AP Environmental Science (APES) **Summer Assignment**
Henson **2018-2019** **Lenape High School**

Welcome to AP Environmental Science (APES)

"This course is designed to be the equivalent of a college introductory environmental science course," states the high school course guide. "It is designed to provide students with the scientific principles, concepts and methodologies required to understand the interrelationships of the natural world, to identify and analyze environmental problems both natural and man-made, to evaluate the relative risks associated with these problems and to examine alternative solutions for resolving or preventing them. There is a strong laboratory component to the class."

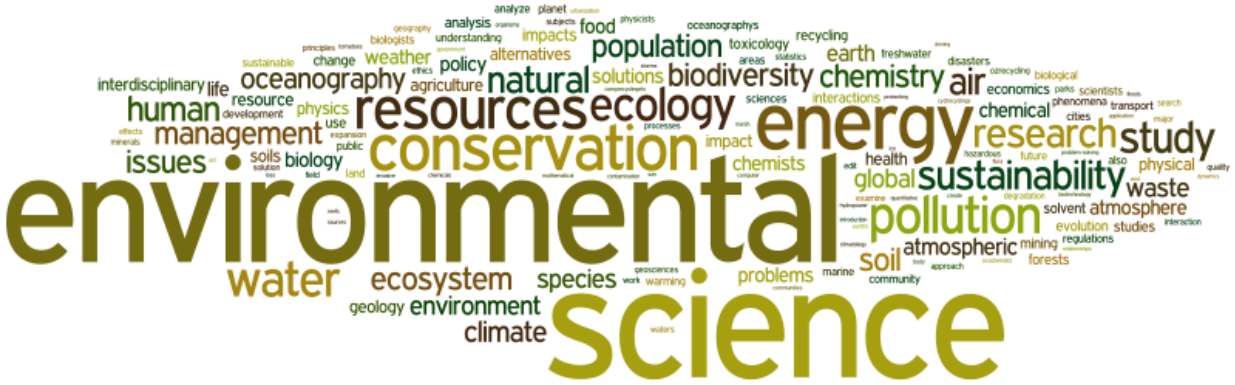
College Board Site - https://apstudent.collegeboard.org/apcourse/ap-environmental-science/course-details

Summer Assignments:

The purpose of the summer assignment is to help prepare you for a year of AP Environmental Science. I would ask that you do the work before the school year starts and reach out to me via email if you are to have any questions. Assignments will be due on either the first day of class (Tuesday, September 4th) or Thursday, September 6th; they will be indicated for each assignment. Please plan early and don't wait until the last minute to do the assignments. Preparation will be key to a smooth, successful year in AP Environmental Science. Contact me with any concerns. khenson@lrhsd.org

There are 3 summer assignments for you to work on in preparation for AP Environmental Science. Each assignment will be linked below. You will need the book ***Silent Spring,*** a computer, graph paper and a Marble Composition book in order to complete these assignments. Please click on the links below to see the details for each assignment.

- ***Silent Spring* - Rachel Carson - Due Thursday, September 6th (typed reflections turned in)**
- **Math Review - Due Thursday, September 6th (handwritten paper turned in)**
- **Current Events Article Analysis - Due Tuesday, September 4th (composition book turned in)**



Silent Spring - APES Summer Assignment 2018-2019

Silent Spring Author: Rachel Carson

Rachel Carson's ***Silent Spring*** was first published in three serialized excerpts in the New Yorker in June of 1962. The book appeared in September of that year and the outcry that followed its publication forced the banning of DDT and spurred revolutionary changes in the laws affecting our air, land, and water. Carson's passionate concern for the future of our planet reverberated powerfully throughout the world, and her eloquent book was instrumental in launching the environmental movement. It is without question one of the landmark books of the twentieth century. ***Silent Spring*** also helped foster the field of environmental toxicology- the study of environmental poisons and their effect on humans and the environment.

As you read please complete the following:

Read ***Silent Spring*** by Rachel Carson. There will be a brief reading quiz when you return to school. As you read, consider the cultural context of the author. Which of Carson's predictions did or did not come true?

