

*A time for change: Equity
through the use of
technology*

Presented by
Nancy J. Sattler, Ph.D.
Terra Community College
Walden University
TODOS: Mathematics for All
June 2014

Change is everywhere!

Old Ways



Name _____ Date _____

What Comes Next?

Write the number that comes next.

6	7		1	2
2	3		3	4
7	8		5	6
4	5		7	8
0	1		9	

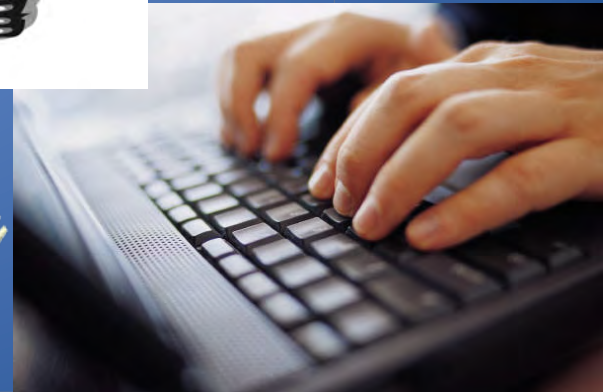
© This math worksheet is from www.h4h2m.com

New Ways

<http://www>



SEND



My First ABC Chart



A  Apple	B  Ball	C  Chair	D  Door	E  Egg
F  Fish	G  Girl	H  Hat	I  Ice	
J  Jug	K  Kite	L  Leaf	M  Moon	N  Net
O  Orange	P  Pencil	Q  Quilt	R  Robot	
S  Star	T  Tap	U  Umbrella	V  Vase	
W  Watch	X  X-ray	Y  Yo-yo	Z  Zip	

Alphabet taught to kids nowadays



A: APPLE



B: BLUETOOTH



C: CHAT:



D: DOWNLOAD



E: E MAIL



F: FACEBOOK

Google

G: GOOGLE



H: HEWLETT
PACKARD



I: Iphone



J: JAVA



K: KINGSTON



L: LAPTOP



M: MESSENGER



N: NERO



O: ORKUT



P; PICASSA



Q: QUICK HEAL



R: RAM



S: SERVER



T: TWITTER



U: USB



V: VISTA



W: WIFI



X: Xp



Y: YOU TUBE



Z: ZORPIA

'Sesame Street' approaches one billion views on YouTube

By Jake Coyle
Associated Press

NEW YORK — Nearing 1 billion views on YouTube, "Sesame Street" is headed for Justin Bieber territory.

The children's program is closing in on the kind of rarified digital milestone usually reserved for the likes of pop stars and cat videos. "Sesame Street" will soon pass 1 billion views on YouTube and it's celebrating the mark with a campaign to put itself over the hump.

"Sesame Street" will post a video featuring the character Telly Monster, urging viewers to click the show past the final 20 million views and unlock a "top secret video." Naturally, for the nonprofit children's series, it's a teaching moment, too. Don't be surprised if Count von Count shows up to ponder such a big number.

For "Sesame Street," the milestone — a first on YouTube for a non-



The children's show "Sesame Street" is closing in on a rare digital milestone — one billion views on "YouTube."

AP

profit or U.S. children's media outlet — reflects the increasingly multimedia nature of kid entertainment. Big Bird and Oscar the Grouch are now about as likely to be watched on an iPad, phone or laptop as they are on PBS.

"We have this theory that if we get content on multiple platforms and devices, it gives kids and families a chance to reinforce and experience the curriculum multiple times," says Terry Fitzpatrick, executive vice president of content and distribution

for Sesame Workshop, who emphasizes videos are best co-viewed with child and parent. "It blows me away to think about how popular and strong a platform (YouTube) has become for us."

"Sesame Street," a mainstay on PBS since 1970, launched its YouTube channel in 2006, but has continually expanded its mindfulness of online and mobile viewers.

Sesame Workshop last year integrated its digital media group into its TV production.

Spanish Sesame Street

- Many Sesame Street videos are in Spanish
- <http://www.bing.com/videos/search?q=Seasame+Street+%2Bspanish&go=Submit&qs=n&form=QBVR&pq=seasame+street+%2Bspanish&sc=8-17&sp=-1&sk=>

Flipped Classroom helps elementary kids learn

Submitted by Clyde-Green Springs School District

One fourth-grade classroom at Green Springs Elementary has made a dramatic change the past two weeks. You could say it "flipped." Frustrated with trying to find a unique and personalized way to reach all of his students learning long division, Mr. Ruffing decided to experiment with an instructional model called the Flipped Classroom. The basic principal is that what students traditionally learn at school is done at home and what is traditionally done as homework is completed in class. Traditional lecture is replaced by self-paced learning with the teacher working to facilitate the learning process.

