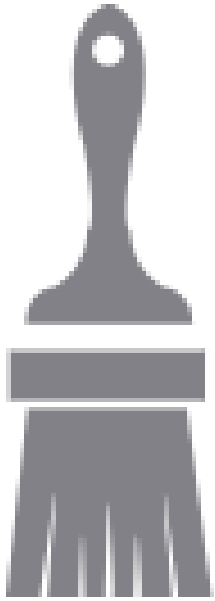
Greenville County Schools

Transformation to Accelerate Achievement in the 21st Century

March 4, 2015

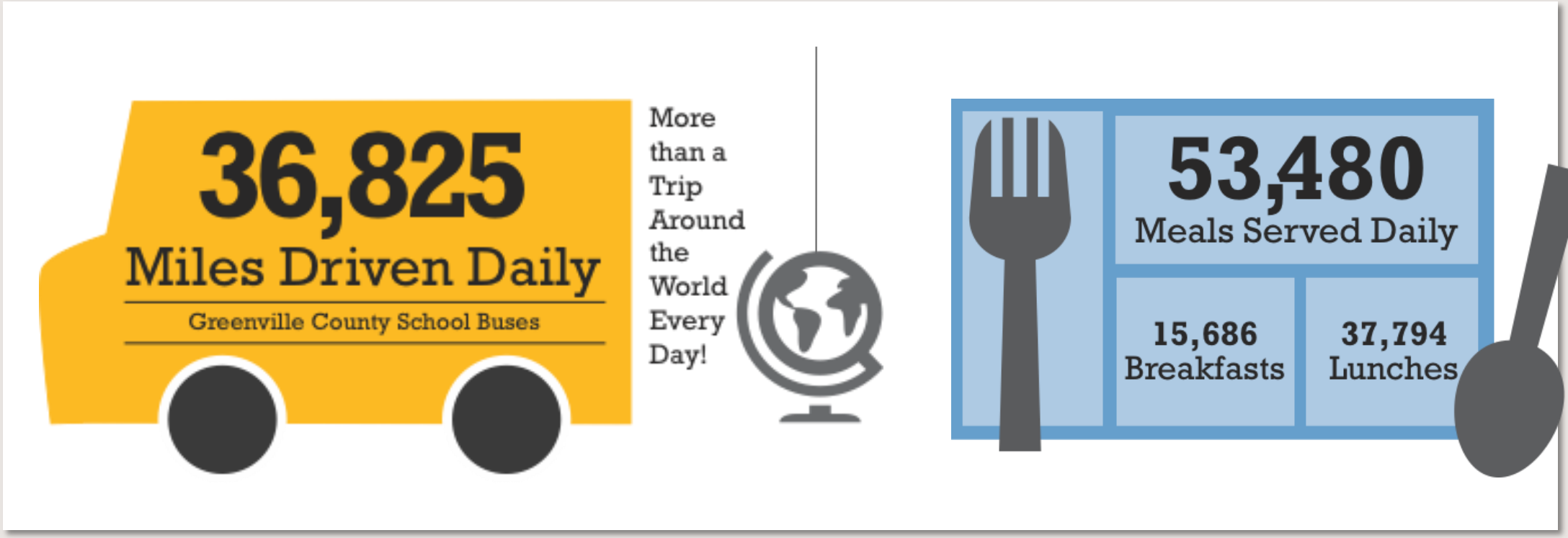
The Essentials

The Essentials



12.2 million square feet **&** **3,000** acres

The Essentials



The Essentials

Quality Indicators

Palmetto Assessment of State Standards (PASS)

- For the third year in a row, the percentage of students scoring Met/Exemplary on the PASS exceeded State in **all areas** and at **all grade levels**.
- Percentage of GCS students scoring Met/Exemplary increased in 14 of 30 areas

Quality Indicators

Scholastic Assessment Test (SAT)

- GCS continues to outscore SC with an average score of 1462 versus 1423
- GCS average SAT score **improved** by 9 points over the past three years while national average **declined** by 9 points over same time period

Quality Indicators

American College Test (ACT)

