

Unit 3

NAME

Class Work

11/6/13

3.6 Isotopes

SPARK Use your reference tables to answer these questions:

- 1) How many protons does Bromine – 82 have?
- 2) What is the mass of an atom of Lithium with 3 protons and 4 neutrons?
- 3) What element has an atomic number of 101?
- 4) How many neutrons are in a Chlorine atom with a mass number of 38?

Objective

SWBAT interpret and write isotopic notation.

Quiz tomorrow on atomic theory!

Agenda:

- SPARK
- Objective
- Notes
- Practice
- Homework



Atoms of an Element

- All atoms of the same element have the same number of protons.....
- What could make atoms of the SAME element DIFFERENT?

The number of:

– Electrons

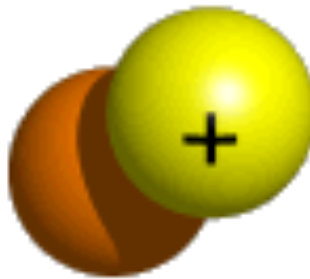
– Neutrons

Neutrons

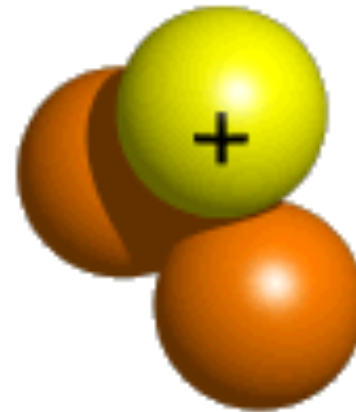
- In an element, the number of protons is fixed but the number of neutrons can vary



1 proton



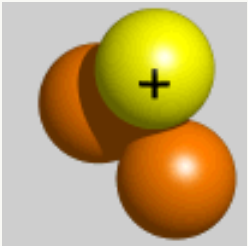


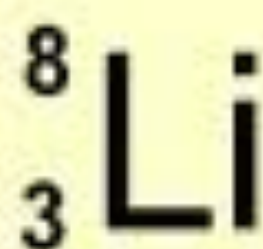
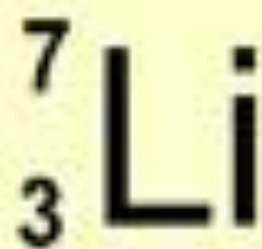
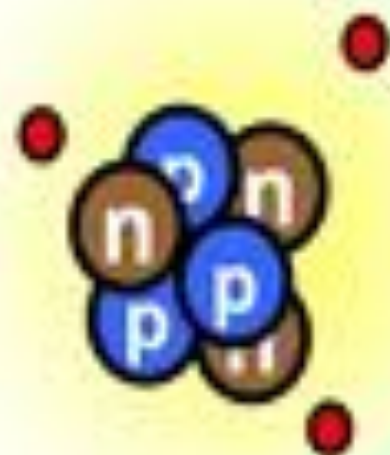
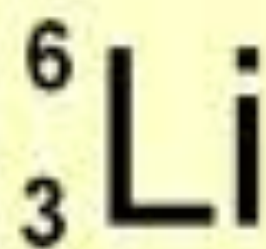
1 proton
1 neutron



1 proton
2 neutrons

Isotopes are atoms of the same element having different masses due to different numbers of neutrons.

Isotope	Protons	Electrons	Neutrons	Mass	Nucleus
Hydrogen-1 (protium)	1	1	0		
	← Most Common				
Hydrogen-2 (deuterium)	1	1	1		
Hydrogen-3 (tritium)	1	1	2		



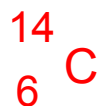
How do write isotopes?

- When you write the mass number you are communicating which isotope you are referring to.

– Carbon – 12 -> or C-12

– Carbon – 14 -> or C-14

Or as



Review

- Which two subatomic particles have significant mass?

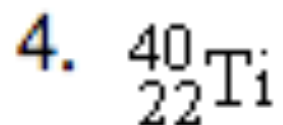
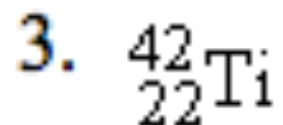
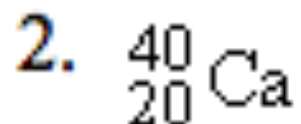
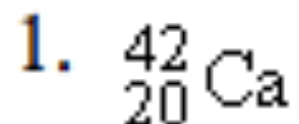
Review

- In ^{127}I the 127 represents the _____.
- ^{30}S and ^{32}S are examples of _____.

Review

- What makes ^{30}S and ^{32}S the same element?
- How are the atoms different?

- What is the symbol for an atom containing 20 protons and 22 neutrons?



- What is the mass number of an atom which contains 28 protons, 28 electrons and 34 neutrons?

1. 28
2. 56
3. 62
4. 90

Reading

Exit Ticket

Compare the atoms Carbon-12 and Carbon-11.
How are they the same? How are they
different?

SWITCHING GEARS!