Reflections: Write a brief (one paragraph, typed) reflection about something that struck you in each chapter of Silent Spring. You will have a total of 17 reflections.

A reflection includes….

- A double-spaced, brief one paragraph (5 -7 sentences) typed response
- The page number of the passage that you are responding to
- A reflection on one of the following:
    1. The theme of the chapter as a whole.
    2. Passages/information that you didn't understand.
    3. Questions you developed as a result of your reading.
    4. Passages that you found shocking, moving or interesting.
    5. Passages that you wholeheartedly agree or disagree with and why you agree or disagree.
    6. How your thinking or behavior has changed as a result of reading a particular passage or chapter.

Due: Thursday, September 6th

'Silent Spring' Is Now Noisy Summer

Pesticides Industry Up in Arms Over a New Book

Rachel Carson Stirs Conflict—Producers Are Crying 'Foul'

By JOHN M. LEE

The $300,000,000 pesticides industry has been highly irritated by a quiet woman author whose previous works on science have been praised for the beauty and precision of the writing.

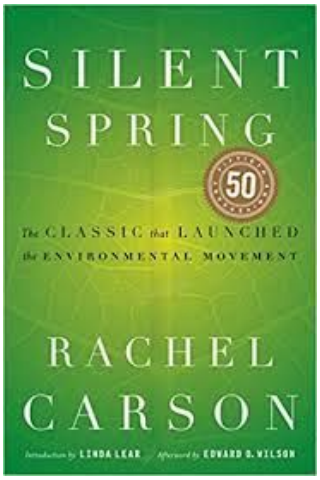
The author is Rachel Carson, whose "The Sea Around Us" and "The Edge of the Sea" were best sellers in 1951 and 1955. Miss Carson, trained as a marine biologist, wrote gracefully of sea and shore life.

In her latest work, however, Miss Carson is not so gentle,

fending the use of their products. Meetings have been held in Washington and New York. Statements are being drafted and counter-attacks plotted.

A drowsy midsummer has suddenly been enlivened by the greatest uproar in the pesticides industry since the cranberry scare of 1959.

Miss Carson's new book is entitled "Silent Spring." The title is derived from an idealized situation in which Miss Carson envisions an imaginary town where chemical pollution has silenced "the voices of spring."



AP Environmental Science Math Prep

This year in APES you will hear the two words most dreaded by high school students…NO CALCULATORS! That's right, you cannot use a calculator on the AP Environmental Science exam. Since the regular tests you will take are meant to help prepare you for the APES exam, you will not be able to use calculators on regular tests all year either. The good news is that most calculations on the tests and exams are written to be fairly easy calculations and to come out in whole numbers or to only a few decimal places. The challenge is in setting up the problems correctly and knowing enough basic math to solve the problems. With practice, you will be a math expert by the time the exam rolls around. So bid your calculator a fond farewell, tuck it away so you won't be tempted, and start sharpening your math skills!

Contents

Decimals
Averages
Percentages
Metric Units
Scientific Notation
Dimensional Analysis

Reminders

1. Write out all your work, even if it's something really simple. This is required on the APES exam so it will be required on all your assignments, labs, quizzes, and tests as well.
2. Include units in each step. Your answers always need units and it's easier to keep track of them if you write them in every step.
3. Check your work. Go back through each step to make sure you didn't make any mistakes in your calculations. Also check to see if your answer makes sense. For example, a person probably will not eat 13 million pounds of meat in a year. If you get an answer that seems unlikely, it probably is. Go back and check your work.
4. Your work should be hand written on paper, showing all the work, units and steps for the calculation - remember no calculators.
5. **Due: Thursday, September 6th - see me if you have any problems before it is due**

Directions

Read each section below for review. Look over the examples and use them for help on the practice problems. When you get to the practice problems, write out all your work and be sure to include units on each step. Check your work.

Decimals

Part I: The basics

Decimals are used to show fractional numbers. The first number behind the decimal is the tenths place, the next is the hundredths place, the next is the thousandths place. Anything beyond that should be changed into scientific notation (which is addressed in another section.)