To begin the lesson, students were asked to watch a set of videos hosted on the Internet dealing with long division. One video showed Mr. Ruffing giving instruction and three videos were available from other Internet resources. The students had four days, including a weekend, to watch at least two of the videos. They were then asked to log on to Schoology (similar to Facebook for schools) and make a comment pertaining to the videos they had watched. Students were able to ask questions and Mr. Ruffing then replied to all students' messages to monitor their understanding.

Monday's lesson then began with students be-



Green Springs Elementary School is experimenting with a Flipped Classroom instructional model. The model operates under the principle that what is normally learned at home is done at school and traditional homework is completed during normal classroom hours. SUBMITTED PHOTO FROM THE CLYDE-GREEN SPRINGS SCHOOL DISTRICT

ing asked to solve a single long division problem rather than a traditional whole class lecture on the process. Not many could work the problem. A class discussion then followed about any confusion from the videos to clarify the steps to long division. Students also responded to share how comfortable they felt with working a long division problem. Eighty-five percent felt very uncomfortable working a problem. That evening many students re-watched the videos at home to help them gain a deeper understanding of the concept. Many even commented on the Schoology site that night that they were now able to understand the process of long division. Students had taken ownership of their learning at their own pace.

By having the videos available, class time was used to focus and clarify questions led by the students. The process of teaching long division had been sped up dra-

matically by this student centered approach. Students now reported they were ninety percent confident in their ability to work long division problems independently.

Taylor Gray, a fourth-grade student, reported that with this new approach, "division is actually fun."

Her classmate, Maci Freeman, posted a comment on Schoology Sunday evening, "I get division a lot more and I've been studying it. I think division is so fun, it's like you're in a different world. Amazing!"

While a "flipped" approach to learning that uses online resources seems like a foreign approach to many adults, this is nothing new to students. Students born and raised in an interconnected digital world embrace the approach. The use of digital learning does not take instruction out of our teachers' hands, but rather allows them to become more efficient in the time they are with their students.

Front News/Messng 2-8-13 A 5A



TECHNOLOGY

MODERN TIMES

Dad faces uphill battle limiting tech time in a screen-filled world



By CHRIS L. GALLAGHER

ANDREW'S PHONE rings every 15 minutes, and he has to answer it. He's a dad who's been told to limit his child's screen time, but he's struggling to do so. He's a dad who's been told to limit his child's screen time, but he's struggling to do so. He's a dad who's been told to limit his child's screen time, but he's struggling to do so.

But as the family's tech-savvy son or daughter grows up, he or she will face the same dilemma: how to limit screen time in a world where it's everywhere. The answer is not to limit it, but to manage it. The answer is not to limit it, but to manage it. The answer is not to limit it, but to manage it.

And as the family's tech-savvy son or daughter grows up, he or she will face the same dilemma: how to limit screen time in a world where it's everywhere. The answer is not to limit it, but to manage it. The answer is not to limit it, but to manage it.

The MURKIN Page 2



ILLUSTRATION BY PHILIP



Students of Today Are the Same as Students in the Past



As teachers we need to be aware
of the changes that are occurring

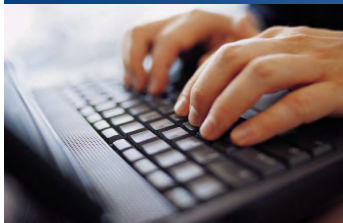




Specialized Technology Access



- 60% of people have mobile phones with a 1/3 of that percentage having no land-lines.
- FaceBook & MySpace are leading communication tools for ages 14-40.



