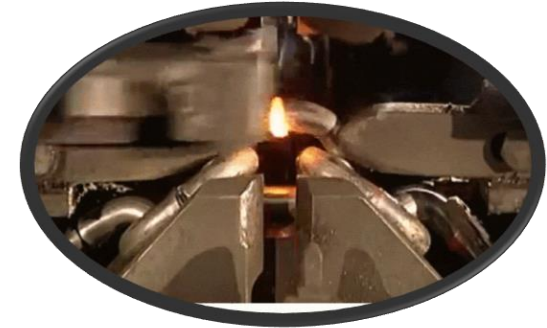
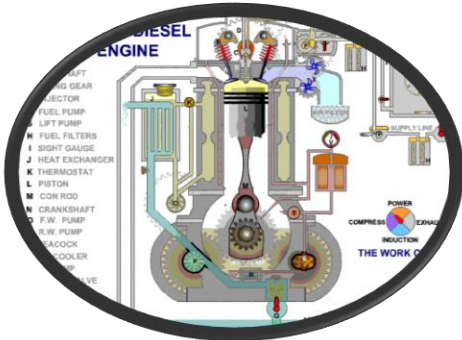


Tech Resources for CTE Instruction



Michigan Career Education Conference

F. Mike Ennis, Ph.D.

810 762-5156
ennisf@ferris.edu

Professor
Ferris State University
Big Rapids, Michigan

Topics:

1. Online Interactive Video Training
2. Teacher Classroom Websites
3. Diagramming Processes
4. Instructional Planning
5. Miscellaneous tools
6. Advice on Using Tech Tools

1. Online Interactive Video Training

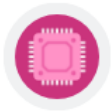
- Khan Academy
- Youtube for Schools



- Online Interactive Learning Management System?
 - Individuals
 - Students
 - Teachers / Classrooms
 - Parents
- [Khan Academy Videos](#)



Selected CTE Topics in Khan Academy



Lego robotics

0 of 26 complete

Introduction to the Lego NXT robotics platform

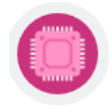
Introduction

Light guitar

Coin detector

Ant bot

Programming basics



Circuit analysis

0 of 93 complete

Circuit analysis is the process of finding all the currents and voltages in a network of connected components. We look at the basic elements used to build circuits, and find out what happens when elements are connected together into a circuit.

Circuit elements

Resistor circuits

DC circuit analysis

Natural and forced response

AC circuit analysis



Home-made robots

0 of 84 complete

Start your own robotics project with Spout, Spider, and Bit-zee!

All about Spout

Spout Bot with Solder

Spout Bot without Solder

Spider Bot

Bit-zee Bot



Lab values and concentrations

0 of 10 complete

Ever wonder about your lab values and what they mean? Lab values measure amounts of electrolytes, metabolites, proteins or cells in your blood and occasionally tell you about how hormones and enzymes are working! Dive deeper and expand your understanding of concentration units used in common medical lab values as well!

Introduction to lab values and no...

What's inside of blood?

Units for common medical lab val...

What is an equivalent?

The mole and Avogadro's number

Molarity vs. molality

Molarity vs. osmolarity

Calculate your own osmolarity

Molarity, molality, osmolarity, osm...

Tonicity - comparing 2 solutions



Personal finance

0 of 124 complete

Making financial decisions can be intimidating, especially if you're just starting to manage your own money. But you don't have to figure things out on your own. Whether you're creating your first budget or saving for retirement, these lessons can help you make the financial choices that work best for you.

Saving and budgeting

Interest and debt

Investment vehicles and retireme...

Income

Housing

Auto

Taxes

Paying for college

Keeping your information safe



Careers

0 of 151 complete

Are you wondering how to land your dream job or negotiate your salary? Finding answers to questions like these can be hard, but we're here to help. We ask real people in real jobs how they make it all work in our new video series about careers.

