2012 Engineer Challenge!

PING PONG & PIE

PING PONG! Engineer a new paddle!

PI! PIE! Create a delicious pie!

Name:_____ Number:_____ Date:_____

Now is your chance to change the world!

Missions

Create a new tantalizing pie.
Create a high tech ping paddle!
Master vocabulary, parts of speech, dialogue, and spelling!

The Process

Step One: Fill out Math tables
Step Two: Graphing!
Step Three: Writing Process
Step Four: Advertising Process
Step Five: Production Process

Make it happen! <u>Ideas can be *worth* a lot!</u>

"Write it on your **heart that every day** is the best day in the year " ~Emerson

PDR: ***Pride! Determination! Resiliency!***

PING PONG! Engineer a new paddle!

1) Choose four adjectives describing your *newly developed paddle*!

resilient	thrilling	innovative	breathtaking	jaw-dropping
excillierating	sturdy	sturdy	entertaining	advantageous

2) Figure out the fraction of each kind of characteristic! Graph the percents!

KEY

Adjective/Trait	Synonym	Color

(Name of paddle) _____

Property	Fraction	Factors	GCF	Reduced Fraction	Decimal	Percent
		_____				
		_____				
		_____				
		_____				
Total						

Actual diameter = 6 inches	**Scale it!** **2 in= 1 cm**	Scale diameter = $\frac{2in}{1cm} = \frac{\quad in}{\quad cm}$

Fill out Color Code Key, draw and label, and then find circumference and area:

Circumference=	Diameter=	Radius=	Chord=	Area=

Find the scaled measurements!

Circumference=	Area=

ENGINEERING: PIE / PI! π

Ingredient	formula	total	Round to	Averages Amount of items sold per season.			Seasonal Average
Pie Crust	143.48 + 99.09=		Round to 100s	**Summer**	**Winter**	**Spring**	**Averages**
Vanilla Pudding	803 X3.2		Round to 100s				**Mean** **Mode** **Range**
Chocolate Pudding	93.4 X 8		Round to 10s				**Mean** **Mode** **Range**
Whipped Cream	98,534 X 12		Round to millions				**Mean** **Mode** **Range**
Marshmallow	83.1 X 4.2		Round to tenths				**Mean** **Mode** **Range**
Mint	6.14 X 3.2		Round to tenths				**Mean** **Mode** **Range**

Step Two: Pie / π Research Continue...

Heath	***Diameter*** Radius= 3.5 cm	Answer	**Spring**	**Summer**	**Winter**	**Averages** **Mean** **Mode** **Range**
Butterscotch	***Circumference*** π =3.14 C= π*D Radius= 4 cm					**Mean** **Mode** **Range**
Peanut Butter	Divide 7.42 / 8					**Mean** **Mode** **Range**
Rice Ks	Draw circle A with a diameter of 12 cm with chord CB **What is its circumference?**					**Mean** **Mode** **Range**
Sprinkles	Prime Factorization 96					**Mean** **Mode** **Range**
Other 	List the first ten multiples 8					**Mean** **Mode** **Range**

YOUR ITEM ANALYSIS DATA TABLE! π

(Specifically name your chosen ingredients)

Item	Formula	Total	Seasonal Mean	Range
1)				
2)				
3)				
Totals	**********			

Step Four: Writing Process π

On a separate sheet of paper create four paragraph informative/ descriptive essay paragraph about your pie creation. See the examples.

π Step Five: Advertising Process

a. Make a package label or tag for your product. Include price, materials, warranty or guarantees, ingredients or materials used to make the product, purpose of the product, name of the product, and any other useful bits of information that would help persuade a consumer to buy your product.

b. Create a slogan for your product. A slogan is catchy phrase, song, or rhyme that will remind people to buy your product.

c. Create an advertisement for your product. (Separate sheet paper)

d. Create a commercial for your product. (Record it!)

Introducing Bubble Gum Pie Delight!