<http://www>



Household Internet Use in 2011

- 76.2% of non-Hispanic White households
- 82.7% of Asian households
- 58.3% of Hispanic households
- 56.9% of Black households

Information obtained from the U.S. Census Bureau

<http://www.census.gov/prod/2013pubs/p20-569.pdf>

Computer Ownership

Year of Census	Percentage of Households Reporting Owning a computer
2011	75.6%
2003	61.8%
1984	8.2%

Internet Usage

Year of Census	Percentage of Households Reporting Accessing the Internet
2011	71.7%
2003	54.7%
1997	18.0%

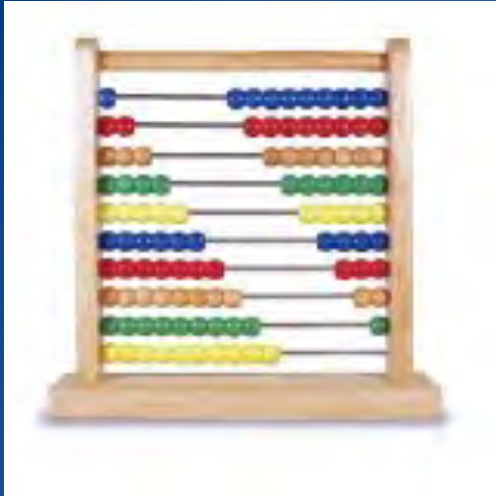
How is technology defined?

Definition of Technology

- Any tool that aids in the solution to solving a problem can be loosely considered technology



Technology Tools to Calculate





Technology Tools to Present Information





Storage Devices





**The
classroom
of
yesterday,
today, and**



COMPONENTS OF A 21st Century Classroom

Technology is undeniably changing the face of education, and it's easy to see the impact already. Imagine what classrooms will be like in 20 years with the speed of technological innovation. Learn more about some of the key advancements in the 21st century classroom.



of teachers have computers in their classrooms...



...but just 1 in 5 feel their classrooms have the right level of technology

INCREASING THE PRESENCE OF THE FOLLOWING TECHNOLOGIES COULD CHANGE THAT RATIO DRASTICALLY

Real World Education

Project-based learning (PBL) teaches concepts, but also organization, articulation, project management and collaboration

Integrating life skills into education can improve student engagement and retention and prepare them for 21st century careers



Online Courses

Almost a third of all college students take at least one online course

Online enrollments saw 21% growth while overall higher education student population only saw 2% growth

Over 65% of education institutions count online learning as critical for long-term educational success

Games and Gamification

43% of teachers have used online games in the classroom

In one study, games raised average test scores:
 With the use of digital games: 91.5%
 Without the use of digital games: 79.1%

Learning Analytics

Help teachers assess top concerns and achievements related to their students



Registration for the Learning Analytics and Knowledge conference doubled between 2011 and 2012



One system claims to predict whether a student's likelihood of sufficient course completion with about 70% accuracy, highlighting risk factors for individual students



Open Source Textbooks

In the next decade, open source textbooks are expected to grow to 35% of the textbook market

6 in 10 students have used a digital textbook - just 4 in 10 had in 2011 -

By 2013, e-textbooks may comprise 11% of textbook revenue

81% of teachers believe tablets enrich classroom learning

86% of students believe they study more efficiently with tablets

1 in 5 students have used a mobile app to keep their coursework organized

29% of teachers use social media for coursework, compared to now 20% of college professors

59% of students would like to use their own mobile devices to enhance learning

Top 3 Reasons for Teachers to Use Technology in the Classroom



Adapt to diverse learning styles



Boost student motivation



Enhance the material being taught



Over 51% of colleges cited wireless upgrades as their tech priority in 2011-12 given the 60% increase in mobile devices on campus in the previous year

Integration of Social Networks

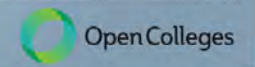
Engaging students with a free tool they already use can help them learn in new ways, gain focus and increase participation



One social media pilot program assisted in a class' 50% rise in grades



4 in 10 students believe integrating social networks into the classroom would benefit their education



http://thumbnails.visually.netdna-cdn.com/how-different-will-classrooms-of-the-future-be_502919b21b9d4.jpg

New Tools for Teaching

New mediums calls for New Tools! Some are electronic, some social networking, some online, and others combine video and audio. Find one or two that work for you and build from there.

Choose Electronic Tools

- Audioconferencing
- Blogging
- Chatroom
- Clickers
- Digital drop box
- Elect. bulletin board
- Electronic mail
- Instant messaging
- Interactive video
- iPod
- Listserv
- Newsgroup
- One minute lecture
- Print (textbooks, etc.)
- Social Networking
- Software tutorials
- Telecourse
- Telephone
- Threaded discussion
- Videoconferencing
- Vodcast
-  **WolframAlpha**[®] computational...
knowledge engine

Video Resources

- Textbook Companies
- YouTube
- TeacherTube
- Kahn Academy
- MathTV.com
- Create your own!

