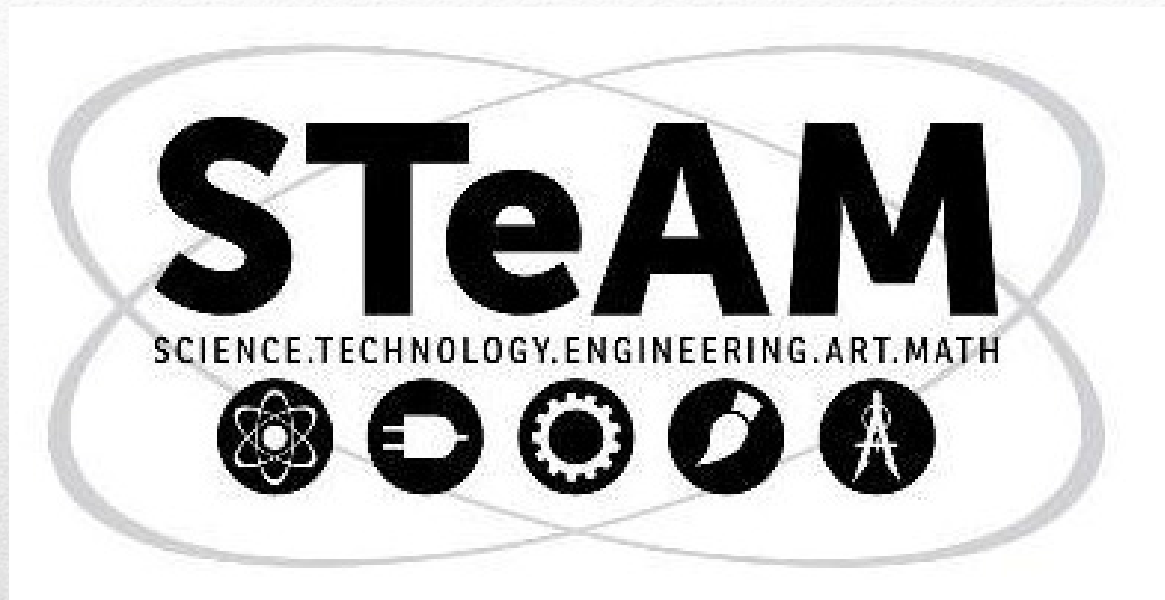


MATHEMATICS



Presentation to the Board of Education
March 19, 2015



Goals & Objectives

- Continued implementation of Common Core Math Standards by adapting state curriculum to meet the needs of our students.
 - Continued digitization of all math curriculum in grades 5 thru 12.
 - Continued development of multi-disciplinary opportunities for student by integrating components of STEAM into different classes.
 - Electronic portfolio development for all students.
 - School 4 One – Middle School
-

Mathematics at the Middle School

- Students in grades 5 & 6 have a double period of math every day.
 - 7th Grade students have one period daily.
- *Next year students will have two periods every other day.



Online Math Resources

- “Show Me” Videos – homemade video collection available on MMS website. (Long Island Video Project)
 - School 4 One – Digital portfolio of student work over the course of the entire school year. Tracks progress by standard.
 - MathSpace – iPad App that is available for 5th & 6th graders. Gives students instant feedback on each math problem. Has hints and helpful videos.
 - MobyMax, Khan Academy, Castle Learning
-

School 4 One – Teacher Gradebook

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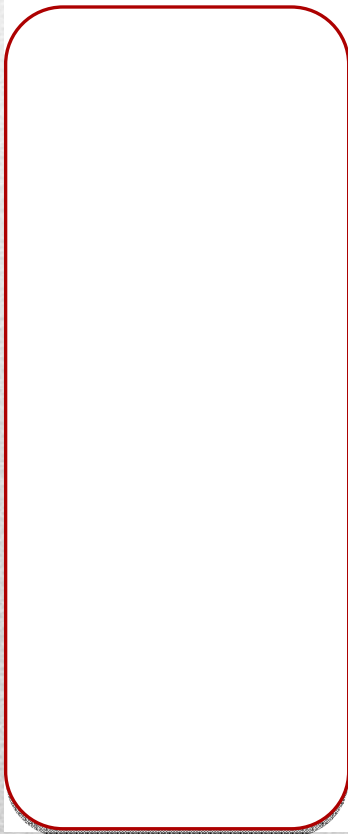
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Grade Book: Math 5 - Section 303 - Carretta