Part II: Adding or Subtracting Decimals

To add or subtract decimals, make sure you line up the decimals and then fill in any extra spots with zeros. Add or subtract just like usual. Be sure to put a decimal in the answer that is lined up with the ones in the problem.

$$\begin{array}{r} 123.0000 \\ 0.0079 \\ +43.5000 \\ \hline 166.5079 \end{array} \qquad \begin{array}{r} 27.583 \\ -\ 0.200 \\ \hline 27.383 \end{array}$$

Part III: Multiplying Decimals

Line up the numbers just as you would if there were no decimals. DO NOT line up the decimals. Write the decimals in the numbers but then ignore them while you are solving the multiplication problem just as you would if there were no decimals at all. After you have your answer, count up all the numbers behind the decimal point(s). Count the same number of places over in your answer and write in the decimal.

$3.77 \times 2.8 = ?$

$$\begin{array}{rl} & 3.77 \text{ (2 decimal places)} \\ \times & \underline{2.8} \text{ (1 decimal place)} \\ & 3016 \\ & +754 \\ \hline & 10.556 \text{ (3 decimal places)} \end{array}$$

Part IV: Dividing Decimals

Scenario One: If the divisor (the number after the / or before the ⟌) does not have a decimal, set up the problems just like a regular division problem. Solve the problem just like a regular division problem. When you have your answer, put a decimal in the same place as the decimal in the dividend (the number before the / or under the ⟌).

$$\begin{array}{r} 424.9 \\ 38\overline{)\,16146.2} \\ 152 \\ \hline 94 \\ 76 \\ \hline 186 \\ 152 \\ \hline 342 \\ 342 \\ \hline 0 \end{array}$$

Scenario Two: If the divisor does have a decimal, make it a whole number before you start. Move the decimal to the end of the number, then move the decimal in the dividend the same number of places.

$3.8\overline{)\,1614.62}$

Then solve the problem just like a regular division problem. Put the decimal above the decimal in the dividend. (See Scenario One problem).

Practice: Remember to show all your work, include units if given, and NO CALCULATORS! All work and answers go on your answer sheet.

1. $1.678 + 2.456 =$
2. $45.937 - 13.43 =$
3. $28.4 \times 9.78 =$
4. $114.54 / 34.5 =$

Averages

To find an average, add all the quantities given and divide the total by the number of quantities.

Example: Find the average of 10, 20, 35, 45, and 105.

Step 1: Add all the quantities. $10 + 20 + 35 + 45 + 105 = 215$

Step 2: Divide the total by the number of given quantities. $215 / 5 = 43$

Practice: Remember to show all your work, include units if given, and NO CALCULATORS! All work and answers go on your answer sheet.

5. Find the average of the following numbers: 11, 12, 13, 14, 15, 23, and 29
6. Find the average of the following numbers: 4.56, .0078, 23.45, and .9872

Percentages

Introduction:

Percents show fractions or decimals with a denominator of 100. Always move the decimal TWO places to the right go from a decimal to a percentage or TWO places to the left to go from a percent to a decimal.

Examples: .85 = 85%. .008 = .8%

Part I: Finding the Percent of a Given Number

To find the percent of a given number, change the percent to a decimal and MULTIPLY.

Example: *30% of 400*

Step 1: 30% = .30

Step 2:
400
x .30
12000

Step 3: Count the digits behind the decimal in the problem and add decimal to the answer.

12000 → 120.00 → 120

Part II: Finding the Percentage of a Number

To find what percentage one number is of another, divide the first number by the second, then convert the decimal answer to a percentage.

Example: What percentage is 12 of 25?

Step 1: 12/25 = .48

Step 2: .48 = 48% (12 is 48% of 25)

Part III: Finding Percentage Increase or Decrease

To find a percentage increase or decrease, first find the percent change, then add or subtract the change to the original number.

Example: Kindles have dropped in price 18% from $139. What is the new price of a Kindle?

