

Assignment Self-Monitoring Sheet

	Assignment Effort Grade (Circle One)	Comments (What was interesting or challenging?)
Monday Date: <u>9/4</u> Topic: _____	0 1 2	NO SCHOOL LABOR DAY
Tuesday Date: <u>9/5</u> Topic: <u>Pattern Task</u>	0 1 <u>2</u>	Example Comment: "I was able to describe the how the figures were growing"
Wednesday Date: <u>9/6</u> Topic: <u>No Homework - Pre Assessment Yesterday!</u>	0 1 2	
Thursday Date: <u>9/7</u> Topic: <u>Evaluating Functions WS</u>	0 1 2	
Friday Date: <u>9/8</u> Topic: <u>Investigation: How many cups tall is the teacher?</u>	0 1 2	

Southwest Homecoming Pep Fest Schedule (2017)

9/8/2017

Bell Schedule:

1st hour – 8:05 – 8:45

2nd hour – 8:50 – 9:30

3rd hour – 9:35 – 10:15

4th hour – 10:20 – 11:00

5th hour – 11:05 – 12:25

 “A” Lunch – 11:10 – 11:40 (Class 11:45-12:25)

 “B” Lunch – 11:50-12:25 (Class 11:05-11:45)

6th hour – 12:30 – 1:10

7th hour – 1:15 – 1:55

Pep Fest – 2 – 3pm (*Dismiss from Stadium after Pep Fest*)

Class Plan:

1. Warm-up
2. Conclude Investigation:
Stacking Cups... Let's stack all
the cups!
3. Assess work on IB Rubric
4. Assess Productivity of Group
5. Mathematician Project

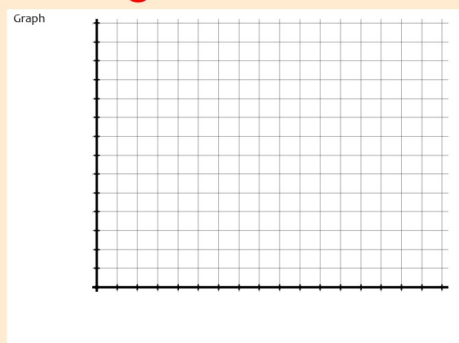
Investigation: Stacking Cups

- Do: 1) Compare your work at your table.
2) Fill in missing details
3) Make sure your table has all the info!

Mr. Ehlke's Height: ~71 inches/~181 cm

Table

Number of Cups	Height



Equation

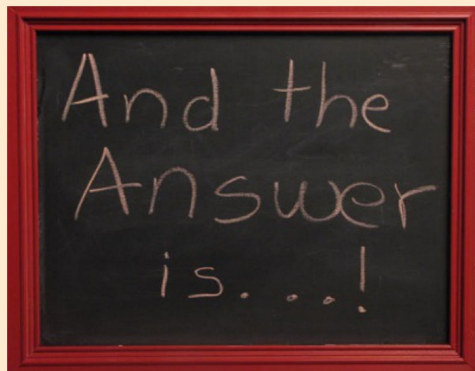
Description of Story (Context)

Description (Math Language)

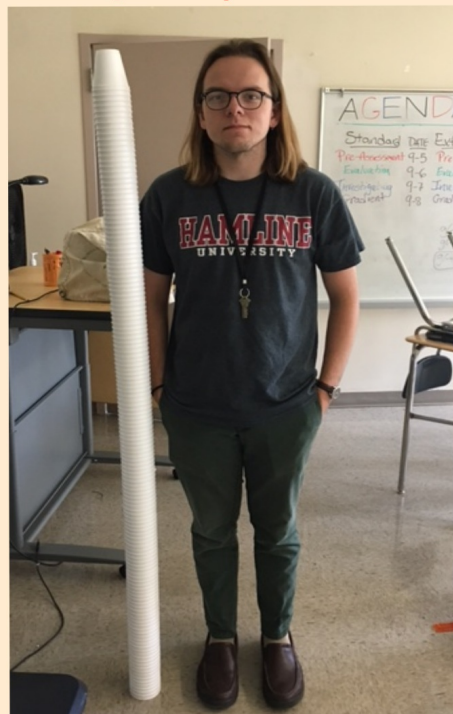


Done? Reflect on your estimate...