Students



	Module 4 Lesson 16 Exit Ticket	G5 M4 - Mid Mod Exam 14-15.pdf	Module 4 Lesson 15 Exit Ticket	Module 4 Lesson 14 Exit Ticket	Module 4 Lesson 14 Classwork	Module 4 Lesson 13 Exit Ticket.	Module 4 Lesson 13 Homework	Module 4 Lesson 11 Exit Ticket.	Module 4 Lesson 4 Exit Ticket	Module 4 Lesson 10 Exit Ticket	Module 4 Lesson 1 Homework	Module 4 Lesson 3 Classwork	Module 4 Lesson 3 Exit Ticket	Module 4 Lesson 5 Exit Ticket	Module 4 Lesson 5 Problem Set	Module 4 Lesson 6 Exit Ticket	Module 4 Lesson 9 Homework	Module 4 Lesson 9 Exit Ticket	Module 4 Lesson 8 Exit Ticket	Module 4 Lesson 8 Homework
		4	4			4			3	4			4	4		4		3	4	
		3	4			4			4	3			4	4		4		4	4	
		4	4			4		4	4	4			4	4		4		4	4	
		4	2			4		4	3	4			4	4			4	4	4	
		3				4		4	3				4	4		3		4	4	
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		4	4			4		4	4	4			4	4		4		4	4	
		3	3			3		2	2				3	4				4		
		2	4			3		2	3	4			4	4		2			4	
		4	4			4		4	3	3			4	4		4			4	
		4	3			3		2	3	2			2	3		4		4	2	
		4	4			3		4	4	4			4	4		4		4	4	
		4	4			4		3	2				4	4		4		4	4	

School 4 One – Data by Standard

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Done

Standard Book: Math 5 - Section 303 - Carretta



Students	RL.5.2	RL.7.5	4.MD.1	4.NF.1	4.NF.3d	5.MD.1	5.MD.2	5.NBT.1	5.NBT.2	5.NBT.3	5.NBT.3a	5.NBT.3b	5.NBT.4	5.NBT.5	5.NBT.6	5.NBT.7	5.NF.1	5.NF.2	5.NF.3	5.NF.4
			•1 4	•1 4	•1 4	•7 4		•4 4	•6 4	•3 4	•3 4	•2 4	•6 4	•9 3	•9 4	•17 4	•12 4	•11 3	•4 4	
			•1 4	•1 4	•1 3	•7 4		•5 2	•6 4	•3 4	•4 3	•2 3	•7 4	•9 3	•9 4	•16 4	•11 4	•10 4	•4 4	
			•1 4	•1 4	•1 4	•7 4		•4 2	•6 4	•3 4	•4 4	•2 4	•7 4	•9 3	•9 4	•18 4	•14 4	•11 4	•5 4	
			•1 4	•1 4	•1 2	•7 4		•5 4	•6 4	•3 4	•4 4	•2 4	•7 4	•9 3	•9 4	•18 4	•14 4	•11 4	•5 4	
			•1 4	•1 4	•1 2	•7 4		•4 4	•4 2	•3 3	•3 3	•2 3	•7 4	•8 4	•5 4	•17 4	•11 2	•6 4	•5 4	
				•1 3	•1 2	•6 4		•5 1	•4 4	•3 3	•4 2	•2 2	•6 3	•9 3	•7 4	•17 1	•14 2	•10 2	•5 3	
			•1 4	•1 4	•1 4	•7 4		•5 4	•6 4	•3 4	•4 4	•2 4	•7 4	•9 4	•9 4	•17 4	•14 4	•11 4	•5 4	
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			•2 3	•1 2	•1 4	•7 4		•5 1	•6 4	•3 4	•4 4	•2 4	•7 2	•10 4	•9 4	•17 4	•14 4	•11 4	•5 4	
			•1 4		•1 2	•7 4		•5 1	•6 2	•3 2	•4 4	•2 4	•7 4	•9 3	•9 4	•18 4	•14 4	•11 2	•5 3	
			•1 3	•1 4	•1 3	•7 4		•5 4	•6 4	•3 4	•4 4	•2 4	•7 4	•9 4	•9 4	•17 4	•14 4	•11 4	•5 4	
			•1 3			•7 4		•5 2	•6 4	•3 3	•4 3	•2 3	•7 2	•9 3	•8 4	•15 4	•11 4	•9 3	•5 4	
			•1 3	•1 3	•1 2	•7 4		•5 1	•5 3	•3 4	•4 4	•2 4	•7 4	•9 4	•7 4	•15 4	•12 3	•6 2	•4 3	
			•1 4	•1 4	•1 4	•7 4		•5 1	•6 2	•3 4	•4 4	•2 4	•7 4	•9 3	•9 4	•18 4	•14 2	•11 4	•5 2	
			•1 4	•1 4	•1 4	•7 4		•5 4	•6 4	•3 4	•4 4	•2 4	•7 4	•9 4	•9 4	•18 4	•14 4	•11 2	•5 4	