Step 1: $139 x .18 = $25

Step 2: $139 - $25 = $114

Part IV: Finding a Total Value

To find a total value, given a percentage of the value, DIVIDE the given number by the given percentage.

Example: If taxes on a new car are 8% and the taxes add up to $1600, how much is the new car?

Step 1: 8% = .08

Step 2: $1600 / .08 = $160,000 / 8 = $20,000 *(Remember when the divisor has a decimal, move it to the end to make it a whole number and move the decimal in the dividend the same number of places. .08 becomes 8, 1600 becomes 160000.)*

Practice: Remember to show all your work, include units if given, and NO CALCULATORS! All work and answers go on your answer sheet.

7. What is 45% of 900?
8. Thirteen percent of a 12,000 acre forest is being logged. How many acres will be logged?
9. A water heater tank holds 280 gallons. Two percent of the water is lost as steam. How many gallons remain to be used?
10. 14,000 acres of a 40,000 acre forest burned in a forest fire. What percentage of the forest was damaged?
11. Home prices have dropped 5% in the past three years. An average home in Indianapolis three years ago was $130,000. What's the average home price now?

12. The Greenland Ice Sheet contains 2,850,000 cubic kilometers of ice. It is melting at a rate of .006% per year. How many cubic kilometers are lost each year?
13. 235 acres, or 15%, of a forest is being logged. How large is the forest?
14. A teenager consumes 20% of her calories each day in the form of protein. If she is getting 700 calories a day from protein, how many calories is she consuming per day?

Metric Units

Example: 55 centimeters = ? kilometers

Step 1: Figure out how many places to move the decimal. King Henry Died By Drinking… – that's six places. (Count the one you are going to, but not the one you are on.)

Step 2: Move the decimal five places to the left since you are going from smaller to larger.

55 centimeters = .00055 kilometers

Example: 19.5 kilograms = ? milligrams

Step 1: Figure out how many places to move the decimal. … Henry Died By Drinking Chocolate Milk – that's six places. (Remember to count the one you are going to, but not the one you are on.)

Step 2: Move the decimal six places to the right since you are going from larger to smaller. In this case you need to add zeros.

19.5 kilograms = 19,500,000 milligrams

Practice: Remember to show all your work, include units if given, and NO CALCULATORS! All work and answers go on your answer sheet.

15. 1200 kilograms = ? milligrams
16. 14000 millimeters = ? meters
17. 670 hectometers = ? centimeters
18. 6544 liters = ? milliliters
19. .078 kilometers = ? meters
20. 17 grams = ? kilograms

Scientific Notation

Introduction:

Scientific notation is a shorthand way to express large or tiny numbers. Since you will need to do calculations throughout the year WITHOUT A CALCULATOR, we will consider anything over 1000 to be a large number. Writing these numbers in scientific notation will help you do your calculations much quicker and easier and will help prevent mistakes in conversions from one unit to another. Like the metric system, scientific notation is based on factors of 10. A large number written in scientific notation looks like this:

$$1.23 \times 10^{11}$$

The number before the x (1.23) is called the coefficient. The coefficient must be greater than 1 and less than 10. The number after the x is the base number and is always 10. The number in superscript (11) is the exponent.

Part I: Writing Numbers in Scientific Notation

To write a large number in scientific notation, put a decimal after the first digit. Count the number of digits after the decimal you just wrote in. This will be the exponent. Drop any zeros so that the coefficient contains as few digits as possible.

Example: 123,000,000,000

Step 1: Place a decimal after the first digit. 1.23000000000

Step 2: Count the digits after the decimal…there are 11.

Step 3: Drop the zeros and write in the exponent. 1.23×10^{11}

Writing tiny numbers in scientific notation is similar. The only difference is the decimal is moved to the left and the exponent is a negative. A tiny number written in scientific notation looks like this:

$$4.26 \times 10^{-8}$$

To write a tiny number in scientific notation, move the decimal after the first digit that is not a zero. Count the number of digits before the decimal you just wrote in. This will be the exponent as a negative. Drop any zeros before or after the decimal.