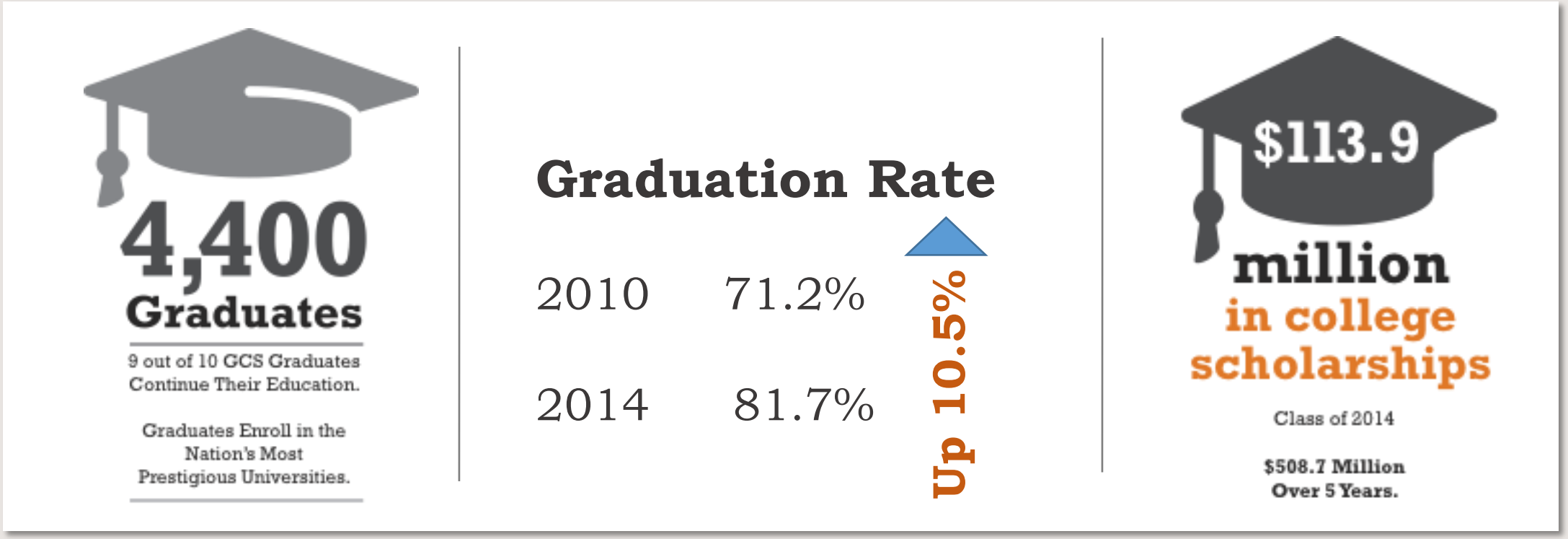
- GCS average ACT score of 22.0 exceeds nation (21.0) and state (20.4)
- Outscored the National average six years in a row

Quality Indicators

Advanced Placement (AP)

- More than half of AP exams taken last year scored 3+ (possible college credit)
- Number of AP exams attempted continues to increase
  - 5,201 in 2011
  - 6,306 in 2013

Quality Indicators



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Introduction to Manufacturing

Why Manufacturing?

- Filling American Manufacturing Jobs is one of the key components behind today's recovery of the US economy.
- Today's manufacturing is highly automated and filled with Programmable Logic Controllers (PLC), Computer Numeric Control (CNC) technology, high-speed sensors and actuators, and sophisticated robotics.
- Many sectors of American manufacturing are experiencing a significant skills gap; a shortage of trained workers to operate and maintain technical equipment.

Intro to Manufacturing Pathway

- Pilot program at Greer High School during the 2014-2015 school year
- Developed as a collaboration between Greer High, Bonds Career Center & Greenville Technical College
- Provides a platform for 9th & 10th grade students to explore technical education & employment opportunities in the upstate
- Focuses on creating pathways for students to earn industry certifications/credentials
- Simulated work-place environment
- Realistic experiences for students

Intro to Manufacturing Pathway

“Industrial Technology”
9th Grade Students
Greer High School

“Intro to Manufacturing”
10th Grade Students
Greer High School

Bonds Career Center
11th / 12th Grade Students
Welding, Machining, Mechatronics

Intro to Manufacturing Pathway

The career centers in Greenville are a great path to earn college credit and technical certifications while in high school. After completion students are prepared to:

- Enter certificate related employment
- Continue to Greenville Tech to earn an Associate's Degree
- And then continue on to earn a Bachelor's Degree
  - (Future Development: Direct transfer path to School of Engineering)

Bonds Career Center

11th / 12th Grade Students

Welding, Machining, Mechatronics

Intro to Manufacturing Pathway

Examples of activities and equipment for students

Working in teams in a fun competitive environment to solve technical problems

Intro to Manufacturing Pathway

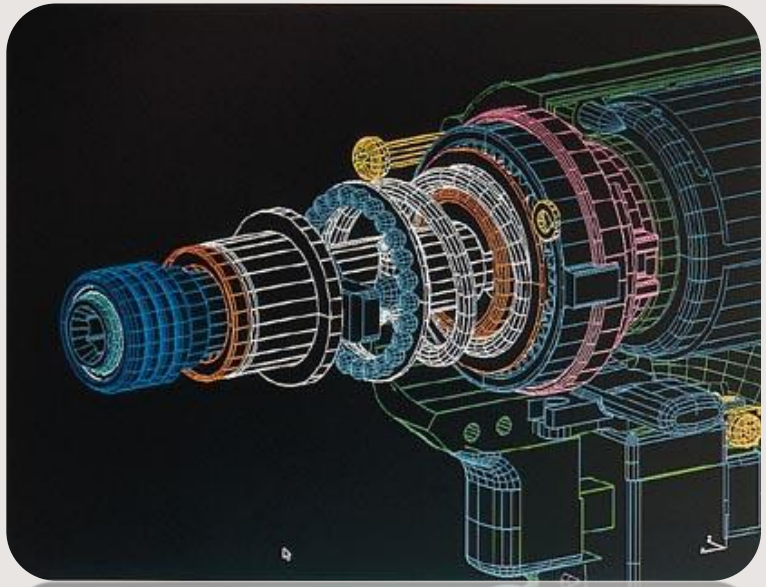
Examples of activities and equipment for students