School 4 One - Snapshot

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Cancel M4: Lesson 15 Save Done

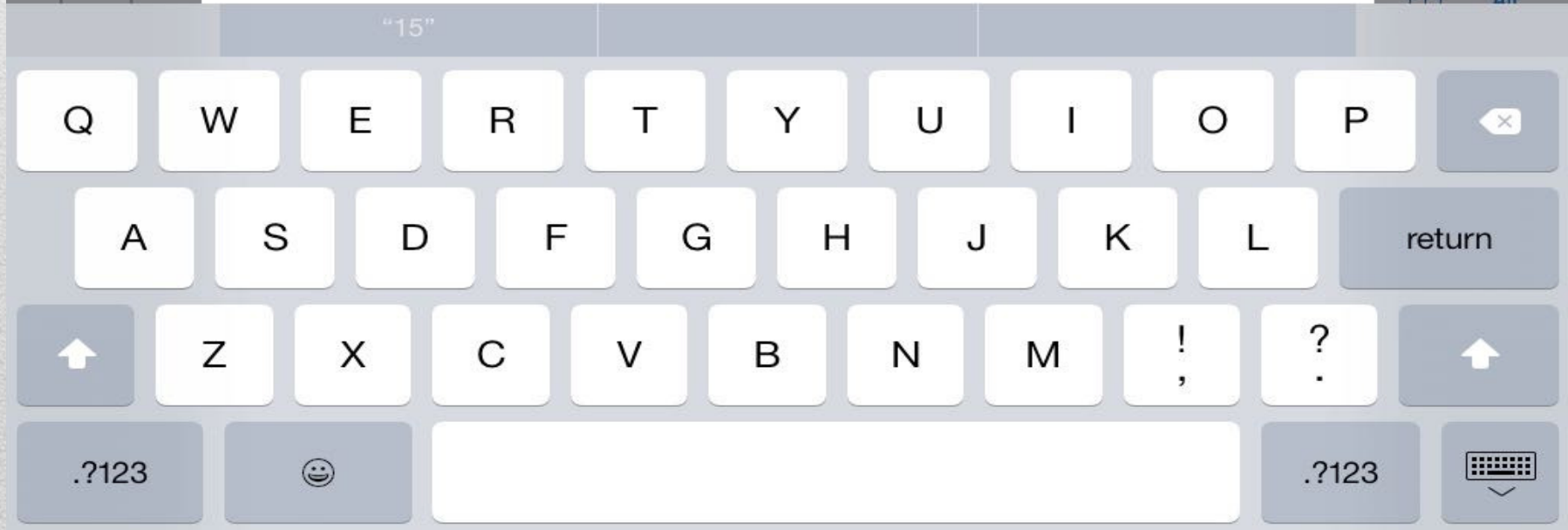
Title: M4: Lesson 15

Tasks: Answer Answer Answer View +

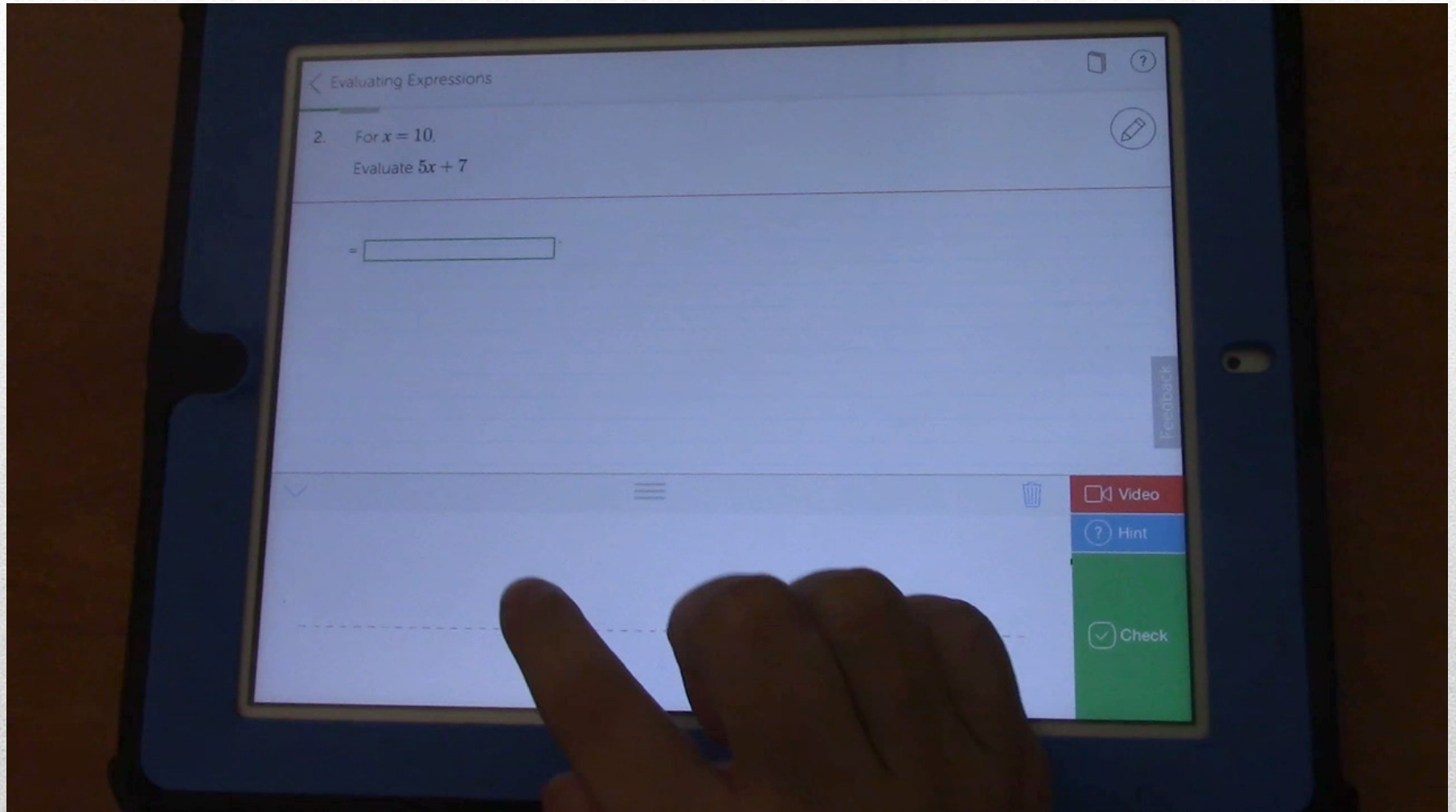
CCSS: 88% 5.NF.4a +

Objective: Multiply non-unit fractions by non-unit fractions

Share All



MathSpace – Student Interface



MathSpace - Dashboard

iPad

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mathspace.co

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MATHSPACE

Class Tolipano 204

Planner

Mastery

Curriculum

Grades

Admin



Syllabus: US Common Core 6

Topic: Whole Numbers and Number Theory

Date Range:

Download

All

Subtopic	▼1	▼2	▼3	▼4	▼5	▼6	▼7	▼8	▼9	▼10	▼11	▼12	▼13	▼14	▼15	▼
	66	99	99	91	88	99	100	75	84	92	59	32	41	52	26	7