Looking for your Pie in the Sky? Bubble Gum Pie Delights is the long lasting fun to chew pie dessert! Bubble Gum Pie Delight has a satisfying taste, and provides customers with an economical dessert alternative!

Easy as Pie! Bubble Gum Pie Delight has a satisfying taste! First, Bubble Gum Pie Delight provides a fresh fruity taste that will leave you wanting seconds! Second, you will enjoy its long lasting flavor. Bubble Gum Pie Delight is a marathon; not a sprint! Finally, the fluoride enriched BGPD not only makes your tummy happy but also will leave your breath fresh and teeth smiling! It is as easy as pie to fulfill you taste desires with Bubble Gum Pie Delight!

Have your fingers in the pie! Bubble Gum Pie Delight provides customers with an economical dessert alternative First, Bubble Gum Pie Delight last longer than the average pie thanks to its chewability and bubbleability! Second, Bubble Gum Pie Delight makes dessert affordable thanks to its green family friendly packaging. For example, it is package with reusable containers! Finally, BGPD combines the fun of desserts with the nutrition of a main meal! This means no empty calories! Make your dessert part of your main course with these money saving benefits!

In conclusion, Bubble Gum Pie Delights is the long lasting fun to chew pie dessert! Remember, Bubble Gum Pie Delight has a satisfying taste, and provides customers with an economical dessert alternative! Be a part of the upper crust of pie eaters! Get your slice of Bubble Gum Pie Delight today!

WRITERS' WORKSHOP FOCUS: ORGANIZATION AND WORD CHOICE
Reviewing the Thesis

Lead:

Beginning part of a paragraph that gets the reader interested.

a. questions
b. quotes
c. Onomatopoeia
d. short stories
e. riddles. jokes

Introduction:

Tells the reader what you are writing about and your purpose.

Thesis Statement:

This is located in the introduction part of an essay. It contains the main idea of the essay by identifying the topic sentences that will be used throughout the paper.

Closing Statement:

This is found in the final part of an essay. It restates the thesis and introduction.

Transition Words:

These are words that give a paper order and helps it make sense to the reader. Examples are: first, second, next, finally, after, in conclusion, last, etc...

Examples of Transitions:

Illustration
Thus, for example, for instance, namely, to illustrate, in other words, in particular, specifically, such as.

Contrast
On the contrary, contrarily, notwithstanding, but, however, nevertheless, in spite of, in contrast, yet, on one hand, on the other hand, rather, or, nor, conversely, at the same time, while this may be true.

Addition
And, in addition to, furthermore, moreover, besides, than, too, also, both-and, another, equally important, first, second, etc., again, further, last, finally, not only-but also, as well as, in the second place, next, likewise, similarly, in fact, as a result, consequently, in the same way, for example, for instance, however, thus, therefore, otherwise.

Time
After, afterward, before, then, once, next, last, at last, at length, first, second, etc., at first, formerly, rarely, usually, another, finally, soon, meanwhile, at the same time, for a minute, hour, day, etc., during the morning, day, week, etc., most important, later, ordinarily, to begin with, afterwards, generally, in order to, subsequently, previously, in the meantime, immediately, eventually, concurrently, simultaneously.

Space
At the left, at the right, in the center, on the side, along the edge, on top, below, beneath, under, around, above, over, straight ahead, at the top, at the bottom, surrounding, opposite, at the rear, at the front, in front of, beside, behind, next to, nearby, in the distance, beyond, in the forefront, in the foreground, within sight, out of sight, across, under, nearer, adjacent, in the background.

Concession
Although, at any rate, at least, still, thought, even though, granted that, while it may be true, in spite of, of course.

Similarity or Comparison
Similarly, likewise, in like fashion, in like manner, analogous to.

Emphasis
Above all, indeed, truly, of course, certainly, surely, in fact, really, in truth, again, besides, also, furthermore, in addition.

Details
Specifically, especially, in particular, to explain, to list, to enumerate, in detail, namely, including.

