle that makes up all Matter. Elements = Types of Atoms with a Specific Number of PROTONS. Molecules = Two or more Atoms Bonded Together. Compound = Two or more DIFFERENT Atoms (aka Elements!) Bonded Together.
2. Metals are on the left. They are shiny and good conductors. Nonmetals are on the right. They are dull and poor conductors. Metalloids are in the middle, touching the "staircase". They are "semi-conductors".
3. See the attached sheet.
4. Draw little circles with a "p" in the middle for Protons and an "n" for Neutrons in the middle for the Nucleus. Then draw circles with an "e" in them for the electrons orbiting around.
5. Round the Atomic Mass. Atomic Mass – Atomic Number = Neutrons

How To Interpret An Element Box!





 # neutrons = mass number - # protons



Atomic number equals the number of protons or electrons.

Mass number equals the number of protons + neutrons.

FRIDAY, JANUARY 11th

DO NOW

- In your notebooks, to be checked, solve this problem…

There are 100 femtometers in 1 picometer. These are units of Nuclear Length!

Know:

$$100fm = 1pm$$

Asked: How many femtometers are in 700 picometers?

TODAY'S PLAN

1. Do and review the **DO NOW** and **Qualitative Prompt (QP)**!
   - Today's **QP** = QP BOOK REVIEW = Using Pg. 172-177 of your book WRITE all of the elements in GROUP 1 & 18 AND in Period 3 & 4 and then LIST what you plan on doing on each of the next 7 days!
2. Open books, WORK on today's **AO!**
3. ***HW** = Finish Tech Chex!

TODAY'S ACADEMIC OBJECTIVE

Today you will RESEARCH the Periodic Table in order to find the PATTERNS related to the PROPERTIES of Elements!

Tech Chex Steps – What's The Matter?

1. FIRST, take out your DEVICE, and head on over to ONE of the following websites!
   - http://periodictable.com/
   - http://elements.wlonk.com/ElementsTable.htm

- If you do not have a DEVICE, don't worry! You can borrow one of these LAPTOPS!

2. Once there, READ a few facts about each Element and then SELECT one that interests you!
3. Then, in your Science Notebook WRITE down at least **THREE VERY INTERESTING facts/properties/uses** of the Element along with the **Name, Chemical Symbol**, **Density**, **Atomic Number**, **Atomic Weight**, AND the number of **Protons, Neutrons, & Electrons** in a single ATOM of the Element!
4. Finally, answer the HW Problems and Questions!