Navigate your career

Serve your community

Support health and wellness

Work in tech

Educate

Start a business or go freelance

Explore hospitality

Design, create, perform

Conduct research

Build and fix things

Manage people and processes

Analyze and advise

Travel and explore



Entrepreneurship

0 of 50 complete

Personal lessons and insights from accomplished entrepreneurs are the basis of this interview series produced by the Ewing Marion Kauffman Foundation and Khan Academy.

Interviews with entrepreneurs

Healthcare

Subjects ▾

Search



 KHANACADEMY

Mike Ennis

< SCIENCE

Health and medicine

Explore

Practice



Start from the basics >

Learn the basics, starting with Circulatory system introduction



Practice for your next test >

Get some practice with 10 different exercises

New Topics in Khan Academy

Pixar in a Box

Topics

Orientation

The art of storytelling

Simulation

Color science

Virtual cameras

Effects

Patterns

Rigging

Animation

Environment modeling

Character modeling

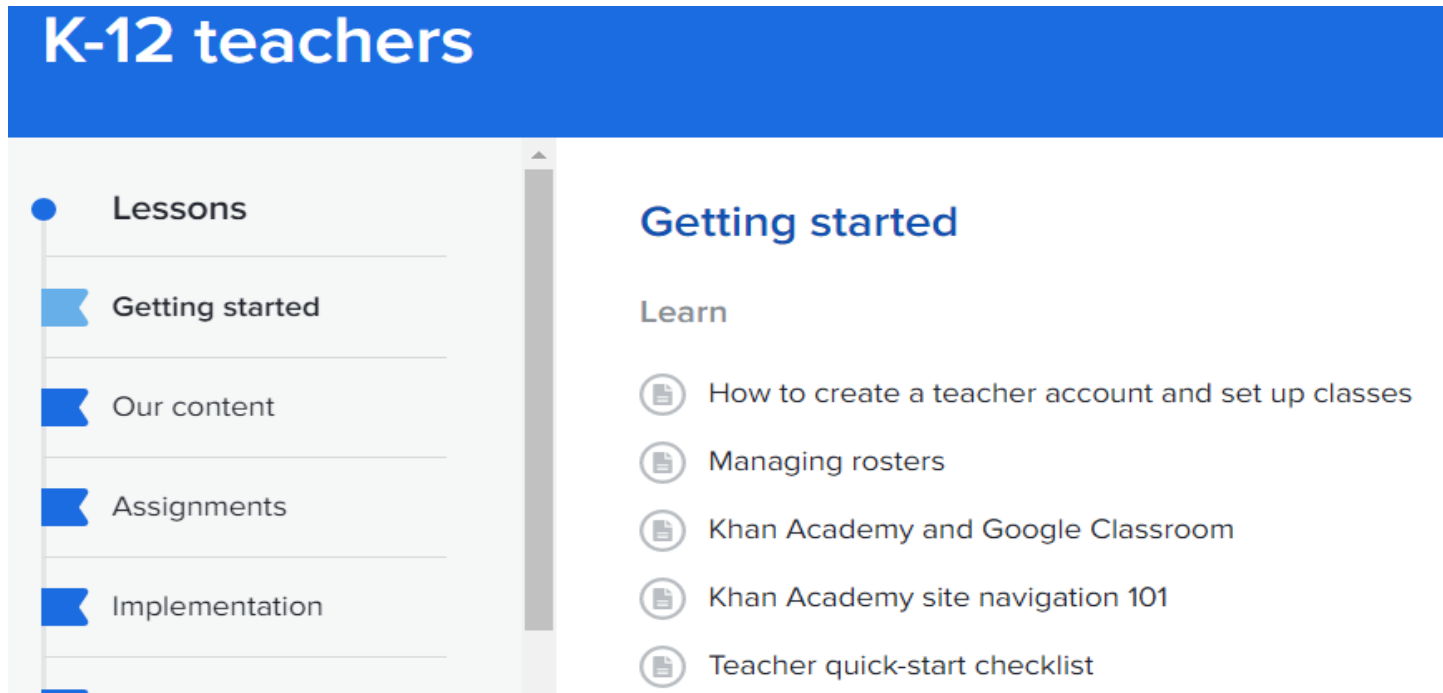
Crowds

Sets & staging

Rendering

See descriptions 

- Setting up a Khan Academy Classroom



[Khan Academy in My Classroom](#)