Example: .0000000426

Step 1: 00000004.26

Step 2: Count the digits before the decimal...there are 8.

Step 3: Drop the zeros and write in the exponent as a negative. 4.26×10^{-8}

Part II: Adding and Subtracting Numbers in Scientific Notation

To add or subtract two numbers with exponents, the exponents must be the same. You can do this by moving the decimal one way or another to get the exponents the same. Once the exponents are the same, add (if it's an addition problem) or subtract (if it's a subtraction problem) the coefficients just as you would any regular addition problem (review the previous section about decimals if you need to). The exponent will stay the same. Make sure your answer has only one digit before the decimal – you may need to change the exponent of the answer.

Example: $1.35 \times 10^6 + 3.72 \times 10^5 = ?$

Step 1: Make sure both exponents are the same. It's usually easier to go with the larger exponent so you don't have to change the exponent in your answer, so let's make both exponents 6 for this problem.

$$3.72 \times 10^5 \rightarrow .372 \times 10^6$$

Step 2: Add the coefficients just as you would regular decimals. Remember to line up the decimals.

$$\begin{array}{r} 1.35 \\ +\ .372 \\ \hline 1.722 \end{array}$$

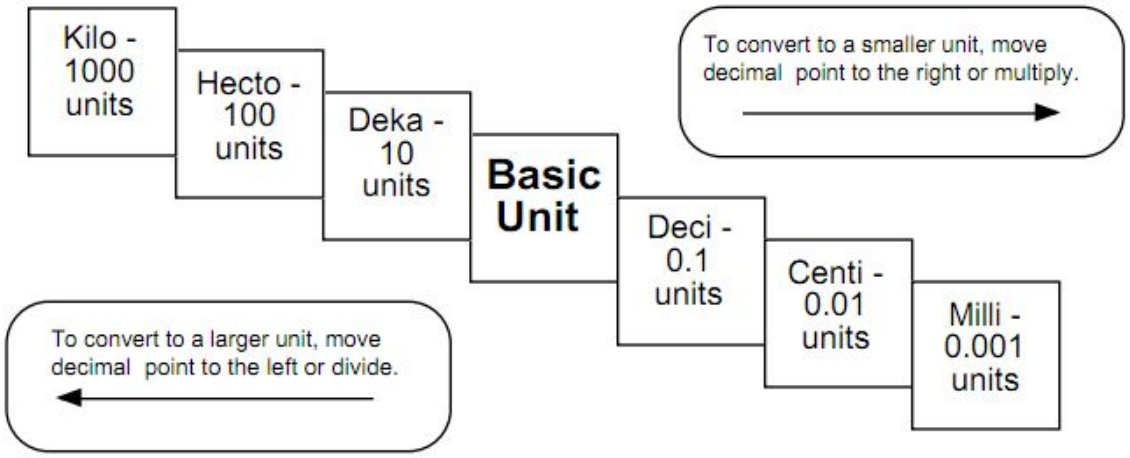
Step 3: Write your answer including the exponent, which is the same as what you started with.

$$1.722 \times 10^6$$

Part III: Multiplying and Dividing Numbers in Scientific Notation

To multiply exponents, multiply the coefficients just as you would regular decimals. Then add the exponents to each other. The exponents DO NOT have to be the same.

Kilo-, centi-, and milli- are the most frequently used prefixes of the metric system. You need to be able to go from one to another without a calculator. You can remember the order of the prefixes by using the following sentence: *King Henry Died By Drinking Chocolate Milk*. Since the multiples and divisions of the base units are all factors of ten, you just need to move the decimal to convert from one to another.



Example: $1.35 \times 10^6 \quad X \quad 3.72 \times 10^5 = ?$

Step 1: Multiply the coefficients.

$$\begin{array}{r} 1.35 \\ \times\ 3.72 \\ \hline 270 \\ 9450 \\ \underline{40500} \end{array}$$

$$50220 \rightarrow 5.022$$

Step 2: Add the exponents.

$$5 + 6 = 11$$

Step 3: Write your final answer.

$$5.022 \times 10^{11}$$

To divide exponents, divide the coefficients just as you would regular decimals, then subtract the exponents. In some cases, you may end up with a negative exponent.