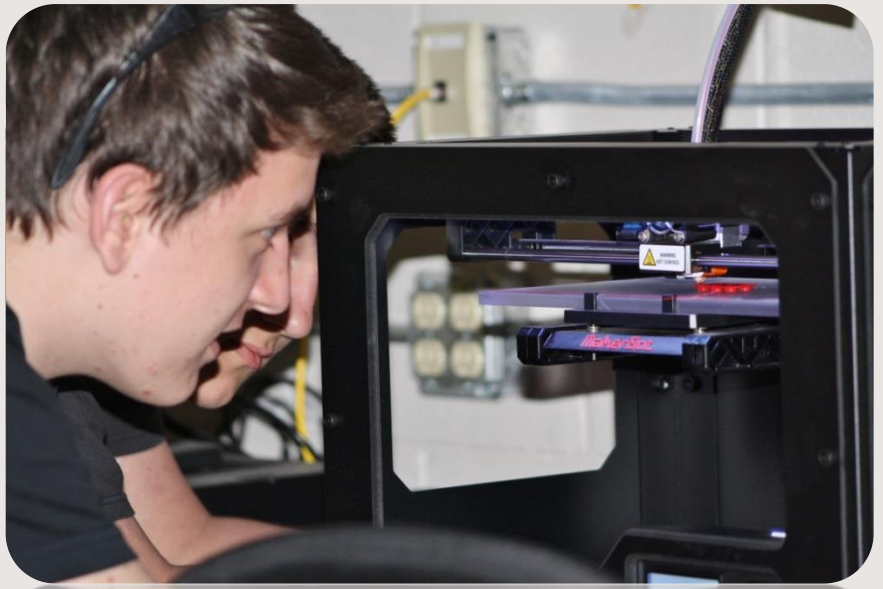
Learn how to safely use a variety of tools and machines through projects

Intro to Manufacturing Pathway

Examples of activities and equipment for students

Learn 2D & 3D design concepts using AutoDesk Software.
Printing their designs using a 3D printer.

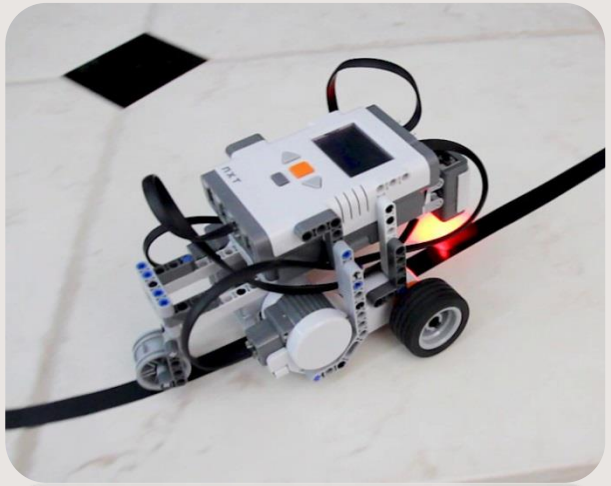


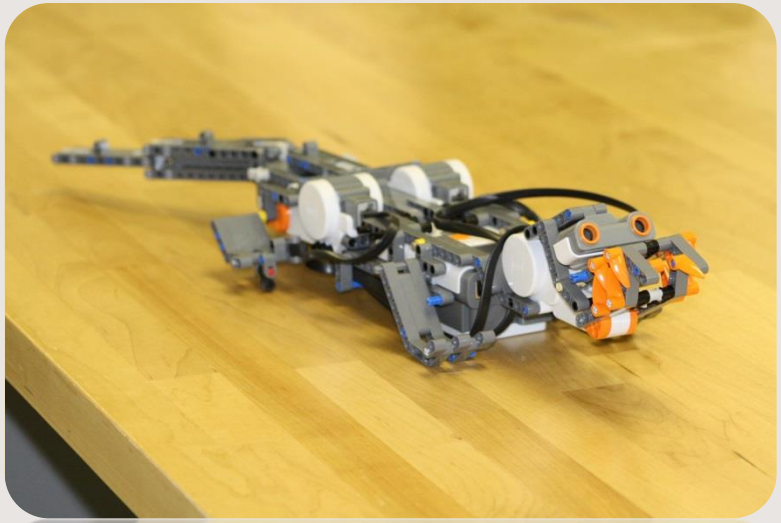


Intro to Manufacturing Pathway

Examples of activities and equipment for students

Learning basic programming concepts using
programmable Lego kits in a fun competitive environment

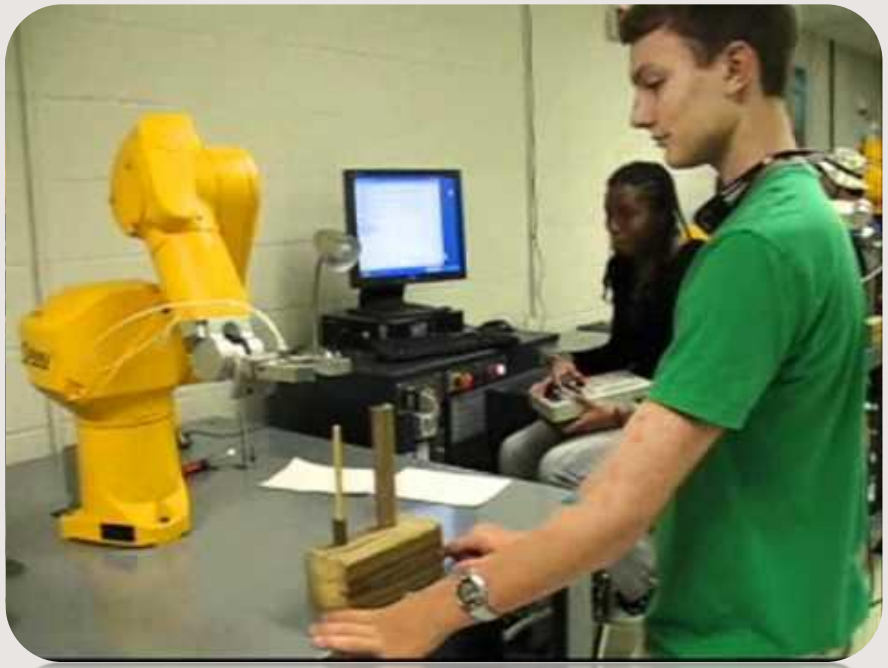




Intro to Manufacturing Pathway

Examples of activities and equipment for students

Work with a variety of technical trainers including:



Programmable Robotic Arms

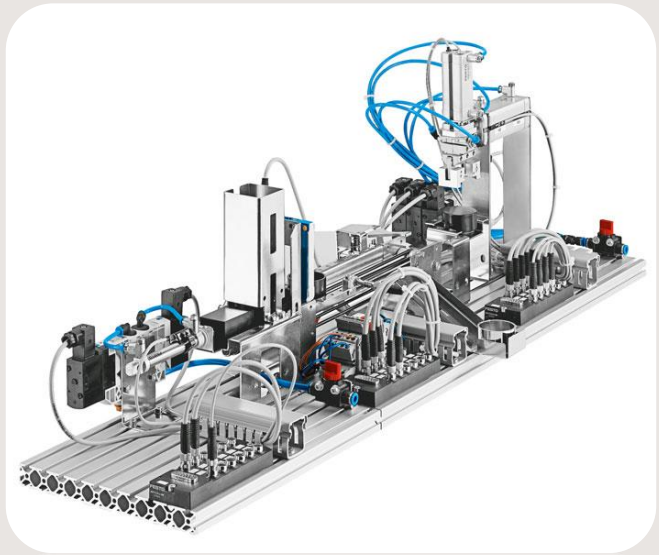
CNC Mill Trainer

Intro to Manufacturing Pathway

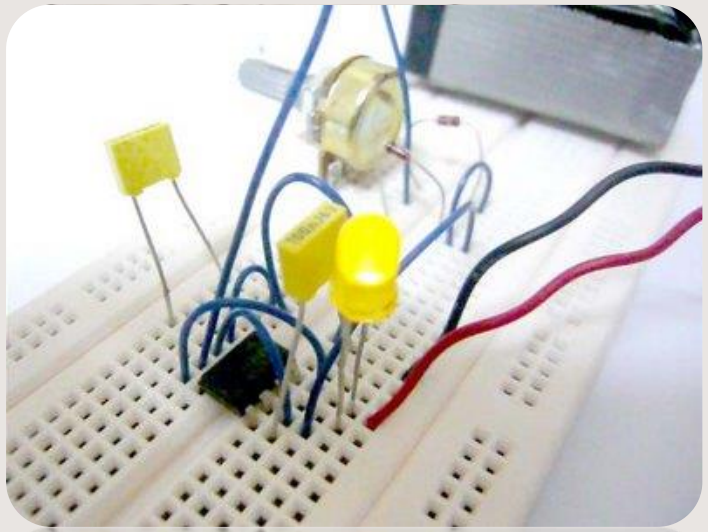
Examples of activities and equipment for students

Work with a variety of technical trainers including:

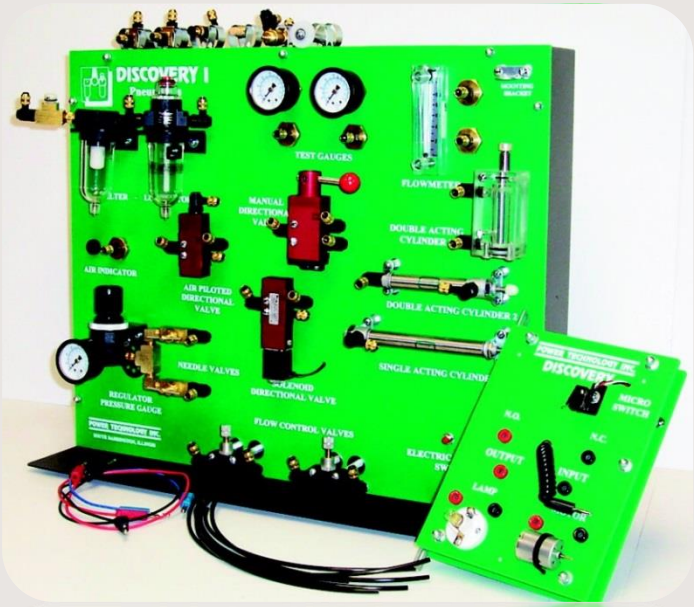
Automation Trainers



Electronics Kits



Pneumatic Trainers



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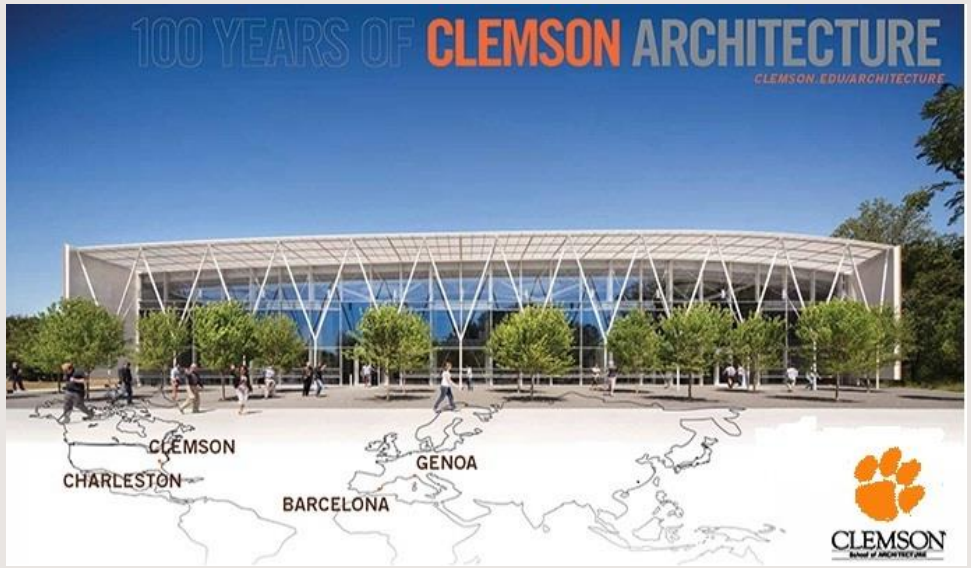
Other Pathways

Other Pathways

- Art of Architecture and Accelerate Pathways offer students the opportunity to earn college credit in their major while in high school.
- Performing and visual arts partnership with Clemson University and Fine Arts Center.
- Students earn up to 9 credit hours.
- Other Pathways in development

Art of Architecture



- Architectural design program offered at Fine Arts Center
- Partnership between Clemson University's School of Architecture and Greenville's architecture community
- Four-year program of study
- Taught by a practicing architect

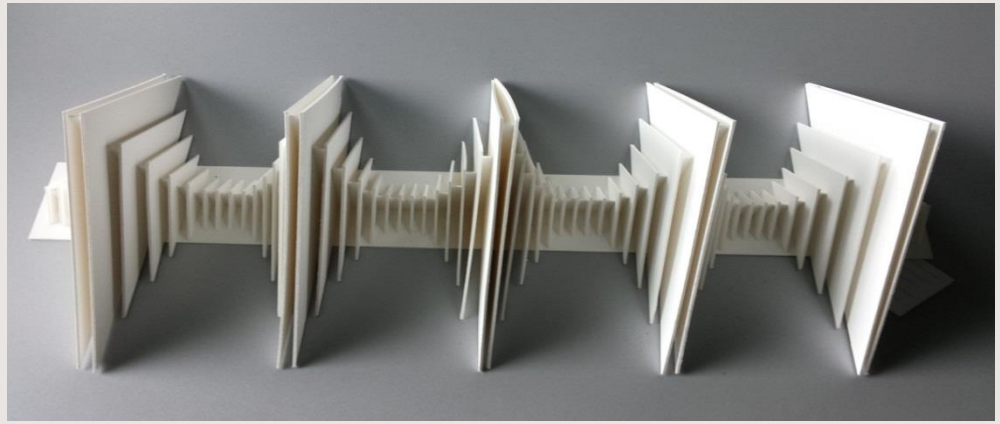
Art of Architecture

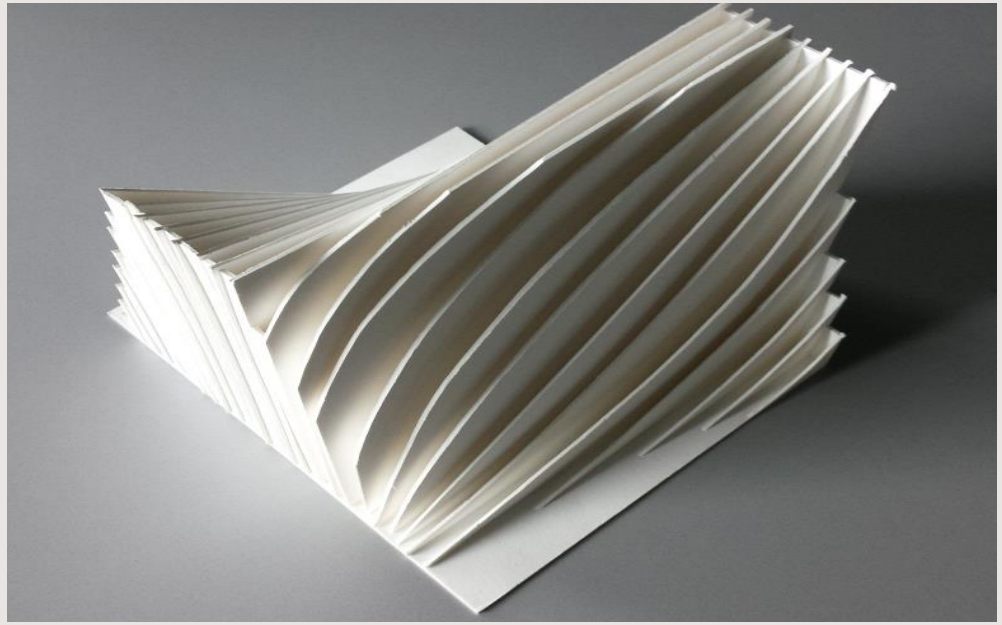
- 10 students enrolled in first year of program
- 12 students enrolled this year, including 6 second-year students
- Currently a half-day program

Art of Architecture

Student Projects

- Students spend a large amount of instructional time creating projects that help to develop their understanding of the Art of Architecture.
- Students develop communication skills as they present projects to local architects who provide critiques of their work.