CTE and Khan Academy Suggestions

- Inventory the academic skills needed by students to be successful in each segment and have these available at your school website and in the class materials.
- Use as a targeted resource for remediation.
- Report on a new skill of the month – student reports
- Khan Academy material can be used with Google Classrooms
- Communicate with academics instructors concerning how the content is reinforced in career and technical education.
- Khan can help parents help their students

Best practices

School Tube



- is the nation's largest K-12 video sharing platform, specifically designed for students, teachers, and parents. All student uploaded videos on SchoolTube have been approved by local educators - ensuring a safe and informative video sharing experience.
- It promotes a code of conduct and ethics related to video and internet use.
- School administrators typically approve SchoolTube for use in their schools.
- Used in over 60% of all K-12 schools nationwide.

School Tube for Classrooms


You Tube Search Browse Movies Upload Sign In

Educate, engage, and inspire your students with video!

Sign up for YouTube for Schools to bring the power of video to your classrooms for free. Access thousands of free high quality educational videos on YouTube in a controlled environment. [Learn more here.](#)

I already have a Google account for my school.
[Join YouTube for Schools](#)

I don't have a Google account for my school.
[Create account](#)



The banner features the YouTube logo in red and white, followed by a red play button icon, and the text 'FOR SCHOOLS' in large, bold, black capital letters.

Benefits



Comprehensive

YouTube for Schools provides schools access to hundreds of thousands of free educational videos from [YouTube EDU](#). These videos come from well-known organizations like [Stanford](#), [PBS](#) and [TED](#) as well as from up-and-coming YouTube partners with millions of views, like [Khan Academy](#), [Steve Spangler Science](#) and [Numberphile](#).



Customizable

You can customize the content available in your school. All schools get access to all of the YouTube EDU content, but teachers and administrators can also create playlists of videos that are viewable only within their school's network.



School-appropriate

School admins and teachers can log in and watch any video, but students cannot log in and can only watch YouTube EDU videos plus videos their school has added. All comments and related videos are disabled and search is limited to YouTube EDU videos.



Teacher-friendly

[YouTube.com/Teachers](#) has hundreds of playlists of videos that align with common educational standards, organized by subject and grade. These playlists were created by teachers for teachers so you can spend more time teaching and less time searching.



School Tube CTE Examples

- [Autobody Program](#) - Promotion
- [Automotive](#) – Tire Repair
- [Computer](#) Power Supply
- [Health](#) – Blood Vessels
- [Welding](#) – Welding Rods
- [Manufacturing](#) - Robotics

How to Make and Upload a Video on YouTube / School Tube Resources

- [Video 1](#)
- [Video 2](#)
- [Video 3](#)

CTE Uses:

- Collections of student projects
- Students taping processes
- Program highlights
- Advisory board information
- Employment Opportunities
- Interviews with program graduates
- Differentiated instruction
- Collaboration with other programs
- Others?

Best practices

Teacher Websites?

1. It is a gateway for classroom engagement
2. It is communication between teachers, students and parents
3. It is okay to show off your class projects
4. You have an easily answer to “What did I miss?”
5. A website can keep you organized and on track
6. A website can be an archive of your class – complete with the exact materials you’ve used
7. It can be an easy way to meet the needs of students who have IEP and 504 plans

Source: <http://www.cleanapple.com/?p=165>

Checklist Prior to Starting a Website

- Is there a cost?
- School Policy?
- Connections to other internal school systems
- [Children's Online Privacy Protection Act](#)
- Updating schedules and ability to make quick changes
- Accessibility - (ADA)
- Host: Can you download your file and move it to another site?
- Browser issues?
- Others?