Example: $5.635 \times 10^3 \ / \ 2.45 \times 10^6 = ?$

Step 1: Divide the coefficients.

$$5.635 / 3.45 = 2.3$$

Step 2: Subtract the exponents.

$$3 - 6 = -3$$

Step 3: Write your final answer.

$$2.3 \times 10^{-3}$$

Practice: Remember to show all your work, include units if given, and NO CALCULATORS! All work and answers go on your answer sheet.

Write the following numbers in scientific notation:

21. 145,000,000,000
22. 13 million
23. 0.000348
24. 135 trillion
25. 24 thousand

Complete the following calculations:

26. $3 \times 10^3 + 4 \times 10^3$
27. $7.89 \times 10^{-6} + 2.35 \times 10^{-8}$
28. $2.9 \times 10^{11} - 3.7 \times 10^{13}$
29. $1.278 \times 10^{-13} - 1.021 \times 10^{-10}$
30. three hundred thousand plus forty-seven thousand
31. 13 million minus 11 thousand
32. $1.32 \times 10^8 \times 2.34 \times 10^4$
33. $3.78 \times 10^3 \times 2.9 \times 10^2$
34. three million times eighteen thousand
35. $3.45 \times 10^9 / 2.6 \times 10^3$
36. $1.98 \times 10^{-4} / 1.72 \times 10^{-6}$
37. twelve thousand divided by four thousand

Dimensional Analysis

Introduction

Dimensional analysis is a way to convert a quantity given in one unit to an equal quantity of another unit by lining up all the known values and multiplying. It is sometimes called factor-labeling. The best way to start a factor-labeling problem is by using what you already know. In some cases you may use more steps than a classmate to find the same answer, but it doesn't matter. Use what you know, even if the problem goes all the way across the page!

In a dimensional analysis problem, start with your given value and unit and then work toward your desired unit by writing equal values side by side. Remember you want to cancel each of the intermediate units. To cancel a unit on the top part of the problem, you have to get the unit on the bottom. Likewise, to cancel a unit that appears on the bottom part of the problem, you have to write it in on the top.
Once you have the problem written out, multiply across the top and bottom and then divide the top by the bottom.

Example: 3 years = ? seconds

Step 1: Start with the value and unit you are given. There may or may not be a number on the bottom.

$$\left[\frac{3 \text{ years}}{}\right]$$

Step 2: Start writing in all the values you know, making sure you can cancel top and bottom. Since you have years on top right now, you need to put years on the bottom in the next segment. Keep going, canceling units as you go, until you end up with the unit you want (in this case seconds) on the top.

$$\left[\frac{3 \text{ years}}{}\right] \left[\frac{365 \text{ days}}{1 \text{ year}}\right] \left[\frac{24 \text{ hours}}{1 \text{ day}}\right] \left[\frac{60 \text{ minutes}}{1 \text{ hour}}\right] \left[\frac{60 \text{ seconds}}{1 \text{ minute}}\right]$$

Step 3: Multiply all the values across the top. Write in scientific notation if it's a large number. Write units on your answer.

$$3 \times 365 \times 24 \times 60 \times 60 = 9.46 \times 10^7 \text{ seconds}$$

Step 4: Multiply all the values across the bottom. Write in scientific notation if it's a large number. Write units on your answer if there are any. In this case everything was cancelled so there are no units.

$$1 \times 1 \times 1 \times 1 = 1$$

Step 5: Divide the top number by the bottom number. Remember to include units.

$$9.46 \times 10^7 \text{ seconds} / \ 1 = 9.46 \times 10^7 \text{ seconds}$$

Step 6: Review your answer to see if it makes sense. 9.46 x 10^7 is a really big number. Does it make sense for there to be a lot of seconds in three years? YES! If you had gotten a tiny number, then you would need to go back and check for mistakes.