Solving Absolute Value Inequalities

- Students see the English but the mathematics is explained in Spanish
- <http://www.bing.com/videos/search?q=Mathematics+%2B+Spanish&go=Submit&qs=n&form=QBVR&pq=mathematics+%2B+spanish&sc=5-21&sp=-1&sk=#view=detail&mid=19884B38EFA68A01635A19884B38EFA68A01635A>



More resources for teachers

- www.youtube.com

- I Can Count To 100

- <http://www.youtube.com/watch?v=W0o-uizBWDM>

- Whatcha Gonna Do Count By 2's 5's and 10's

- <http://www.youtube.com/watch?v=vq3cDj2Uu3I>

- 3D shape song by Harry Kindergarten

- <https://www.youtube.com/watch?v=2cg-U>

- Perimeter Song

- <http://www.youtube.com/watch?v=KwXBMGdSWml>

- Quadratic Formula - the Musical

- <https://www.youtube.com/watch?v=1oSc-TpQgQI>



Hip Hop Music

- <http://www.flocabulary.com/subjects/math/>



Resources for teachers

- www.teachingchannel.org

- Teaching Channel is a video showcase -- on the Internet and TV -- of innovative and effective teaching practices in America's schools.

- [Lesson Ideas: Mush Forward with the Iditarod!](http://www.teachingchannel.org/lesson-ideas/mush-forward-with-the-Iditarod/)
- <https://www.teachingchannel.org/blog/2014/02/20/Iditarod-lesson-ideas/>

- <http://www.realworldmath.org/>

- Real World Math is a collection of free math activities for Google Earth designed for students and educators. Mathematics is much more than a set of problems in a textbook. In the virtual world of Google Earth, concepts and challenges can be presented in a meaningful way that portray the usefulness of the ideas.



More resources for teachers

- Facebook Pages

- Teacher Resources

- <https://www.facebook.com/search/keyword/?q=teacher%20resources>

- Elementary Teacher Resources

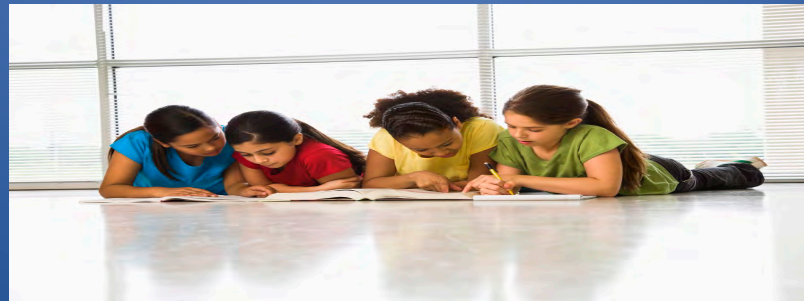
- <https://www.facebook.com/ElementaryTeacherResources>

- Teacher-Teacher Resources

- <https://www.facebook.com/TeacherTeacherResources>

- Teacher Created Resources

- <https://www.facebook.com/teachercreatedresources>



More resources for teachers

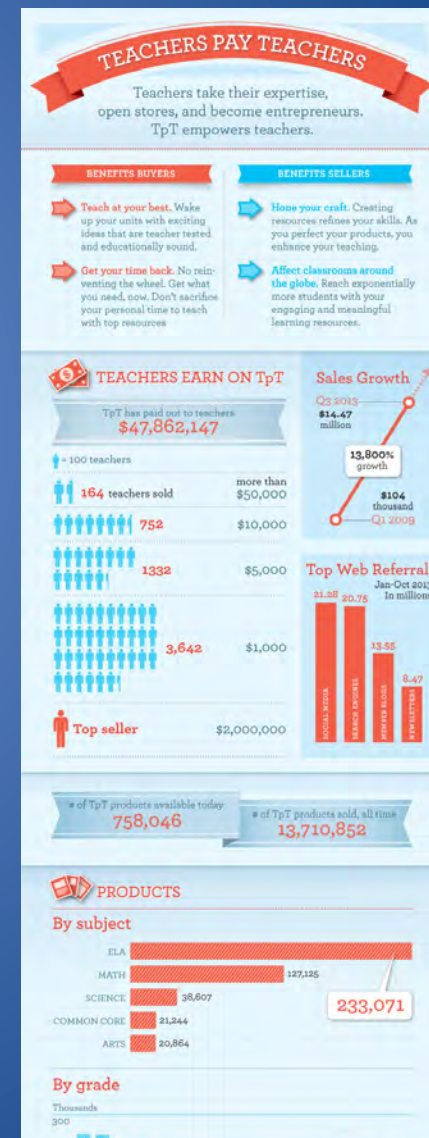
- TeacherpayTeacher.com
Teachers Pay Teachers is the world's first and largest open marketplace for educators to buy, sell, and share their original resources. TpT helps teachers to teach at their best and provides a community where teachers succeed.