Accelerate Program

- Offered at J. L. Mann and Greenville High Schools; other sites under consideration
- Up to 32 credits of college engineering courses while in high school
- Virtual delivery of high quality, college-level classes
- Emphasis on real-world, team-based projects
- Mastery of foundational content of engineering – physics, calculus, and chemistry
- Membership in a virtual community of counterparts from across South Carolina

Accelerate Program

- Partnership between engineering universities and highest performing in-state students
  - Florence-Darlington Technical College
  - Clemson University
  - The Citadel
  - University of South Carolina
- Provides evidence that SC is making STEM a priority

Accelerate Program

Benefits:

- Early admission into college
- Completion of first year of college before leaving high school
- Industry internships
- Lifetime member in the Accelerate community

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Virtual Science Lab

Virtual Science Lab

Fast Facts!

- Utilized by 15 schools across the district (4^{th}/5^{th} grade)
- Participation in the program based on science test scores
- Materials prepped by virtual science lab teachers and shipped/setup at each school
- Instruction complements science kits and focuses on hands-on, engaging instruction
- Students collaborate with the teacher and with each other

How it Works

School 1
(Face-to-Face)

Peer
Collaboration

Classroom
teacher

School 2
(Virtual)

School 3
(Virtual)

Classroom
teacher

Benefits/Results

- Collaboration across multiple schools
- Hands-on engaging experiments with minimal planning time for the classroom teacher
- Indirect professional development for the classroom teacher
- More exposure to science for students, going deeper into concepts and activities

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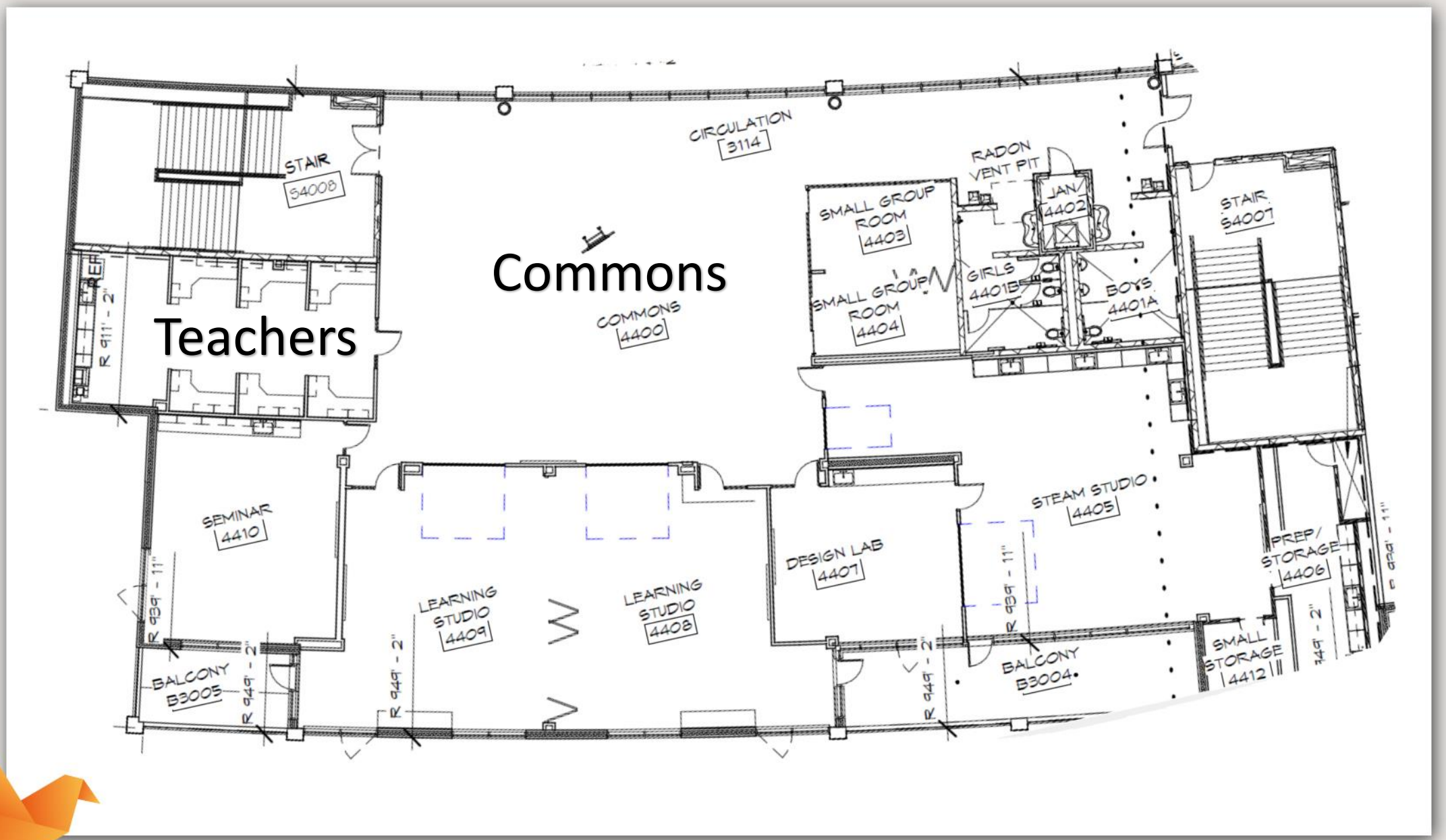
Dr. Phinnize J. Fisher Middle School