Mr. Elhke in terms of cups :)



about 141 cups!



Standard	Date	Exh
Pre-Assignment	4-5	Pre
Evaluation	9-6	Exh
Recap/Assignment	9-7	Exh
Final	9-8	Exh

Assess using an IB Rubric

UNIT 1: Linear Relationships

Key Concept: Relationships

Related Concept(s): Change, Measurement

Global Context: Scientific and technical innovation

Statement of Inquiry: Measuring the relationship between a teacher's height and the constant change of units.

Task Title: Measuring Cups

Task Description: Students will estimate a teacher's height using Styrofoam cups and multiple representations of linear relationships.

Complete: All necessary pieces are a part of the final work.

Coherent: Descriptions and explanations are understood using the language developed in the unit.

Concise: Not including unnecessary pieces of information.

Assess using an IB Rubric

Criterion	IB Level	IB Descriptors <i>(from subject guide)</i>	S	T	Task Descriptors
Criterion C: Communication	0	<ul style="list-style-type: none"> The student does not reach a standard described by any of the descriptors below 			<ul style="list-style-type: none"> Work is missing, or... has not reached a standard described by any of the descriptors given below
	1	The student is able to: <ul style="list-style-type: none"> Use limited mathematical language. Use limited forms of mathematical representation to present information. 			<ul style="list-style-type: none"> Some representations are present: <ul style="list-style-type: none"> - Graph - Table - Equation - Mathematical Language - Real-life Context Little or no consistency between representations Incomplete hypothesis or summary Table & graph are scaled incorrectly on axis The piece of work is difficult to understand. The piece of work is unorganized.
	2	<ul style="list-style-type: none"> Communicate through lines of reasoning that are difficult to interpret 			

Assess using an IB Rubric

Criteria	3	The student is able to: <ul style="list-style-type: none">• Use some appropriate mathematical language• Use appropriate forms of mathematical representation to present information adequately.• Communicate through lines of reasoning that are complete.	<ul style="list-style-type: none">• Most representations are present:<ul style="list-style-type: none">- Graph- Table- Equation- Mathematical Language- Real-life Context• Some consistency between representations• Contains hypothesis or summary• Table & graph are scaled incorrectly on axis• Written work is complete:
	4		

Assess using an IB Rubric

5	<p>The student is able to:</p> <ul style="list-style-type: none"> • Usually use appropriate mathematical language. • Usually use appropriate forms of mathematical representation to present information correctly. 				
6	<ul style="list-style-type: none"> • Usually move between different forms of mathematical representation. • Communicate through lines of reasoning that are complete and coherent. • Present work that is usually organized using a logical structure. 				

- All 5 representations are present:
 - Graph
 - Table
 - Equation
 - Mathematical Language
 - Real-life Context
 - Consistency between representations is evident
 - Contains hypothesis and summary
 - Table & graph are scaled on axis
 - Written work is complete and coherent:
- Complete:** All necessary pieces are a part of the final work.
- Coherent:** The work is understood using the language developed in the unit.
- The piece of work is **mostly** organized and neat.

Assess using an IB Rubric

7	<p>The student is able to:</p> <ul style="list-style-type: none"> • Consistently use appropriate mathematical language • Use appropriate forms of mathematical representation to consistently present information correctly. • Move effectively between different forms of mathematical representation. • Communicate through lines of reasoning that are complete, coherent, and concise. • Present work that is consistently organized using a logical structure. 	<ul style="list-style-type: none"> • All 5 representations are accurate: <ul style="list-style-type: none"> - Graph - Table - Equation - Mathematical Language - Real-life Context • Consistency between representations is evident • Clearly communicates hypothesis and summary • Table & graph use appropriate scaling on axis • Written work is complete, coherent, and concise: <p>Complete: All necessary pieces are a part of the final work.</p> <p>Coherent: The work is understood using the language developed in the unit.</p> <p>Concise: The work does not include unnecessary pieces of information.</p>
8		<ul style="list-style-type: none"> • The piece of work is organized and neat.