Examples
For example, for instance, to illustrate, thus, in other words, as an illustration, in particular.

Consequence or Result
So that, with the result that, thus, consequently, hence, accordingly, for this reason, therefore, so, because, since, due to, as a result, in other words, then.

Summary
Therefore, finally, consequently, thus, in short, in conclusion, in brief, as a result, accordingly.

Suggestion
For this purpose, to this end, with this in mind, with this purpose in mind, therefore.

PING PONG Math Project ***Work Area!***

Alexandria went to *a PING PONG COMPETITION* and tried 24 food items! Half of the the food items were different kinds of baked goods! One sixth were kinds of candy! One eighth of the the food items were different kinds of hot dogs! The rest of the food items were different kinds of fruit! How many food items were different kinds of fruit?

I. Read

A. Key Facts

1.
2.
3.
4.
5.

B. Restate the Question / Prompt:

1.

----------Work and Label----------

PING PONG Math Project ***Work Area!***

Alexandria went to *a Ping Pong Tournament* and tried 30 food items! One fifth of the the food items were different kinds of baked goods! One sixth were kinds of candy! One third of the the food items were different kinds of hot dogs! The rest of the food items were different kinds of fruit! How many food items were different kinds of fruit?

I. Read

A. Key Facts

1.
2.
3.
4.
5.

B. Restate the Question / Prompt:

1.

----------Work and Label----------

PING PONG Math Project ***Work Area!***

Alexandria spent $35 dollars last month. Her salary for one month is two times the amount she spent has last month. How much money does she earn in a year?

I. Read

A. Key Facts

1.
2.
3.
4.
5.

B. Restate the Question / Prompt:

1.

----------Work and Label----------

PING PONG Math Project ***Work Area!***

Alexandria ate seven cookies. She baked six times amount of the cookies she ate. How many cookies does she have left?

I. Read

A. Key Facts

1.
2.
3.
4.
5.

B. Restate the Question / Prompt:

1.

----------Work and Label----------

PING PONG Math Project ***Work Area!***

Alexandria spent $40 dollars last month. Her salary for one month is eight times the amount she spent has last month. How much money does she earn in two years?

I. Read

A. Key Facts

1.
2.
3.
4.
5.

B. Restate the Question / Prompt:

1.

----------Work and Label----------

PING PONG Math Project ***Work Area!***

Alexandria ate 18 cookies. She baked three times amount of the cookies she ate. She also gave a dozen to charity. How many cookies does she have left?

I. Read

A. Key Facts

1.
2.
3.
4.
5.

B. Restate the Question / Prompt:

1.

----------Work and Label----------

PING PONG Math Project ***Work Area!***

Alexandria ate 24 cookies. She baked two times amount of the cookies she ate. She also gave a half dozen to charity. How many cookies does she have left?

I. Read

A. Key Facts

1.
2.
3.
4.
5.

B. Restate the Question / Prompt:

1.

----------Work and Label----------

Ping Pong Scale and Measurement Project ***Work Area!***

(Design a table!)

Actual Dimensions: ***Length*** = 30 feet ***Width*** = 10 feet ***Height*** = 10 feet **Scale Dimensions:** *Scale: 5 ft = 1 cm*

Length = 30 feet	Width = 10 feet	Height = 10 feet
$\frac{5 \text{ ft}}{1 \text{ cm}} = \_\_\_\_$	$\frac{5 \text{ ft}}{1 \text{ cm}} = \_\_\_\_$	$\frac{5 \text{ ft}}{1 \text{ cm}} = \_\_\_\_$

Create a scale Drawing! *Draw two rectangles and shade 15 cms.*

Fraction	Common Fractors / GCF	Work / Reduced Fraction / Proper Form
_____	_____	_____

Scale Measurements: *Find measurements for one rectangle or prism*

Perimeter = total length in cm	Area= width X length in cm^2	Volume = width X length X height in cm^3
Work and Label	Work and Label	Work and Label

Ping Pong Scale and Measurement Project ***Work Area!***

(Design a table!)