In Chemistry, and other advanced sciences, we replace the factor-label method with dimensional analysis (also referred to as "train-tracks". The problem above would be solved the same way but would look like this:

3 ~~years~~	365 ~~days~~	24 ~~hours~~	60 ~~minutes~~	60 seconds
	1 ~~year~~	1 ~~day~~	1 ~~hour~~	1 ~~minute~~

In lots of APES problems, you will need to convert both the top and bottom unit. Don't panic! Just convert the top one first and then the bottom.

Example: 50 miles per hour = ? feet per second

Step 1: Start with the value and units you are given. In this case there is a unit on top and on bottom.

Step 2: Convert miles to feet first.

Step 3: Continue the problem by converting hours to seconds.

Step 4: Multiply across the top and bottom. Divide the top by the bottom. Be sure to include units on

each step. Use scientific notation for large numbers.

50 ~~miles~~	5280 feet		1 ~~hour~~	1 ~~minutes~~
1 ~~hour~~	1 ~~mile~~		60 ~~minutes~~	60 seconds

50 x 5280 feet x 1 x 1 = 264000 feet
1 x 1 x 60 x 60 seconds = 3600 seconds
264000 feet / 3600 seconds = 73.33 feet/second

Practice: Remember to show all your work, include units if given, and NO CALCULATORS! All work and answers go on your answer sheet. Use scientific notation when appropriate.

Conversions:

1 square mile = 640 acres
1 hectare (Ha) = 2.47 acres
1 kw-hr = 3,413 BTUs
1 barrel of oil = 159 liters
1 metric ton = 1000 kg

38. 134 miles = ? inches
39. 8.9×10^5 tons = ? ounces
40. 1.35 kilometers per second = ? miles per hour
41. A city that uses ten billion BTUs of energy each month is using how many kilowatt-hours of energy?
42. A 340 million square mile forest is how many hectares?
43. If one barrel of crude oil provides six million BTUs of energy, how many BTUs of energy will one liter of crude oil provide?
44. Fifty eight thousand kilograms of solid waste is equivalent to how many metric tons?
45.

Data for plotting graphs - complete the graphs on graph paper

Graphing Practice Problem #1: Ethylene is a plant hormone that causes fruit to mature. The data above concerns the amount of time it takes for fruit to mature from the time of the first application of ethylene by spraying a field of trees.

Amount of ethylene in ml/m^2	Wine sap Apples: Days to Maturity	Golden Apples: Days to Maturity	Gala Apples: Days to Maturity
10	**14**	**14**	**15**
15	**12**	**12**	**13**
20	**11**	**9**	**10**
25	**10**	**7**	**9**
30	**8**	**7**	**8**
35	**8**	**7**	**7**

A. Make a line graph of the data.
B. What is the dependent variable?
C. What is the independent variable?

Graphing Practice Problem #2: **A clam farmer has been keeping records concerning the water temperature and the number of clams developing from fertilized eggs. The data is recorded below.**

Water Temperature in °C	Number of developing clams
15	75
20	90
25	120
30	140
35	75
40	40
45	15
50	0

A. Make a line graph of the data.
B. What is the dependent variable?
C. What is the independent variable?
D. What is the optimum (best) temperature for clam development?

Graphing Practice Problem #3: **The thickness of the annual rings indicate what type of environmental situation was occurring at the time of its development. A thin ring, usually indicates a rough period of development. Lack of water, forest fires, or a major insect infestation. On the other hand, a thick ring indicates just the opposite.**

Age of the tree in years	Average thickness of the annual rings in cm. Forest A	Average thickness of the annual rings in cm. Forest B
10	2.0	2.2
20	2.2	2.5
30	3.5	3.6
35	3.0	3.8
50	4.5	4.0
60	4.3	4.5

A. Make a line graph of the data.
B. What is the dependent variable?
C. What is the independent variable?
D. What was the average thickness of the annual rings of 40 year old trees in Forest A?
E. Based on this data, what can you conclude about Forest A and Forest B?