Assess using an IB Rubric

- Rubrics are given out ***before*** assessments so you can see how you will be assessed.
- Far right column indicates how you can achieve the scores.

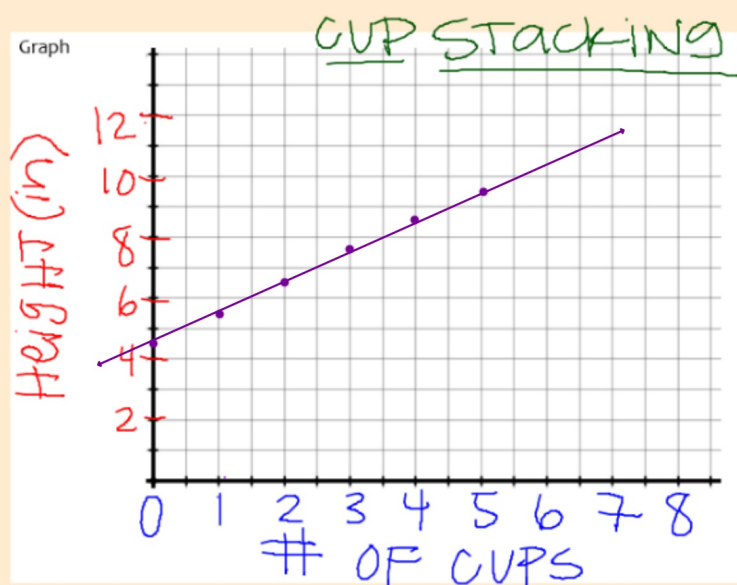
Description of Story (Context)

One cup is 5.5 inches tall. As each additional cup is stacked on top, another inch is added in height. How many cups are needed to reach the top of Ms. Berg's head (68 inches)?



What are the disadvantage(s) of this graph?

What are the advantage(s) of this graph?



Equation

$$h(c) = 1c + 4.5$$

Number of Cups	Height	Size of the Lip
0	4.5	
1	5.5	+1
2	6.5	+1
3	7.5	+1
4	8.5	+1
5	9.5	+1
?	68	

Check:

$$h(0) = 1(0) + 4.5$$

$$h(0) = 4.5$$

$$h(1) = 1(1) + 4.5$$

$$h(1) = 5.5$$

$$h(2) = 1(2) + 4.5$$

$$h(2) = 6.5$$

Equation

$$h(c) = 1c + 4.5$$

Description (Math Language)

$h(c)$ height - dependent variable/ output
 c number of cups (or lips!) - independent variable/ input

1 inch of height per each cup(lip) was the constant rate of change/ gradient/ slope

4.5 inches is the starting value/ y-intercept (where $c=0$ cups or lips of the cup). This is the height without the lip.

In conclusion,

About 141 cups should reach the top of Mr. Ehlke's head

Limitations:

- Human error in measuring (stacking cups)
- Error in drawing graph
- Rounding



Student Exemplars! Centimeters :)

