Enhancing the Art and Science of Teaching with Classroom Technology

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Marzano Research Laboratory
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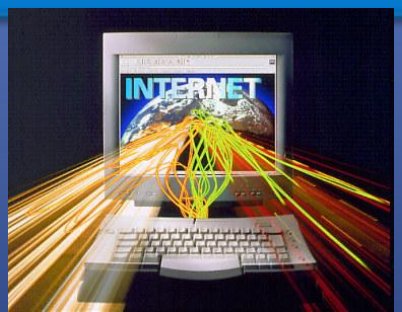
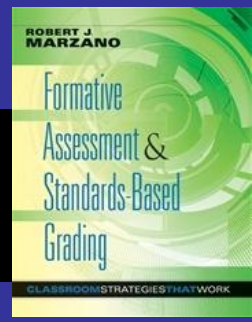
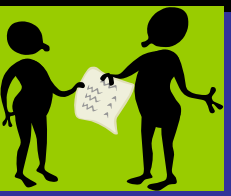
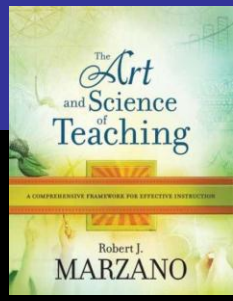


Three Instructional Commitments to Students

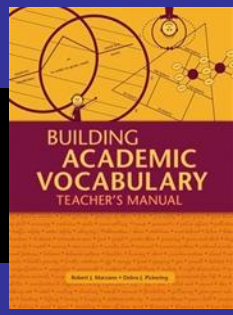


Commitment #1: Provide Feedback Through Classroom Formative Assessment and Grading





Commitment #2: Foster and Support Effective Teaching in Every Classroom



Commitment #3: Build Background Knowledge for All Students

Possibilities and Cautions

- Technologies can increase and enhance the use of effective instructional strategies,…

however,

…they can also be used to perpetuate--even exacerbate--weak teaching.

Possibilities and Cautions

- Teachers using these technologies offer extensive testimonial evidence of the positive effects in the classroom…

however,

…critics offer testimonials of how the technologies are wasting our money. *For example, critics of IWBs offer testimonials that show they can be used as just expensive chalkboards or more colorful overhead projectors.*

Possibilities and Cautions

- Teachers who use the technologies report that they keep discovering MORE they can do in the classroom…

however,

..if teachers are going to use these tools more, they have to decide what they are going to do LESS.

Participants will increase their understanding of:

- Anecdotal evidence ,as well as research, tells us that classroom technologies have the potential of significantly enhancing student learning

- We will not realize that potential soon enough if we do not build on a strong instructional foundation

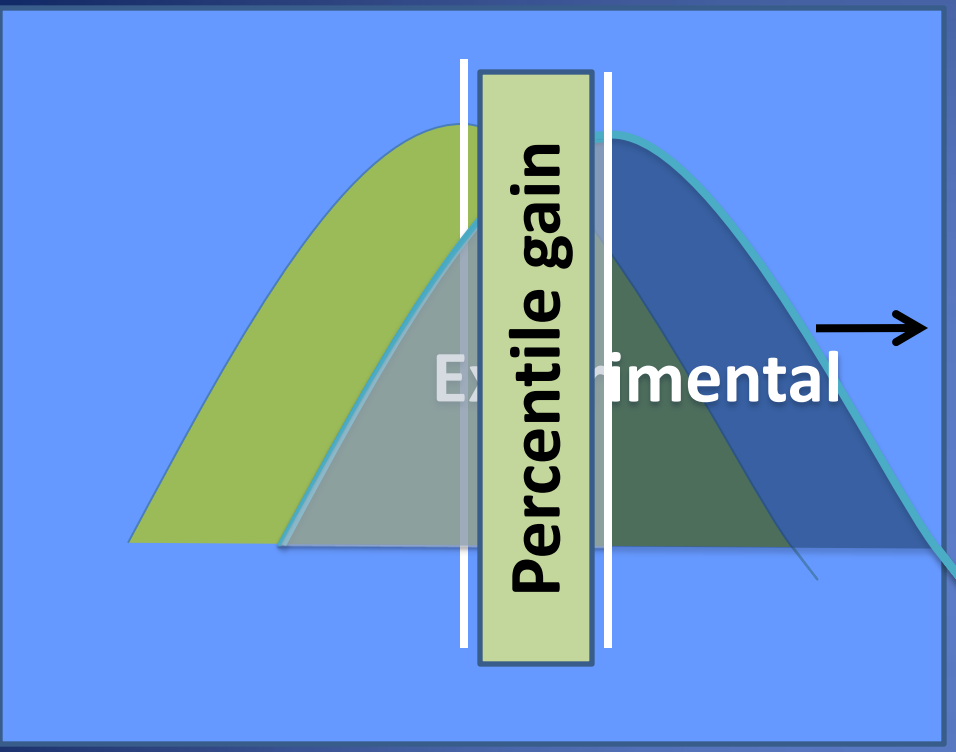
Participants will increase their understanding of, and ability to use:

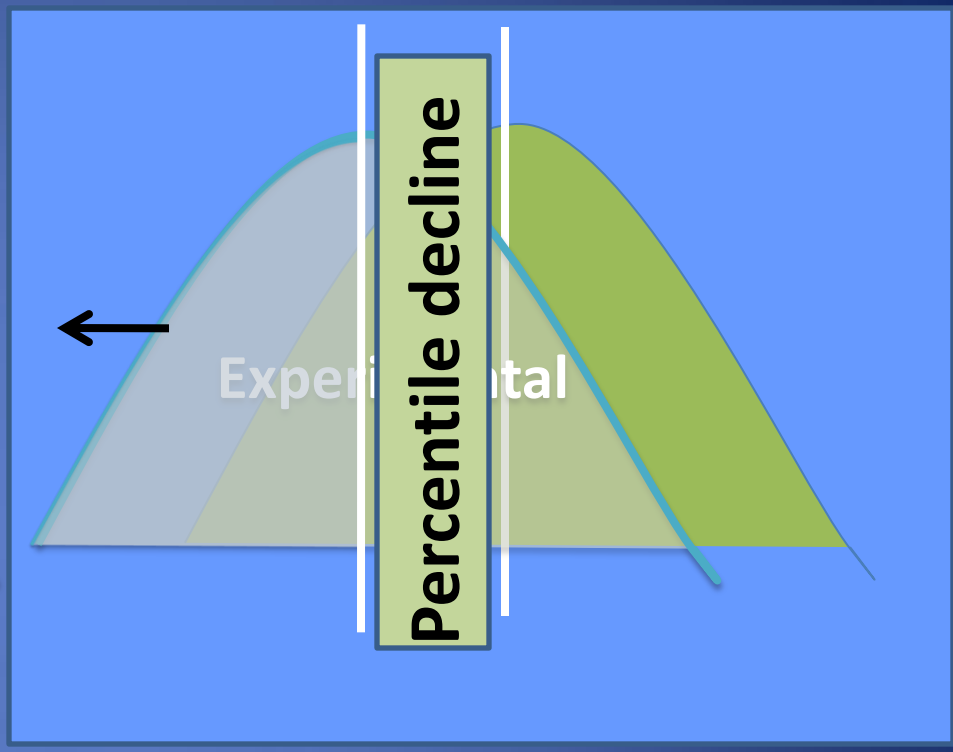
- Strategies that can be enhanced and expanded with classroom technologies, including:
  - Formative assessment/feedback
  - Student engagement
  - Focusing students on learning goals
  - Interacting with knowledge

Interactive Whiteboards (IWBs)
Learner Response Systems (Clickers)

Do they work?

Keep in mind– For any instructional strategy





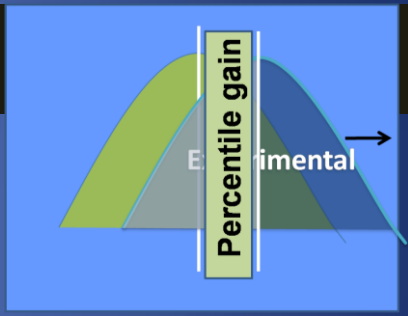
There are no “high yield” strategies.

There are only “high probability” strategies.

Results of Initial Study of IWBs?

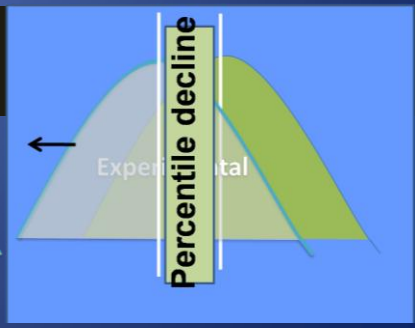
Interactive Whiteboards Effect?