	-	100	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	59	100	100	100	-	-	-	-	-	-	-	-	-	-	-	-
	1	100	100	100	100	100	100	100	56	100	-	1	18	70	1	7
	39	100	90	47	88	100	100	1	62	1	-	21	-	-	-	4
	100	100	100	100	100	100	100	100	100	100	100	1	-	-	-	9
	-	94	100	83	31	-	-	-	-	-	-	-	-	-	-	-
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	1
	-	100	100	100	62	100	100	77	-	-	-	-	-	-	-	-
	-	100	100	-	98	94	-	-	-	-	-	-	-	-	-	-
	100	100	100	100	98	100	100	1	93	-	1	-	-	1	-	6
	-	100	76	-	-	91	-	1	-	-	-	-	-	-	-	-
	56	100	100	100	100	-	-	-	100	-	-	-	-	-	-	-
	100	100	100	100	100	100	100	100	100	100	100	100	100	100	100	33
	100	100	100	100	100	100	100	100	100	100	100	55	1	-	2	1
	100	100	100	57	90	100	100	-	-	-	-	-	-	-	-	-
	100	100	100	-	81	-	-	-	-	-	-	-	-	100	-	9
	43	100	100	100	100	100	97	100	-	100	1	1	1	39	1	1

Feedback

What's Next?