Table

Number of Cups	Height
1	9cm
2	10cm
20	28cm
30	38cm
40	48cm
100	108cm
150	158cm

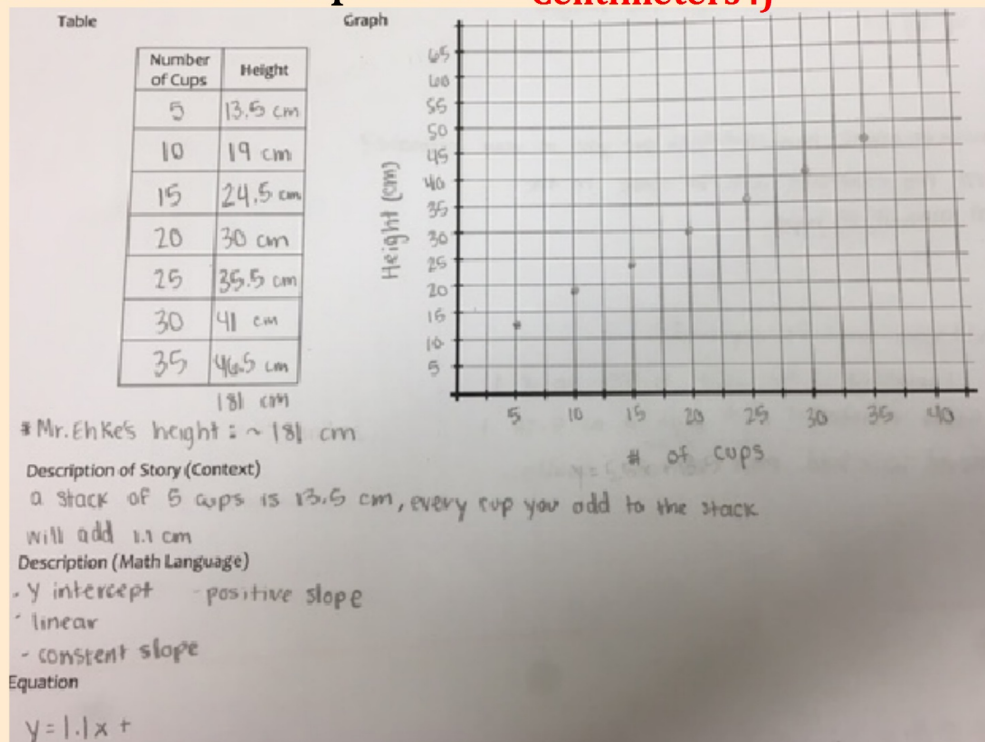
Graph

Description of Story (Context)
 We are measuring Mr. Ehlke with cups. How many cups can stack up to reach Mr. Ehlke's height?

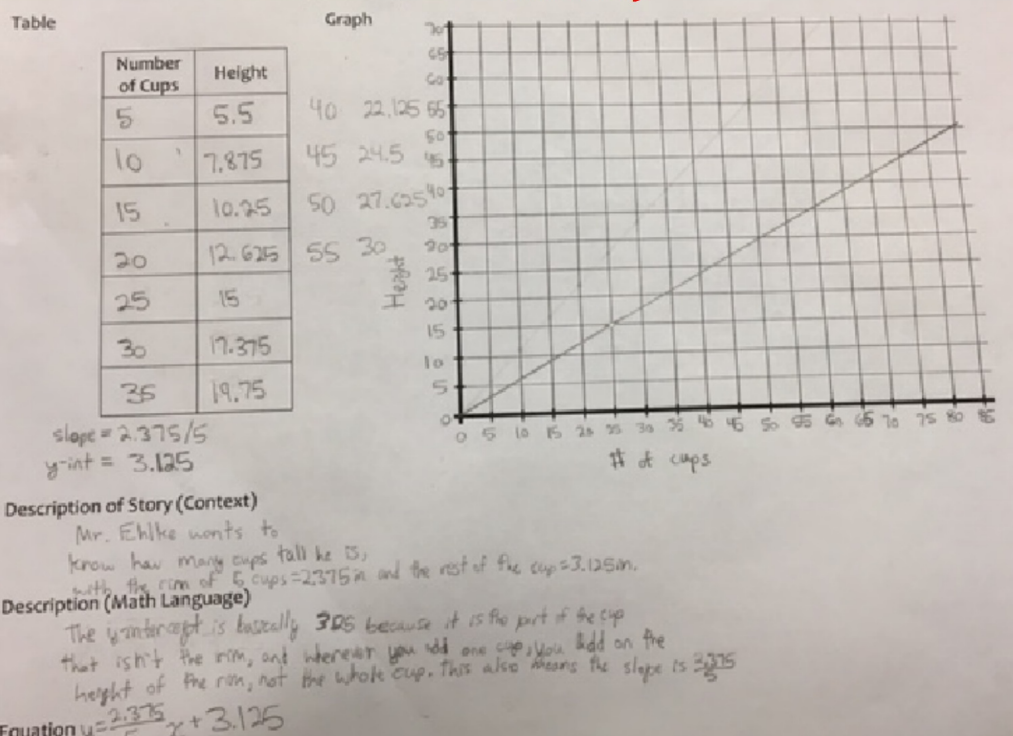
Description (Math Language)
 The rate of increase is constant, meaning the relationship is linear.