Dr. Phinnize J. Fisher Middle School

- Academics Division on the planning team from the onset of the design process
- Planning team (facilities, project manager & Academic members) met with architectural firm to design the school around the curriculum


Commons
Teachers
STAIR
54008
CIRCULATION
3114
RADON
VENT PIT
SMALL GROUP
ROOM
4403
JAN
4402
STAIR
54007
SMALL GROUP
ROOM
4404
GIRLS
4401B
BOYS
4401A
COMMONS
4400
REF
R 911' - 2"
SEMINAR
4410
STEAM STUDIO
4405
DESIGN LAB
4407
PREP/
STORAGE
4406
R 939' - 11"
LEARNING
STUDIO
4409
LEARNING
STUDIO
4408
R 949' - 2"
BALCONY
B3005
BALCONY
B3004
SMALL
STORAGE
4412
749' - 2"

Key Design Elements to Support the Curriculum

- Open spaces for maximum **collaboration**
- Collaboration Room for teachers (no “assigned” classrooms for teachers)
- Different sized learning spaces to accommodate **Project-Based Learning** & a **STEAM** focus
- Building designed as a teaching tool

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Satellite Diploma Program

Satellite Diploma Program

Key Facts

- Adult Education Program
- Created for at-risk students
  - Failed one or more grades
  - 17 years old
  - Few credits
  - High absence rates
- Ineligible for on-time graduation
- Flexible environment to support student needs
- Online

Flexible Environment

- Set up like a “work” environment
  - Students to call in when sick
- Students set their schedule based on work, home obligations etc.
- Students can sign up for AM, PM or all day sessions
- Students have the ability to participate in Career Center classes

Progress Monitoring

- Weekly goal setting conferences with students based on progress in APEX
- Intervention plans completed as needed for attendance and/or disciplinary issues with concrete goals for improvement

Program Overview

- Program offered at each of the four career centers and transportation is provided
- Facilitators hired to oversee the classrooms
  - Non-educators
  - Mentors
  - Progress monitoring
- Teachers rotate to each site weekly
  - Provide online support daily to each site
- Students move through Apex system to earn credit

Successes

August 2013-August 2014

23

Diplomas Earned

8 Additional Diplomas Through February 2015

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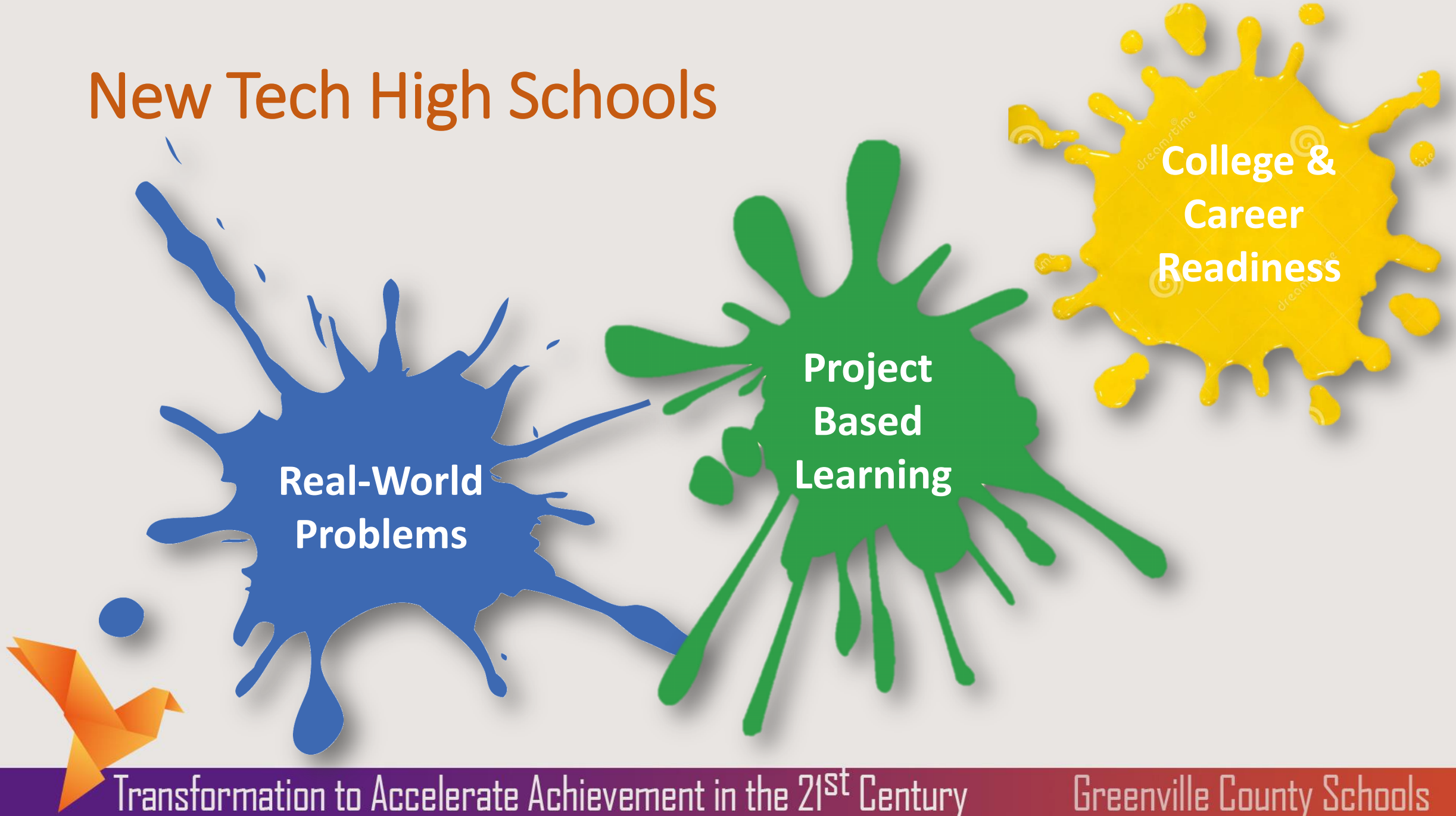
New Tech High School