- Greenhouse & Mathematics
 - Students will use tables, graphs, and line plots when testing different soils and fertilizers.
 - 2015/16 School Year
 - STEAM Projects in elective courses and in the additional time in 7th grade math.
 - Long Island Math Fair ??
-

MS Competitions Update

Competitions we have participated in this year:

- Wind Turbine Competition @ Cradle of Aviation
- Egg Drop Competition @ Cradle of Aviation
- MagLev Competition @ Cradle of Aviation
- Discovery Education Epic Story Competition
- Rube Goldberg Online Competition

Competitions coming this SPRING:

- Team America Rocketry Challenge
 - Junior Solar Sprint @ Cradle of Aviation
 - Nassau County Science Competition – June @ SUNY Old Westbury
-

Math at the High School

Grade	Course	Options
8	Common Core Algebra 1	Single Period Double Period
9	Geometry Common Core	Single Period Double Period (alt. days)
10	Algebra 2 & Trigonometry	Single Period Double Period (alt. days) Double Period
11	College Pre Calculus* AP Statistics	Single Period Single Period
12	AP Calculus AB or BC AP Statistics College Algebra**	Double Period (alt. days) Single Period Single Period

* Students have the option to earn 3 college credits for this course.

** New for 2015-16 to better align with skills needed to be successful as college freshman

Quarter 1 – STEAM

The Art of the Fibonacci Numbers

- Watch [Cyberchase: EcoHaven CSE \(Ep. 301\)](#)
- Complete the activity below with your group. Submit one completed pdf per group into your team's wiki homepage.



Finding the Golden Ratio in Your Body.pdf

[Details](#) [Download](#) 71 KB

- **Due Friday October 3rd:** Choose the group member whose body proportions best exemplify the Golden Ratio. Create one video per group summarizing how this was determined using mathematical vocabulary. Post that video into your team's wiki homepage.

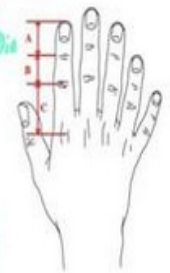


Math Quarter One Steam Project: The Go

Finding the Golden Ratio in Your Body

Measure the following:

- Distance from the ground to your belly button $37\text{in} = 3\text{ft } 1\text{in}$
- Distance from your belly button to the top of your head $22\text{in} = 1\text{ft } 10\text{in}$
- Distance from the ground to your knees $19\text{in} = 1\text{ft } 6\text{in}$
- Distances A = 1in B = 1in C = $1\frac{1}{2}\text{in}$
- Length of your hand 6in
- Distance from your wrist to your elbow $16\text{in} = 1\text{ft } 4\text{in}$



Now calculate the following ratios (division):

Ratio 1:
 $\frac{\text{Distance from the ground to your belly button}}{\text{Distance from the ground to your knees}} = 2.05$

Ratio 2:
 $\frac{\text{Distance from the ground to your belly button}}{\text{Distance from your belly button to the top of your head}} = 1.68$

Ratio 3: $\frac{\text{Distance C}}{\text{Distance B}} = 1.5$ Ratio 4: $\frac{\text{Distance B}}{\text{Distance A}} = 1$ Ratio 5: $\frac{\text{Distance from your wrist to your elbow}}{\text{Length of your hand}} = 2.6$

Write all your results on the following table:

Student name	Ratio 1	Ratio 2	Ratio 3	Ratio 4	Ratio 5
Neilah	1.97	1.56	1.5	1	1.36
Ellen	2.26	1.5	2	1	1.6
Megan	2.05	1.68	1.5	1	2.6
Average	2.09	1.58	1.67	1	1.85

image.jpg

Can you see anything special about these ratios?

I noticed that all of the averages are very close only having a range of 1.09. Also each of us have similar ratios for 1.2, 3 and 4.

How keen is your sense of observation? Did you notice anything unusual about the illustration of the hand at the beginning of this activity sheet?

I noticed that on the hand there was an extra finger.