Equation
 $y = 1x + 8$ that is not a good equation! $y-intercept = (0,0)$

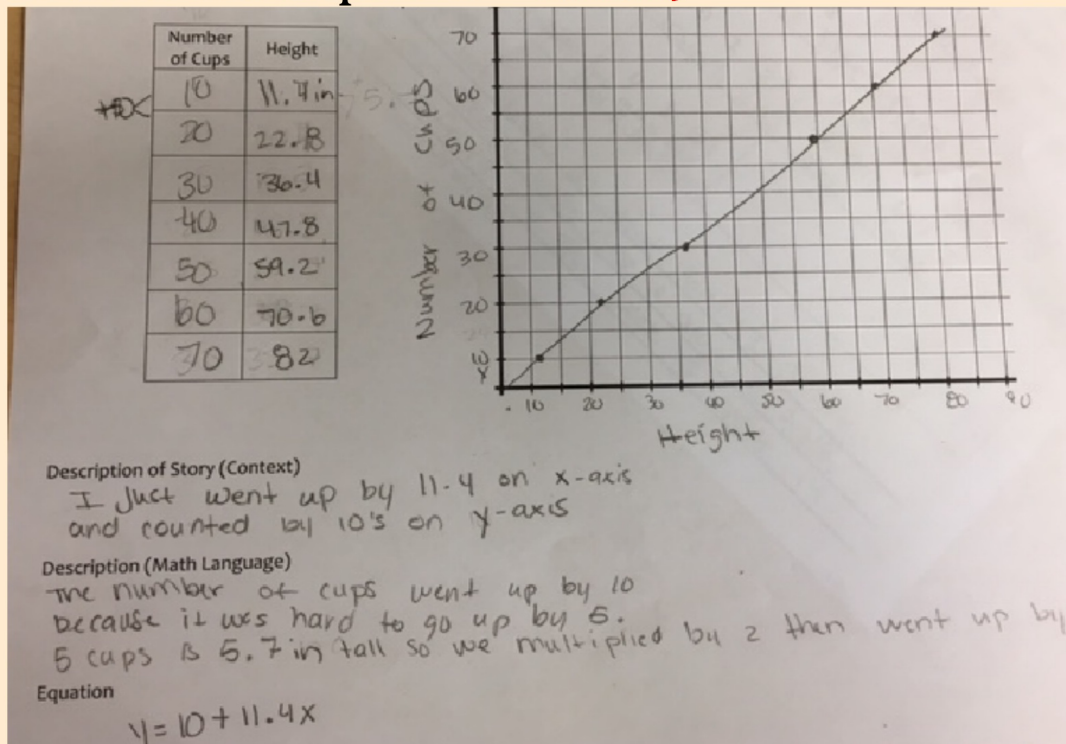
Student Exemplars! Centimeters :)



Student Exemplars! Inches :)



Student Exemplars! Inches :)



Assess the productivity of our group.

Investigation: Stacking Cups

Cups Investigation Group Assessment

Names _____

MYP SCORE

1) Rate your group's productivity in the investigation: (1 = low, 5 = productive!) _____

2) Comment on what worked well during your group work:

3) How could the group experience be improved?

Mathematician Feature Friday!

Who has contributed to mathematics??

1) Think and share all the famous *people* mathematicians that you have heard of.