PRICES

Free

Under \$5

\$10 and up



Games

- **Crossword Puzzles**
- **Jeopardy (for template see <http://www.jmu.edu/madison/teacher/jeopardy/jeopardy.htm>)**
- **Other Power Point Games (Who Wants to be a Millionaire, etc.) <http://teach.fcps.net/trt10/PowerPoint.htm>)**

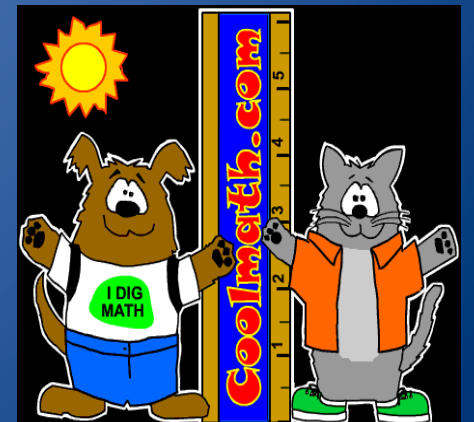
Todo K-2 Math Practice

- <https://itunes.apple.com/us/app/todo-k-2-math-practice/id666465255?mt=8>

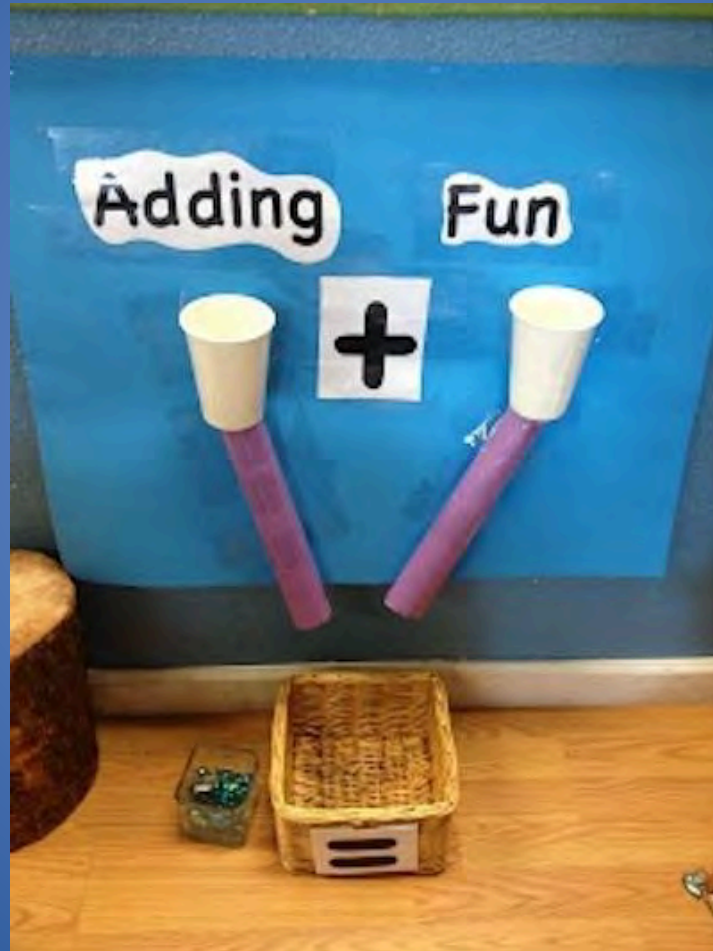


More resources for teachers

- Teacher Tube
 - <http://www.teachertube.com>
- StudyJams
 - <http://studyjams.scholastic.com/studyjams/jams/math/index.htm>
- Sheppards Software
 - <http://www.sheppardsoftware.com/math.htm>
- Cool Math – An amusement park of math and more...
 - <http://www.coolmath.com/>