Quarter 1 – STEAM

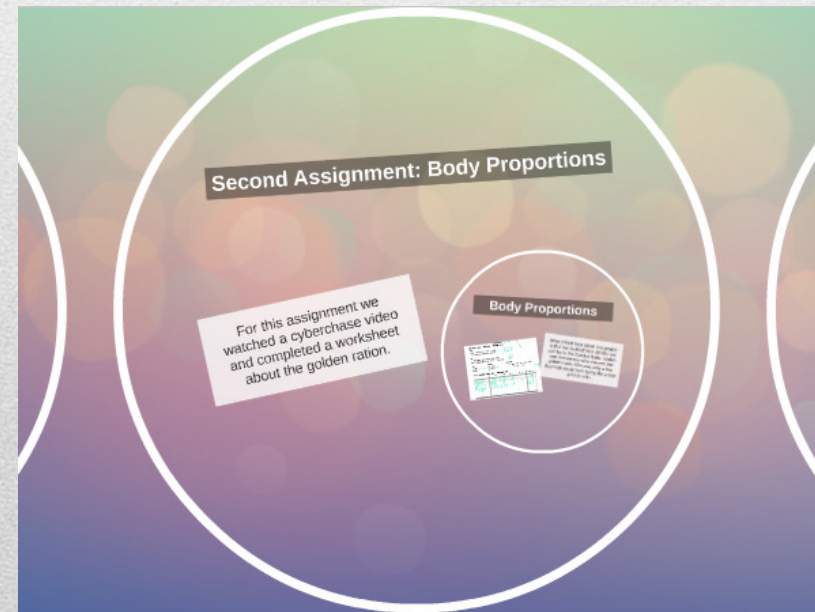
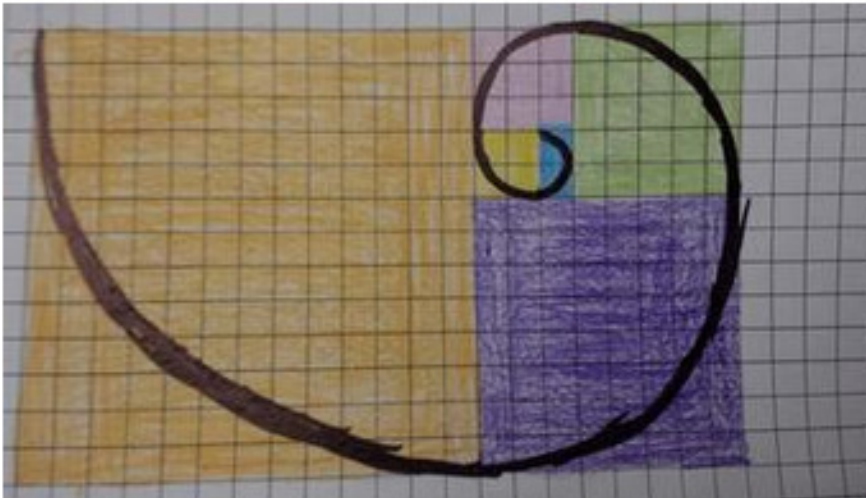
The Art of the Fibonacci Numbers