Items to Include in Teacher Websites

1. Contact Information
2. Welcome Message
3. Teacher Bio/Photograph
4. Syllabus/Description/ Objectives
5. Homework Assignments
6. Calendar of Events with Test/Quiz Schedule
7. Learning Resources
8. Classroom Rules and Policies
9. Worksheets & Handouts
10. Resource Lists
11. Parental Resources
12. Class Showcase/Class News
13. Activities to Energize Learning (Extended Activities)
14. Awards & Recognitions
15. Update – Update – Update the site

Source:

https://www.cgesd.k12.or.us/cms/lib/OR01915656/Centricity/Domain/51/Schoolwires_TeacherSiteElements.pdf

Design Elements of Great Teacher Websites

- [Award Winning Teacher Websites](#)

MR. VOGEL'S CLASSROOM WEBSITE

ACCOUNTING I/II
AV PRODUCTIONS
BUSINESS ESSENTIALS
VIDEO PRODUCTIONS
WEBPAGE DESIGN
CLASS SCHEDULE

Webpage Design

TIME UNTIL SPELLING BREAK
67 DAYS
01 HOURS
49 MINUTES
35 SECONDS

EXPERIENCE POINTS

CALENDAR OF EVENTS
STATE DEBATE
Saturday, January 18th
TBD
TBD

ON THIS DAY IN HISTORY
On this day in 1965, the James Bond movie "Goldfinger" which features the suave British super spy driving an Aston Martin Silver Birch DB5 sports car, opens in theaters across the U.S. Aston Martins would go on to appear in a number of other Bond films.

© COPYRIGHT 2017 JACK VOGEL

MS. J. O'CONNELL

HOME | MEET MS. O'CONNELL | TECH CENTER | CLASSES | CLUBS | MORE

WELCOME TO THE TECH CENTER

"If you dream it...you will believe it...
If you believe it...you will achieve it!"
-Ms. O'Connell
Computer/Technology Teacher

LEARN MORE

Welcome to the Laraway Tech Center...

Welcome to my site. It is my hope that you will enjoy your visit to this site and all pages found on the entire Tech Center website. Regardless of your purpose for learning more about our center, I hope that you find the Laraway School District and the Tech Center website to be great places to visit again and again!

Sincerely,
Ms. J. O'Connell

CURRICULUM

Our standard course of study describes the progressive development of knowledge and skills in six strands: Keyboard Utilization/Word Processing/Desktop Publishing, Spreadsheets, Multimedia/Presentation, Digital Citizenship (Internet Safety), Internet Research/Creativity/Web 2.0, Animation and Coding & Cryptology.

WE'VE BEEN RECOGNIZED!

TOP 50 CLASSROOM WEBSITE
Daily Teaching Tools Award

HOW WILL YOUR CHILD BE ASSESSED IN COMPUTERS?

Students will be given the opportunity and charged with the expectation to apply their skills in authentic, integrated ways to solve problems, complete projects, and creatively extend their abilities based on the ISTE Standards for Students better known as NET-S.

The following assessment tools will be used:

- In the primary grades, the objectives focus on the essential

Teacher Website Builders

[Wix](#)

[Yola](#)

[Weebly](#)

Wix (for teachers)

Create Your
Stunning Website.
It's Free

Easy to customize. No coding.
43,637,614 users and growing.

Start Now



Yola



taking business online

WE'RE HIRING!

English ▾

Call us at: 1.866.764.0701



Features

Pricing

Site Gallery

About Us

Blog

Help

Log In

Sign Up

Create a professional, free website in minutes

Get leads, book appointments and sell online.

Start for Free



Easy to Use

No technical experience required! Make your free website with our easy drag & drop functionality. Everything you need is at your fingertips.



Publish Everywhere

Expand your reach by publishing your website to mobile phones, Facebook, and the web. Edit in one place, and publish everywhere.



Customize Your Site

Choose from hundreds of professionally designed and fully customizable styles. Make it your own by adding photos, videos, maps, forms and much more.