Graphing Practice Problem #4:

pH of water	Number of tadpoles
8.0	45
7.5	69
7.0	78
6.5	88
6.0	43
5.5	23

A. Make a line graph of the data.
B. What is the dependent variable?
C. What is the independent variable?
D. What is the average pH in this experiment?
E. What is the average number of tadpoles per sample?
F. What is the optimum water pH for tadpole development?
G. Between what two pH readings is there the greatest change in tadpole number?

H. How many tadpoles would we expect to find in water with a pH reading of 5.0?

Environmental Science Article Analysis Summer Assignment 2018-2019

APES

In environmental science, it is important to know about current issues in the news. One of our goals for this course is to familiarize you with environmental issues that are important to our community, our country, and our world. We will be reading and discussing a variety of current events throughout the school year as well. This is a great opportunity for you to start thinking about the environment and how it affects you. **Over the course of the summer, find <u>three</u> recent articles related to Environmental Science.** Over the course of each marking period you will complete 10, (20 per semester) which will be part of your final grade.

Summer Assignment:
Summaries and responses to 3 articles dealing with environmental issues; the composition notebook **will be collected the First Day of Class**

- Must purchase COMPOSITION NOTEBOOK to keep for reviews all year.
- See attached ***<u>Current Events Composition Notebook Guidelines</u>*** for details

<u>Current Events Composition Notebook Guidelines</u>

Environmental Law
Ecosystems
Climate
Evolution
Preserving our Biodiversity
Health Risks
Water Pollution
Population
Cities and Waste
Geology and Energy Resources
Food/Agriculture
Air Pollution

All articles should be current (during the past 2 years) and taken from a reliable source. The sources may be scientific publications, popular magazines, newspapers or the like. Try the NY Times (especially on Tuesdays), Washington Post, National Geographic, Discover Magazine, Natural History Magazine, Scientific American, Science, Nature, Treehugger.com, etc. The articles should be long enough (more than 4 paragraphs) for you to write a substantial summary and well thought-out response. Try to find a variety of articles at the local, state, national, and global level (i.e. not all articles should be about the BP Oil Spill in Louisiana) and that cover three different topics from the list above (for the summer assignment), and ALL of the topics above by the end of each semester. You are encouraged to use local sources. For the summer assignment you must have one of the three articles focus on New Jersey.

<u>Journal Format</u>: Each student will be responsible for purchasing a bound composition notebook, to serve as your current events notebook. It will be organized in the following way:

1. Title Page
2. Directions *(yes, the page you are reading--so copy and paste in a word document and print so that you may paste into your composition notebook – starting at Composition Notebook Guidelines))*
3. Table of Contents (must list title, source, date, and page number in journal)
4. Each written summary/analysis followed by the article itself—article must be pasted in your notebook (follow format)

*All pages in the journal must be numbered in the upper right-hand corner.
**All writing must be legible and either written in black or blue ink—all article analysis must be handwritten.

Environmental Science Article Analysis **Summer Assignment 2018-2019**

APES

Article Analysis: Include all of the following components and clearly identify each component – Following the title, label as (b) Summary, (c) Analysis, etc.

a) Title: use the complete APA format for each article you use and follow punctuation rules

b) Summary: Give a brief summary of the article (in your own words); be sure to include:

1. What is the problem? When did it begin?
2. Who are the responsible parties, if they are known?
3. How severe is the environmental impact?

c) Analysis: (include and clearly label each of the following points of your analysis)

1. Points of View: Does the article give two different points of view? Yes or No. If yes, what are they?
2. Bias: The order in which information is presented and the amount of text devoted to influencing a reader's opinion is called bias. Is this article biased, and if so, which way is the article biased (slanted)? In your opinion does the author give a positive, negative or neutral view of the environmental science topic? Explain.
3. Controversy: Is there any controversy surrounding this article? If so, briefly state it.
4. Your Perspective: State your perspective on this news article based on your personal knowledge of the topic and your reading of this article. In other words, what are your thoughts on the issue(s) presented in this article?
5. Effect on You: How does this topic affect you, or how does it relate to your life?