Actual Dimensions: ***Length*** = 45 feet ***Width*** = 18 feet ***Height*** = 27 feet **Scale Dimensions:** *Scale: 9 ft = 1 cm*

Length = 45 feet	Width = 18 feet	Height = 27 feet
$\frac{9 \text{ ft}}{1 \text{ cm}} = \_\_\_\_$	$\frac{9 \text{ ft}}{1 \text{ cm}} = \_\_\_\_$	$\frac{9 \text{ ft}}{1 \text{ cm}} = \_\_\_\_$

Create a scale Drawing! *Draw two rectangles and shade 19 cms.*

Fraction	Common Fractors / GCF	Work / Reduced Fraction / Proper Form
_____	_____	_____

Scale Measurements: *Find measurements for one rectangle or prism*

Perimeter = total length in cm	Area= width X length in cm^2	Volume = width X length X height in cm^3
Work and Label	Work and Label	Work and Label

Ping Pong Scale and Measurement Project ***Work Area!***

(Design a table!)

Actual Dimensions: ***Length*** = 54 feet ***Width*** = 18 feet ***Height*** = 27 feet **Scale Dimensions:** *Scale: 9 ft = 1 cm*

Length = 54 feet	Width = 18 feet	Height = 27 feet
$\frac{9 \text{ ft}}{1 \text{ cm}} = \_\_\_\_$	$\frac{9 \text{ ft}}{1 \text{ cm}} = \_\_\_\_$	$\frac{9 \text{ ft}}{1 \text{ cm}} = \_\_\_\_$

Create a scale Drawing! *Draw two rectangles and shade 21 cms.*

Fraction	Common Fractors / GCF	Work / Reduced Fraction / Proper Form
_____	_____	_____

Scale Measurements: *Find measurements for one rectangle or prism*

Perimeter = total length in cm	Area= width X length in cm^2	Volume = width X length X height in cm^3
Work and Label	Work and Label	Work and Label

Ping Pong Scale and Measurement Project ***Work Area!***

1. The world's largest ping pong net is 59 ft long. The National Ping Pong Planning Committee had 389 feet of nylon for the net. After making as many large nets as possible out of the nylon material, they plan on recycling the leftover material. How many feet of nylon will they recycle?

4 Step Process Math ***Work Area!***

I. Read
   A. Key Facts
      1.
      2.
      3.
      4.
      5.
   B. Restate the Question / Prompt:
      1.

----------Work and Label----------

Ping Pong Scale and Measurement Project ***Work Area!***

1. A normal ping pong net is 6 ft long. The National Ping Pong Planning Committee had 123 feet of nylon for the net. After making as many nets as possible out of the nylon material, they plan on recycling the leftover material. How many feet of nylon will they recycle?

4 Step Process Math ***Work Area!***

I. Read
   A. Key Facts
      1.
      2.
      3.
      4.
      5.
   B. Restate the Question / Prompt:
      1.

----------Work and Label----------

Mathematics Problem Solving

Mean Problems **Remember, mean = average.

1. John, Kyle, and Timothy each played 5 hour ping pong matches. Madison played a twelve hour match! What is the average length of all their games?

4 Step Process Math ***Work Area!***

I. Read

A. Key Facts

1.
2.
3.
4.
5.

B. Restate the Question / Prompt:

1.

----------Work and Label----------

Complete the Data Table below based on the information from the problem!

Mean	Range	Mode	Median	Outlier

Mathematics Problem Solving

Mean Problems **Remember, mean = average.

1. John, Kyle, and Timothy each played 3 hour ping pong matches. Madison played a ten hour match! What is the average length of all their games?

4 Step Process Math ***Work Area!***

I. Read

A. Key Facts

1.
2.
3.
4.
5.

B. Restate the Question / Prompt:

1.

----------Work and Label----------

Complete the Data Table below based on the information from the problem

Mean	Range	Mode	Median	Outlier