Pythagoreas

Fibonacci

Einstein

Plato

Archimedes

Euclid

Euler

Parkson

Turing

The logo consists of the word "THINK" in white capital letters, where each letter is contained within a colored square: T (red), H (black), I (green), N (blue), K (brown).

1st hour responses!
Prepare to share with class!

Mathematician Feature Friday!

Ms. Parkin

Who has contributed to mathematics??

1) Think and share all the famous mathematicians that you have heard of.

Newton

Mans Egypt / Africa



Eisenstein Pythagoreas

Archimedes

Euclid

Fibonacci

Alan

Lovelace
Babbage

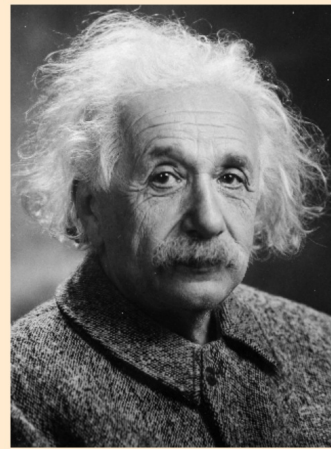
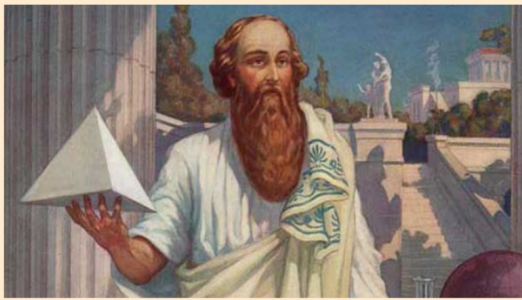
Plato

5th hour responses!

Katherine

Prepare to share with class!

Johnson



Mathematician Feature Friday!

Who has contributed to mathematics??

Here is Dr. Okikiolu!

Kathleen Adebola Okikiolu

-Born in 1965 in England

-She is half Nigerian and half British

-George Okikiolu, her father was also a Nigerian mathematician and the most published Black mathematician on record

-Received a B.A in mathematics from Cambridge University. Got her Phd in mathematics from the University of California at Los Angeles

-Kathleen is known for her work with elliptic differential operators

-She is also the first Black recipient of the Sloan research fellowship and was also awarded a Presidential Early Career Award for Scientists and Engineers



#BlackExcellence



How did Kathleen Okikolu earn her PhD?

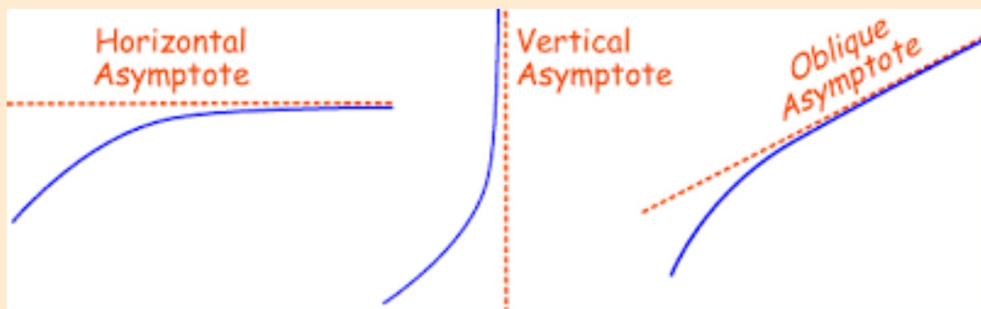
"She solved a problem concerning **asymptotics₁** of determinants of Toeplitz operators on the sphere and a conjecture of Peter Jones, characterizing **subsets₂** of **rectifiable₂** **curves₃** in **Euclidean n-space₄**."

How is your learning connected to what Dr. Okikolu's research?

Dr. Okikolu's research ⇔ MYP Math 9

1) In mathematical analysis, asymptotic analysis is a method of describing limiting behavior....

Slope is a foundational concept of studying asymptotes and limits.



Asymptote

noun

plural noun: **asymptotes**

a line that continually approaches a given curve but does not meet it at any finite distance.