Manipulatives



Manipulatives. . . Teaching fractions



EASY WAY TO TEACH FRACTIONS TO KIDS, USING LEGOS

1 whole $\frac{1}{2}$ $\frac{1}{4}$ $\frac{1}{8}$

$\frac{3}{4}$

$\frac{1}{4} + \frac{3}{4} = \frac{4}{4} = 1 \text{ whole}$

WWW.MEFUNNYSIDEUP.CO

imgflip.com

Have students collect data electronically

The screenshot shows a Windows Internet Explorer browser window displaying the Doodle website. The address bar shows the URL <http://www.doodle.com/>. The browser's taskbar at the bottom shows several open applications: Microsoft Office Word, Microsoft Office PowerPoint, and Internet Explorer. The Doodle website content includes the logo, a login section with an email field and a 'Log in' button, and two main sections: 'Schedule an event ...' and 'Make a choice ...'. The 'Schedule an event ...' section features a calendar icon and a 'Schedule event »' button. The 'Make a choice ...' section features a poll icon and a 'Make choice »' button. A sidebar on the left explains how Doodle works in three steps and notes that it is free and requires no registration.

Doodle: easy scheduling - Windows Internet Explorer

<http://www.doodle.com/> online tests

Convert Select

<http://staff.southwest.tn.ed...> Doodle: easy scheduling

Home RSS Print Page Tools

Doodle[®]

MyDoodle: your polls at one glance

E-mail address: [input field]

[Forgot password?](#) [Create account](#)

How does Doodle work?

1. Create a poll.
2. Forward the link to the poll to the participants.
3. Follow online what the participants vote for.

Free. No registration required.

[Learn more ...](#)

Schedule an event ...

... such as a board meeting, business lunch, conference call, family reunion, movie night, or any other group event.

[View example](#)

Make a choice ...

... among movies, menus, travel destinations, or among any other selection.

[View example](#)

[Get Branded Doodle](#) for your company

Advanced scheduling with **Premium Doodle**

Also try Doodle ...

... with Outlook (Beta)

... on your cell phone (Beta)

start | 11 Microsoft Office ... | 3 Microsoft Office P... | 5 Internet Explorer | Search Desktop | 1:41 PM

Skype Translate

- Instant translation from and to any language in real time during a text chat on Skype. User can type in his/her own language and text will be shown in language selected for the recipient. Skype Translate automatically detects your friends' language based on their profile settings.
- Supported languages: Afrikaans Albanian Arabic Belarusian Bulgarian Catalan Chinese Croatian Czech Danish Dutch English Estonian Filipino Finnish French Galician German Greek Hebrew Hindi Hungarian Icelandic Indonesian Irish Italian Japanese Korean Latvian Lithuanian Macedonian Malay Maltese Norwegian Persian Polish Portuguese Romanian Russian Serbian Slovak Slovenian Spanish Swahili Swedish Thai Turkish Ukrainian Vietnamese Welsh Yiddish
- http://download.cnet.com/Skype-Translate/3000-12941_4-75015182.html

Are you ready for the classroom
of the future?

It is here now!

Traditional Classroom
Flipped/Hybrid Classroom
Totally Online Classroom

Have Students Collaborate

- Google Docs
 - http://www.google.com/apps/edu/index.html#utmsource=educators2&utm_medium=et
- Mindmap
 - <http://www.mindomo.com>
- Wikis
 - <http://wikisineducation.wetpaint.com/page/Higher-Ed+Wikis>
- Xtranormal
 - <http://www.xtranormal.com/>

What can you do?

- Develop bilingual website and blogs for student interaction
- Have students research Latino mathematicians (<http://www.pps.k12.or.us/depts-c/mc-me/be-hi-ma.pdf>)

Choose a Learning Management System

- Dictated By School or Teacher Chosen
- Costly vs. Open Source
 - Blackboard, Angel, Desire2Learn
 - Moodle
 - Schoology (K-12; “collaborate and share instructional resources with excellent teachers in your school, your district, and around the world”)

Assessment Methods

- ❖ *Electronic Quizzes & Test*
- ❖ *Games*
- ❖ *E-Portfolio*
- ❖ *Polls*

Online Quizzes and Tests

- Make your own (<http://www.allthetests.com/quiz26/quizbedingung.php>)
- Use others
 - Available through Learning Management Systems
 - Available through textbook resources

E-portfolio

- Definition: an **e-portfolio** or digital portfolio, is a collection of electronic evidence assembled and managed by a user, usually on the Web.
- Storage
 - Angel, Blackboard, Desire2Learn
 - E-Portfolio.org
 - GoogleDocs
 - Dropbox.com



CHANGE

“The Final Frontier”



What do you do in your
classroom?



Contact information

-

Nancy Sattler
President, AMATYC

nsattler@terra.edu
nancyjoan.sattler@waldenu.edu