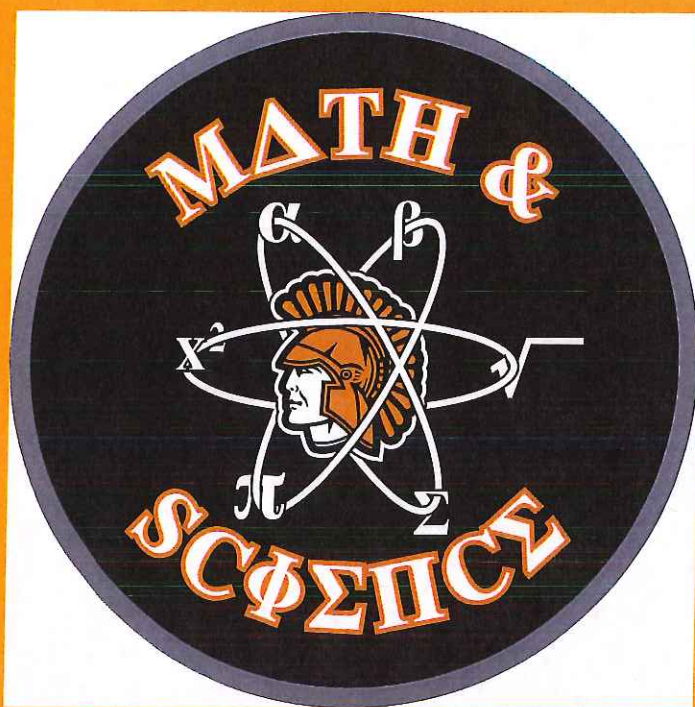




2016 - 2017

Board
Presentation
5-22-2017



Overview

Division

- EL student success
- AP Courses

Mathematics

- AP Statistics Success
- Statistics Course Proposal
- Vertical Alignment
- Continued Curriculum Development

Science

- AP Environmental Success
- East Science numbers
- Centegra Residency Program
- Project Lead the Way - Biomedical Science

The Division



EL Student Success

EL Course Sequencing Changes

- 2015 - 2016 EL Dynamic Algebra
- 2015 - 2016 EL Biology
- 2016 - 2017 EL Geometry
- 2016 - 2017 EL Action Chemistry / Action Physics

Math Findings

- Zero EL Dynamic Algebra Failures
- Zero EL Geometry Failures

Science Findings

- Zero Action Chemistry / Action Physics Failures
- One letter grade improvement from Biology first to Action Chemistry / Action Physics first

Common Assessment Findings

- On average, EL students earn within one letter grade of their peers
- In Action Chemistry 1st semester, EL student outperformed their peers



AP Courses

AP Calculus AB
AP Calculus BC
AP Statistics
AP Biology
AP Chemistry
AP Physics 1
AP Physics 2

***AP Environmental
Science***

Mathematics Department



AP Statistics Continued Success

AP Stats Enrollment				
	East		West	
	# of Students	Change	# of Students	Change
15 - 16	10	---	34	---
16 - 17	4	- 6	49	+15
17 - 18	16	+12	51	+2



Statistics



Administrative Careers



Production Careers



Construction Careers



Professional Careers



Farming Careers



Sales Careers



Installation Careers



Service Careers



Management Careers

[Website Link](#)



Statistics

Jobs that use Statistics

- Architects, Surveyors and Cartographers
- Art and Design Occupations
- Assemblers and Fabricators
- Building and Grounds Cleaning and Maintenance Occupations
- Business and Financial Operations Occupations
- Computer and Mathematical Occupations
- Constructions
- Education, Training, Library and Museum Occupations
- Electrical and Electronic Equipment Mechanics, Installers and Repairers
- Engineers
- Entertainers, Performers, Sports and Related Occupations
- Farming
- Financial Clerks
- Healthcare Support Occupations
- Health Diagnosing and Treating Occupations
- Health Technologists and Technicians
- Information and Record Clerks
- Legal Occupations
- Life Scientists
- Management Occupations
- Material Recording, Scheduling, Dispatching, and Distributing Occupations
- Media and communications-related occupations
- Metal Workers and Plastic Workers
- Other Installations, Maintenance, and Repair Occupations
- Other Office and Administrative Support Occupations
- Personal Care and Service Occupations
- Physical Scientists
- Printing Occupations
- Protective Service Occupations
- Sales
- Social Scientists and related occupations

[Website Link](#)



Statistics

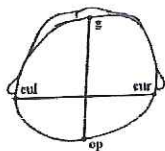
CLINICAL EVALUATION REPORT - DSI® Analysis



Patient Name:
Physician:

DOB:
DSI Date:

Proportionality Measurements



The **Cephalic Index (CI)** is the ratio of the width to length of the head.

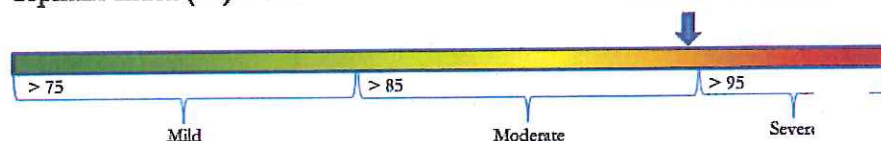
It is calculated by dividing cranial width by length, and multiplying by 100 $\{(width/length) * 100\}$.