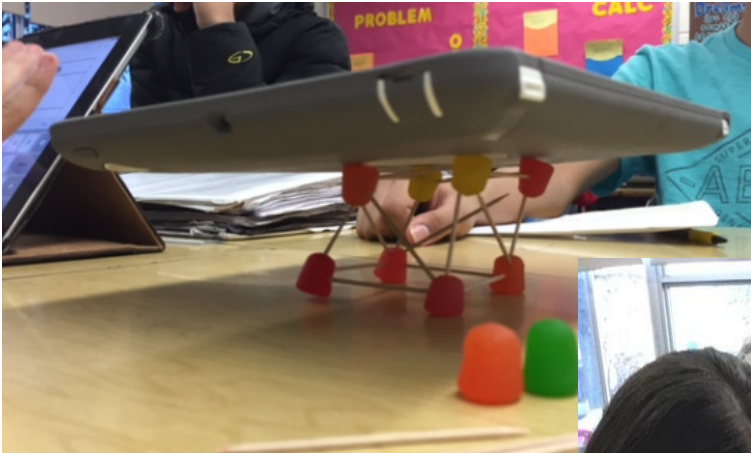


WGilberg Oct 20, 2014

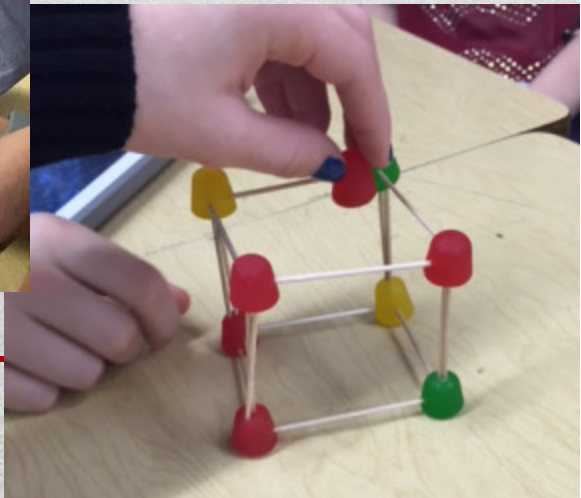
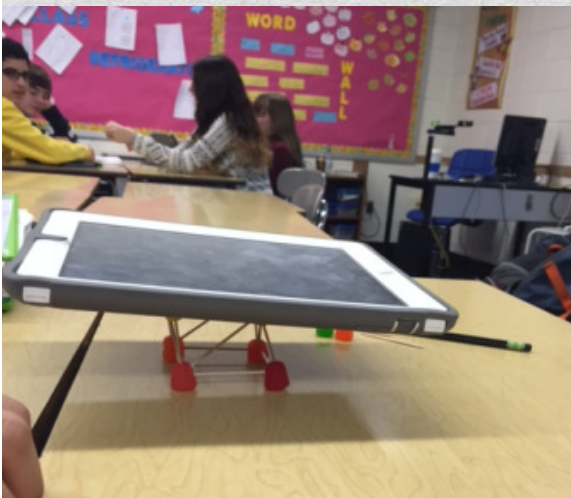
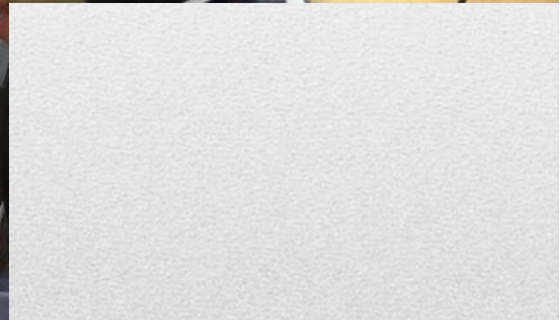
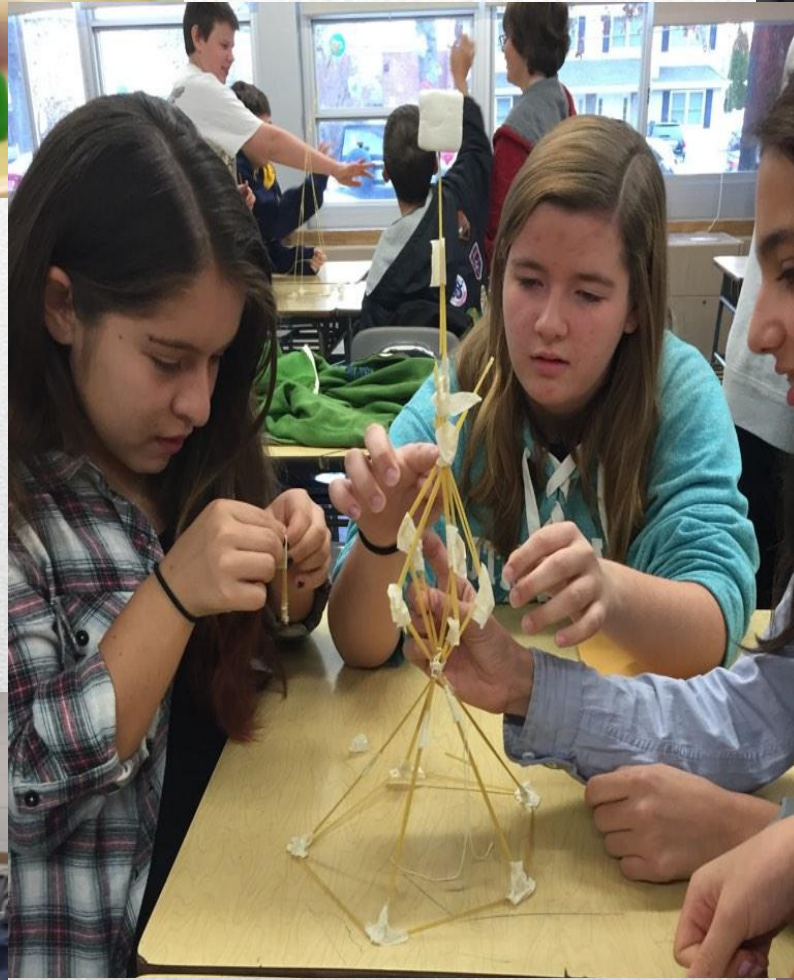
My favorite logo is the Chicago Blackhawks logo from the NHL. It's been called the best logo in hockey because of the way it fits on their jersey. It has a bunch of different colors and shapes and a lot of geometry in it too. It is a Native American tribal person, Sioux, to be exact. It's been given an award for the best logo in sports, believe it or not. I think most designers would want to use mathematics in their logo. This is because they want to make their design perfect and symmetrical to appeal to the human eye. That's what the designer of the Chicago Blackhawks logo did and that's why it's been called one of the best logos in sports history.