3.6.5 Review of Percentages and ThinkReady

SPARK

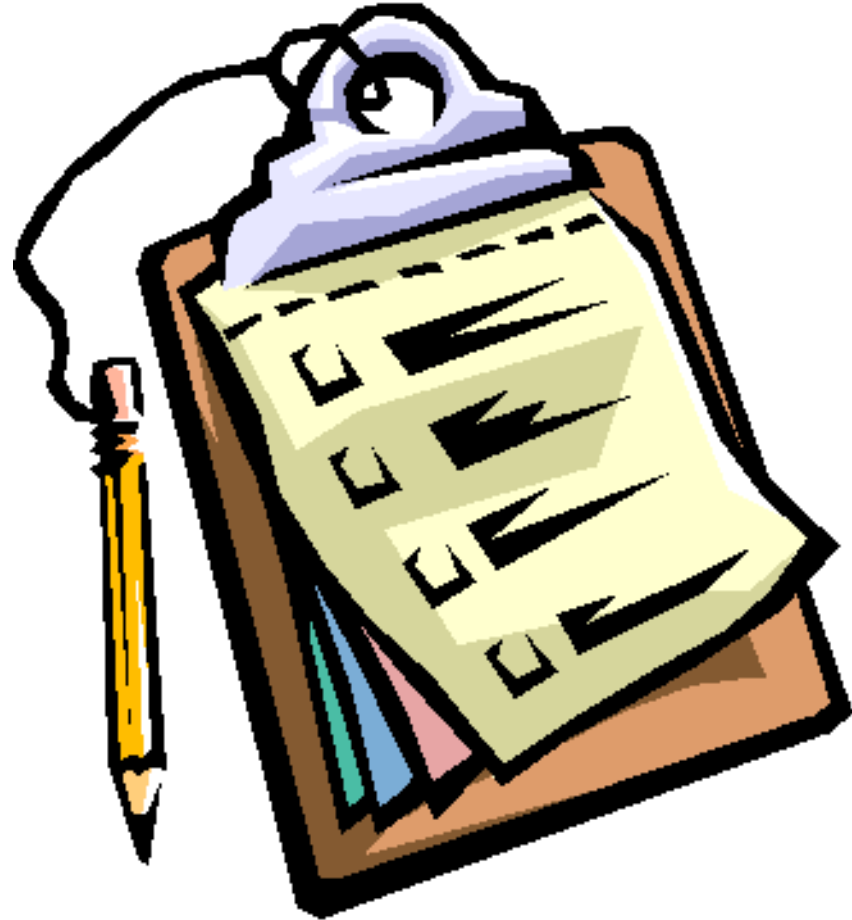
- 1) How is your grade calculated?
- 2) If you do not do your homework, can you technically pass the class?

Objective

SWBAT convert from percentage to decimal

Agenda:

- SPARK
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Review of percentages...

$$75.5 \% = 75.5/100 = 0.755$$

$$5.2\%$$

In a quotient or fraction form?

$$= 5.2/100$$

In a decimal form?

$$= 0.052$$

PRACTICE

- Write the following as percentages

50/100

43/100

85/100

- Write the following as decimals

86%

46%

34%

Review Percents

Tests		Classwork		Homework	
Grade on Test	% Contribution	Grade on Classwork	% Contribution	Grade on Homework	% Contribution
95	80%	80	10%	50	10%

What if I wanted to calculate my WEIGHTED AVERAGE?

Tests		Classwork		Homework	
Grade on Test	% Contribution	Grade on Classwork	% Contribution	Grade on Homework	% Contribution
95	80%	80	10%	50	10%

What are the steps to finding
weighted average?

THINKREADY!

- In this task, you will investigate a question about atomic theory that scientists are answering through indirect measurements.
- We will work with a partner, but partners must submit separate written sections.
- You will present your work with your partner the day after our Unit 3 Test

Anions: November 15th, Cations: November 18th

Groups – Anions

Think Ready Groups:	Uzma-Rimsha
	Tawana-Rahila
Imama-Monica	Ellechine-Mubeen
Ramlah- Sumya	Wyllana-Namia
Shume-Nekiyah	Rasanya-Chaynah
Kiran-Mahnoor	
Alya-Cynthia	
Ysabelle-Harmanpreet	
Hamna-Shayna-Syeda	

Groups – Cations

- Alison-Kainat
- Aisha-Jocelyn
- Mekhrangiz – Imani
- Alia-Millie
- Wendy-Damani
- Kaynaat-Kanis
- Nadia – Ribya
- Bukurie-Shagufta
- Janet – Annette –
- Saliha – Nadira
- Geniever – Anam
- Farah – Sharmin
- Liliana – Freda -
Angelica

Task

- Meet with your partner now and begin to brainstorm ideas for what topic about atoms you want to research.
- On a sheet of loose leaf, complete your hypothesize and strategize portion of the ThinkReady assignment.
- Tonight for homework you will do some research to decide exactly what your topic will be. Topics are due by tomorrow!

HOMEWORK

Read Pages 77-80 in your book

Quiz on Atomic Theory tomorrow!

Finish the reading and write a paragraph

Complete Hypothesize and Strategize section of
ThinkReady if you didn't already.