Normal will usually range from 75 to 80, but will vary slightly with age and ethnicity.

The **Standard Deviation (SD)** is a measure of how far this ratio is from normal; anything over 2 SD is considered at least a moderate deformation. A positive (+) number indicates that a skull is wider than normal, while a negative (-) number indicates a skull that is narrower than normal.

Cephalic Index (CI): 94.2

Standard Deviation: +3.5





Vertical Alignment - D 156

Meeting the challenge of AP Math required a deeper examination of prerequisite courses.

Issue: Students making the transition to AP Calculus and AP Statistics experienced difficulty with rigor, synthesizing concepts, and answering Free Response Questions.

Solution: Recognizing that the key to a successful AP Program is vertical alignment where students learn AP supporting skills in prerequisite courses.

- a) PreCalculus initiated the alignment process by rebuilding their course to bridge Algebra II Honors to AP math course expectation.
- b) Regular meetings have been held to verify with AP math teachers that the new PreCalculus course addresses weaknesses they see while maintaining strengths.
- c) Algebra II Honors teachers were consulted to ensure prior concepts are built upon and extended.



Vertical Alignment - D 156 & D15

Using the collaboration of Algebra II Honors - PreCalculus - AP Math as a model, a plan has been made to extend this to District 15 and create a vertical alignment team that includes pre-AP skills in middle school math up to Algebra 1.

An effective vertical alignment Pre-AP math track includes the following practices that prepare students for Capstone math courses.

- Rigorous curriculum which requires synthesis of prior concepts into novel solutions
- Emphasis on multiple representations: graphical, numerical, algebraic, verbal
- Exposure to extended written response questions requiring explanation and justification
- Algebraic proofs and abstract representation
- The ability to apply problem solving skills to multipart questions



Continued Curriculum Development

2014 - 2015

- Algebra 1 Common Core Alignment

2015 - 2016

- Geometry Common Core Alignment
- SAT / PARCC Alignment

2016 - 2017

- Algebra 2 Common Core Alignment
- Pre-Calculus Curriculum rewrite
- Vertical Alignment
- SAT continued Alignment

Science Department



East Science Enrollment

East Science		
	Enrollment	Change
15 - 16	621	---
16 - 17	590	- 31
17 - 18	666	+ 76

Elective Courses

- +30 Action Chemistry
- +41 Action Physics



AP Environmental

Approx. 100 students registered

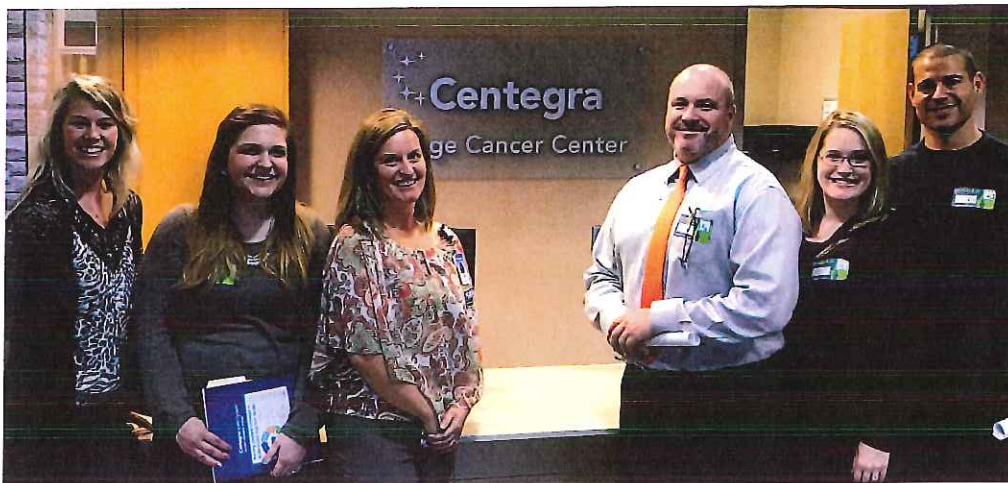
Impacting students that normally would not venture into the rigor of AP

Course curriculum will provide students with real world hands on applications into inquiry based environmental science

Topic 1 Environmental science and sustainability
Topic 2 ecology
Topic 3 Water resources and pollution
Topic 4 Urban Environment
Topic 5 Human Population
Topic 6 Energy resources and impacts
Topic 7 Earth's land resources and use
Topic 8 atmospheric science
AP test



Centegra Residency Program



[Link to D158 Residency Video](#)



Project Lead the Way - Biomedical Science



[PLTW Website](#)

“Whether discovering new cancer treatments or teaching healthy lifestyle choices to their communities, today’s biomedical science professionals are tackling big challenges to make the world a better place.

PLTW Biomedical Science students are taking on these same real-world challenges – and they’re doing it before they even graduate from high school. Working with the same tools used by professionals in hospitals and labs, students engage in compelling, hands-on activities and work together to find solutions to problems. Students take from the courses in-demand knowledge and skills they will use in high school and for the rest of their lives, on any career path they take.”