Neilah's Drawing:

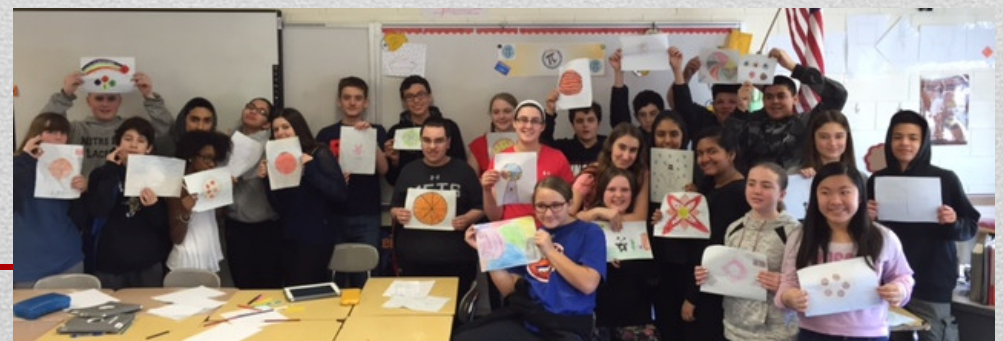




Quarter 2 – STEAM
Math in
Architecture



Quarter 3 – STEAM/Pi Day Conference





Periscope

- **Complete implementation of the CCLS**
 - Common Core Algebra I
 - Geometry Common Core
 - Algebra 2 & Trigonometry Common Core
 - **Increase number of students enrolled in college-level classes**
 - 2014-15 - **157** students enrolled in College Pre Calculus
-

Periscope

- **Closing the Achievement Gap / “College Ready” Curriculum**
 - Added sections of Common Core Math courses taught by dual certified teachers (Algebra; Geometry; Algebra 2 & Trigonometry)
 - Alignment of College Algebra to the requisite skills needed for college freshman
-

Periscope

- **Continue STEAM initiatives**
 - 8th → Quarterly in Algebra I
 - 9th → Exploring Computer Science
 - 10th -12th → *Additional Electives*: Gamemaker Programming; Robotics; Digital Production; AP Computer Science
 - **Complete Digitizing 8-12 curriculum**
 - iTunes U
 - Increase focus on Creativity, Collaboration, Communication, and Critical Thinking
-

HS Competitions Update

- Long Island Math Fair
- Institute for Creative Problem Solving (SUNY Old Westbury)
- Toshiba ExploraVision*
- DuPont Challenge*
- North Shore LIJ Medical Marvels Competition*
- Siemens
- Junior Science & Humanities Symposium
- Molloy High School Science Fair
- Long Island Science Congress
- Long Island Science & Engineering Fair (Intel Division)
- New York State Science & Engineering Fair (Intel Division)
- New York State Science & Engineering Fair (Andromeda Division)
- Intel
- NSF Noyce High School Science and Mathematics Poster Competition and Symposium (Tentative)
- Science Bowl at Brookhaven National Laboratory

***new this year**

Rube Goldberg Update

Rube Goldberg Walkthrough

<http://www.youtube.com/watch?v=JcK8bZiyKs8&sns=em>

Rube Goldberg Final Run

<https://www.youtube.com/watch?v=vDvM8T87ET8&feature=youtu.be>