New Tech High Schools

- First year of Implementation at JL Mann and Carolina
  - **JL Mann** - school within a school
  - **Carolina** - whole school implementation

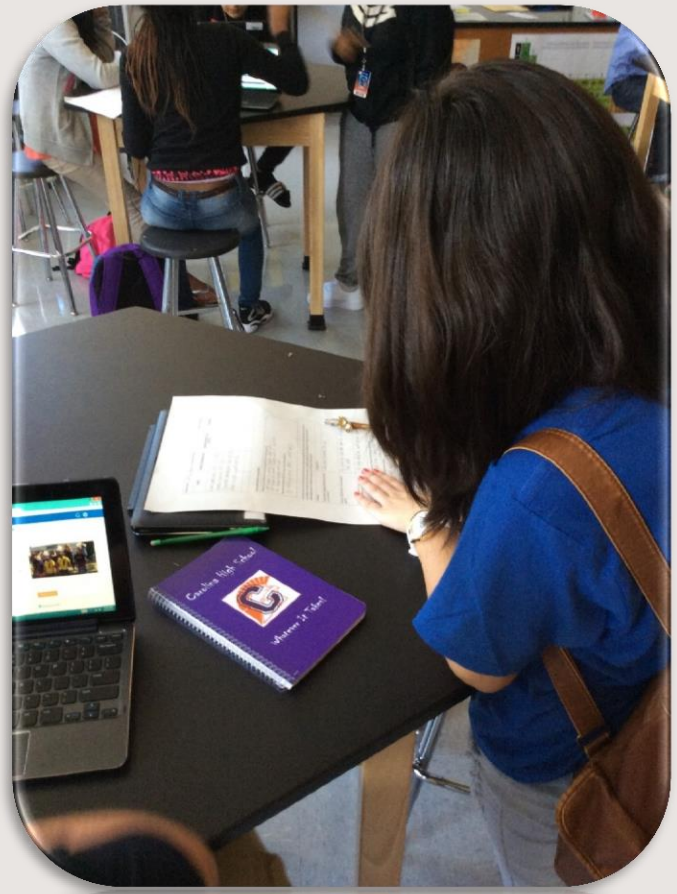
New Tech Network

New Tech High Schools

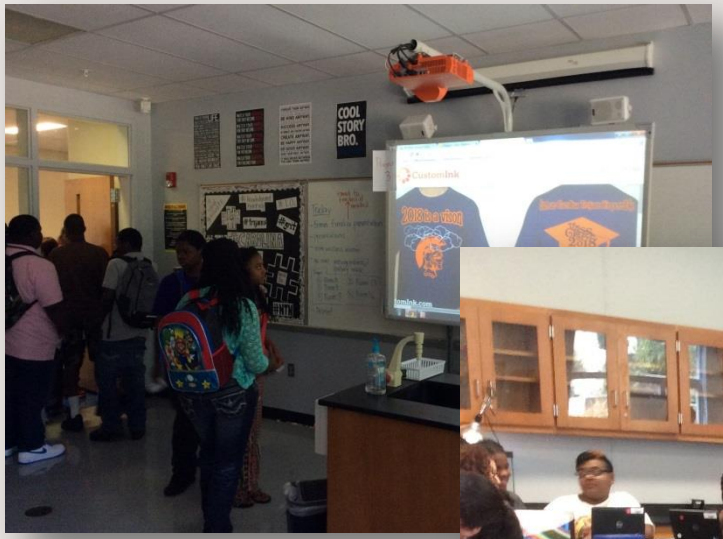


Strong Focus on Course Connections

- Combined courses/classes to maximize real-world, problem-based learning opportunities
  - World Biology (World History and Biology)
  - Quantitative Thinking (Physical Science and Algebra 1)
  - Scientific Modeling (Algebra 2 and Chemistry)
  - Everyday Mechanics (Pre-Calculus and Physics)
  - Animania (English 4 and Foundations of Animation)



Building a Culture of Respect and Collaboration



Graduation Plus

"The number of jobs requiring at least a two-year associate's degree will outpace the number of people qualified to fill those positions by at least three million in 2018."

– Georgetown Center for Education and the Workforce

Graduation Plus

Pre-K

Assurance of School Readiness for ALL children in Greenville County

Elem. (K-5)

Sound foundation in basic disciplines

Initial exposure to variety of careers

Connection between education and career choices

Middle (6-8)

Enhanced Academic Rigor

Exposure to College/Career Opportunities

Begin developing future direction in one of 16 career clusters

Expansion of high school offerings to students

High 9-12

College and Career Ready As defined by Graduation Plus…

+ significant progress toward a college major and/or two year degree

+ completion of freshman level college courses

+ completion of post-secondary vocational and technical advanced certification

+ completion of a vocational/technical certificate

? Questions