Premium Features

Start with a free website, and select the premium features you need as your business grows. With Yola, you can manage your domains, hosting, email, online store, and more, all in one convenient place.

Over 8 million users worldwide.



Featured in:
THE WALL STREET JOURNAL.



Weebly



Create a Free Class Website
and let your students build sites too



What can I do with Weebly?

- Easily create a classroom website & blog
- Manage your students' accounts
- Accept homework assignments online
- Keep your parents up to date



Time says:
50 Best Websites of 2007: Clever WYSIWYG website
building tool for non-techies



Featured Site
[Memorable Math With Ms.
Napolitano](#)



Schools and Districts
Bring Weebly to your school
district or University.
[Find out how](#)

Username
Password
 Remember Me | [Forgot PW](#)

Get Started Now

Already have a Weebly account? [Log in](#)

Username
Password
Email

I accept the

CTE uses and suggestions:

- Post Student Organization events and accomplishments
- Updating websites is very important
- Make requests for materials and quest speakers
- Honor advisory committee members
- Hall of Fame for Program Graduates and others
- Job Postings for graduates
- Special Projects
- Highlight student of the Week/ Month
- Others?

Best practices

3. Diagramming Processes/ Story Boarding

Storyboarding and diagramming processes can be applied to sequences of images and narrative which demonstrate the relationship between individual events and actions within a system. A typical storyboard can contain a number of images depicting a process or procedure such as preparing an autobody for painting, preparing a syringe, taking blood pressure, and many other standard or non-standard process with any field in CTE.

Diagramming Processes/ Story Boarding Tools:

- Microsoft Word
- Smartdraw
- Powerpoint
- Google Docs
- Google Slides
- Storyboardthat

Applications

Fishbone Diagram & 5 Whys



Key Take Away: Root Cause Analysis will focus on Packaging process.

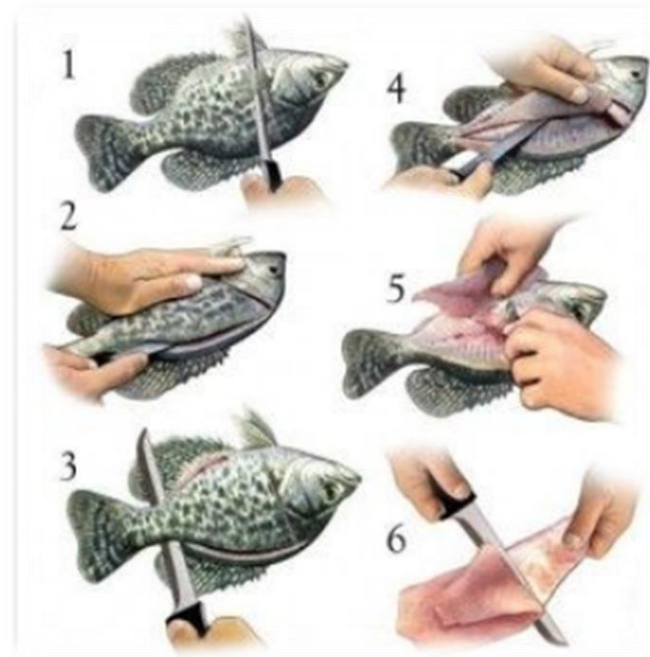







Diagram Categories


 [Calendar](#)


 [Cause and Effect](#)


 [Chart](#)


 [Decision Tree](#)


 [Education](#)


 [Emergency Planning](#)


 [Engineering](#)

 [Event Planning](#)


 [Family Trees and Genograms](#)

 [Fault Tree](#)

 [Flowchart](#)

 [Flyers and Certificates](#)


 [Form](#)


 [Healthcare](#)


 [Infographic](#)


 [Lean](#)

 [Legal](#)


 [Map](#)


 [Mind Map](#)


 [Network Design](#)


 [Organizational Chart](#)


 [Planogram](#)


 [Project Management](#)

 [Project Management](#)

