Henry County Schools

CTAE Competencies
Goals of this Session

- Examine the process for developing common CTAE competencies for grades 6-12 and all program areas
- Share experience of introduction and implementation of CTAE competencies in a middle school classroom
- Provide feedback for next steps and additional best practices
Henry County Schools: a mid-sized suburban district that has in the past decade seen rapid growth and an increasingly diverse student population

**Metro Atlanta**

**Henry County**
- 50 schools
- ~42,000 students
- Students with disabilities: 13%
- 40 languages spoken
- Spend $173 per child on central office; Georgia average: $463

**Enrollment**

<table>
<thead>
<tr>
<th>Year</th>
<th>Enrollment</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>23,601</td>
</tr>
<tr>
<td>2005</td>
<td>34,819</td>
</tr>
<tr>
<td>2010</td>
<td>34,819</td>
</tr>
<tr>
<td>2015</td>
<td>41,982</td>
</tr>
</tbody>
</table>

**Economically disadvantaged (%)**

<table>
<thead>
<tr>
<th>Year</th>
<th>Economically disadvantaged (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>19</td>
</tr>
<tr>
<td>2005</td>
<td>21</td>
</tr>
<tr>
<td>2010</td>
<td>35</td>
</tr>
<tr>
<td>2015</td>
<td>60</td>
</tr>
</tbody>
</table>

**Students by race (%)**

- Other (7%)
- Hispanic (9%)
- White (33%)
- Black (51%)

[Graphs showing enrollment and economic status over the years]
I’ve heard of CTE, but what is CTAE?

Georgia’s number 1 industry is Agriculture; therefore, in Georgia, we add the A to include Agricultural Education under the CTE umbrella.

CTAE in Henry County – by the numbers

10 comprehensive high schools plus a Career Academy – 100 CTAE labs
JROTC – 7 high school units
11 middle schools – 30 CTAE labs
11,000 high school students are currently enrolled in at least 1 CTAE class.
1,100 students will complete a CTAE pathway in FY16.
600 students will graduate this year with an industry recognized credential.
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Our CTAE Competency Journey

What does Industry expect?

- Strong Work Ethic
- Career Knowledge
- Industry Skills
- Safety Knowledge
- Ability to Problem-Solve
- Ability to Adapt to new situations
- Ability to communicate
<table>
<thead>
<tr>
<th>Career Research</th>
<th>Industry and Safety Skills</th>
<th>Application and Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Professional Communication</td>
<td></td>
<td>Workplace Readiness</td>
</tr>
</tbody>
</table>
Henry County CTAE Competencies – Grades 6-12

Common across grade levels

Common across pathways
Henry County CTAE Competencies – Grades 6-12

- Career Research: 3 performance indicators
- Industry and Safety Skills: 4 performance indicators
- Application and Analysis: 3 performance indicators
- Professional Communication: 5 performance indicators
- Workplace Readiness: 3 performance indicators

http://schoolwires.henry.k12.ga.us/Page/84942
Our CTAE Competency Journey

• Introduction of CTAE Competencies
• Middle School Engineering Classroom
• Luella High School
Henry County CTAE Competencies – Middle School Engineering

Objective – This lesson will guide the students to learn the different components of the steering block of their Lego Mindstorm EV3 robots.

Students were introduced to the port selector, the block inputs, the mode selector, and were required to program the robot to steer and drive using different power levels, different rotations and different degrees and speed.
Henry County CTAE Competencies – Middle School Engineering
Objective – To design and build a four stage chain reaction autonomous device that will park the “car” in the garage.

Students were introduced to Smart Motors, sensors, and simple machines. Design required incorporation of at least 3 simple machines and pendulums.

Students were required to sketch preliminary designs, as well as, journal challenges and solutions.

A rubric was used to assess the challenge on the following criteria areas: Design and Process, Technical, 21st Century Skills

www.vexrobotics.com
Problems ARE NOT failures, they are an expected part of the design process!
Henry County CTAE Competencies – Middle School Engineering

Develop industry-related skills. Model work readiness traits required for success in the workplace.
My group and I used these skills to make our final product. We had to utilize the correct software to program our robot, so we could program it to complete the assignment. As a group we had to set up mutual goals to stay on task and complete the work assigned. We also had to use the technology appropriately, but effectively. Our behavior had to change so that we could do our work.

Model work readiness traits required for success in the workplace. I would grade myself as 4/4 on this because in order for my group to get an 100% I had to Demonstrate personal work ethics that are needed to be successful in the workplace (I had to be dependable in order for every body to work together and work successfully). Identify appropriate appearance, behavior and language for the workplace (when others were doing something wrong I asked them to stop or correct it.)

Apply a skill set to an authentic or new situation.
My group and I used these skills in our moon rover project. While doing the project, we proposed many ideas to finalize our end product, but we had to modify the rover top make it better and more efficient. We had to refine the project because when testing it, it would not do its job as efficiently as we wanted, so we went back to the drawing board to find ways to give it an upgrade.
Communicate and collaborate with others using inquiry or in the resolution of issues/problems.

I think that I was exemplary because my team couldn’t find a piece then I realized that we could put two parts together to make the part we needed.

Communicate and collaborate with others on inquiry or resolution of issues/problems. Use planning and control principles to evaluate, analyze, and make decisions.

The Moon Rovers applies to this competency because we had to identify and use the appropriate tools and equipment for the task. Also, my group refined the rover to make it go farther and go up hill after we tested the rover outside. We also communicated and collaborated with other groups to see how they built their rovers.
Henry County CTAE Competencies – Middle School Engineering

8th Grade Student
Henry County CTAE Competencies –
Middle School Engineering

7th Grade Student
Henry County CTAE Competencies – Middle School Engineering

6th Grade Student
Our CTAE Competency Journey – What’s next?

- Feedback on Competencies from Cohort I and II
- Revise
- Train and Practice
- Repeat steps above
We need your help!

- Feedback on Competencies
- Feedback on Scoring Criteria
- Best Practices
Contact us Anytime!

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