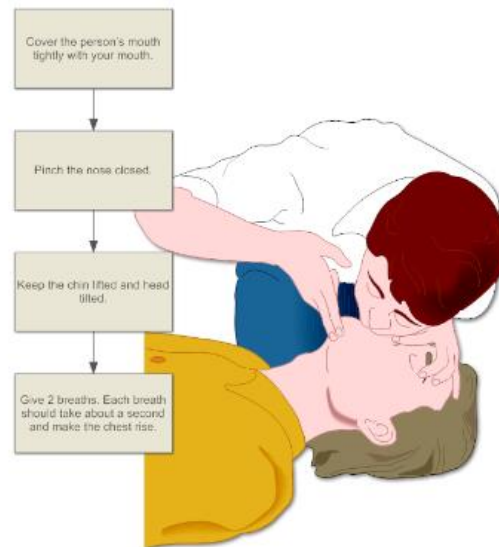
 [Software Design](#)

 [Strategic Planning](#)

 [Timeline](#)

 [Venn Diagram](#)

 [Web Design](#)



MS Word

- Easy Tabs in MS Word:
 - Shapes
 - Icons 3-D Art
 - Smart Art
 - Charts
 - ScreenShot
 - Pictures
 - Online Pictures
 - (Import pictures taken by students)

CTE Assignment Approach

1. Name of Process
2. Pictures to support the major steps in process
3. Narrative to describe process
4. Refine and rework
5. Final

CTE

- Personalize CTE processes
- Study for certification exams
- Portfolio documentation
- Differentiated instruction
- Clarify thought processes
- More effective group work activities
- Encourages critical thinking
- Evidence of work and tasks completed
- Others?

Best practices

4. Instructional Planning

- Chalk – a larger student and school performance system. The suite includes: Planboard, Markboard, Attendance, Resources, and Standards



Planboard



Markboard



Attendance



Resources



Standards



My Settings

Chalk - Planboard:

a modified learning management system.

Create subjects and sections

Create schedules

Develop and share lesson plans

Create individual lessons for students based on IEP

Create units

Create and upload standards

Develop an instructional calendar

Make changes within the instructional calendar due to snow days and other unexpected events

Track curricular progress

Add students, monitor their progress and attendance

Connect to Google Drive and external links

Markboard

Real Assessment Made Possible

Markboard brings both summative and formative assessment to your students. Get real-time insights into your students' learning progress to provide the best feedback. Best of all, it's free for individual teachers.

CTE advice and application

Start small and pilot a system

Compare with other programs as the programs evolve

Google Classroom, Edmodo, Schoology. Blackboard, etc.

Make sure the data and resources in one system can be used in another or at least the structure is reproducible.

Check costs\$

Data security?

Others?

Best practices

5. Miscellaneous Tools

- [Google Trends](#)
 - 3 billion searches
 - 500,000 hours of Youtube video
 - 1 million news articles
 - Per day

Uses of Google Trends

- Discover what people are searching for. Your school or programs
- Developing Marketing Plans
 - Identify buyer key terms to describe what you have for sale
 - When should you advertise during what time of year
 - What are the demand patterns for a product or service
 - Compare one product to another based on location, time, etc.
 - Discover niche markets
 - Product or concept dispersion
 - Popularity of products, techniques, services, market share,
 - Create predictions and examine relationships between various variables: hot chocolate, blizzards, auto repair, tropical vacations, the need for auto repair

Google Trends

- [Searches:](#)
- Examples and ideas?

Advice Using Instructional Tools

1. Embrace creativity as part of learning
2. Use the most effective strategies
3. Think of creativity as a skill
4. Make emotional connections
5. Give students time to ask questions and develop ideas
6. Creativity builds confidence
7. Use a collaborative creative thinking model to solve classroom problems
8. Design multidisciplinary lessons when possible
9. Understanding that creativity is important to a student's futures in the job market
10. Teach creative skills explicitly
11. Use the search terms: Teachers best use of _____.

Source: E. Paul Torrance, and Classroom-Aids.com

Thank you for attending the session!



Questions?