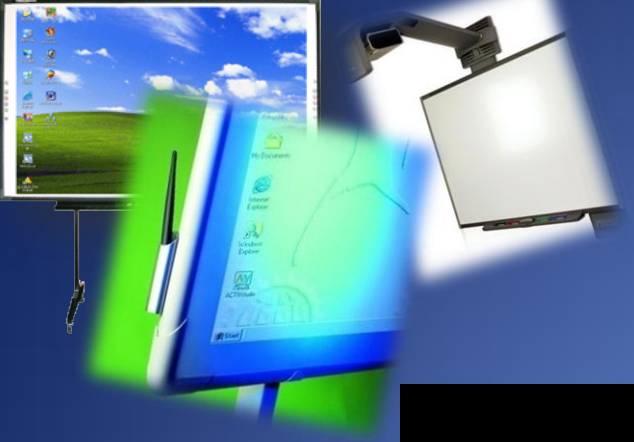
17 Percentile Point Gain



Percent of studies with 0 or Negative Effect?

23%



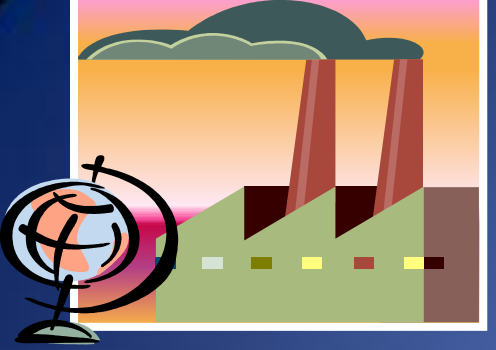


Do
Interactive Whiteboards (IWBs)
Work?

There is a high probability…

…IF…

Framing—reframing—our challenge

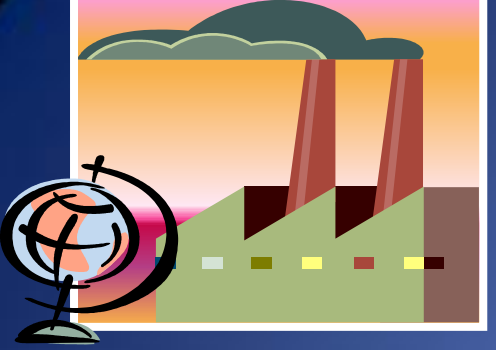


Industrial Age

Information Age

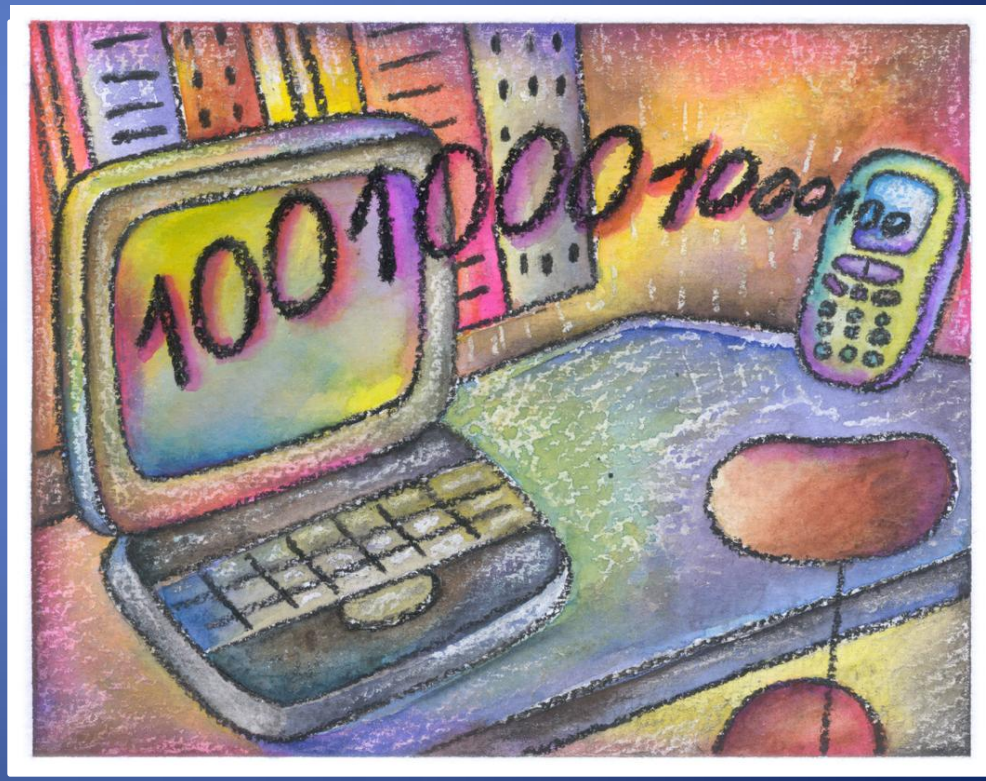
?


growing up digital
Digital Natives
The Future of Learning Institutions in a Digital Age
Digital Media in the Classroom
Teaching the Digital Generation
No More Cookie-Cutter High Schools
grown up digital
how the net generation is changing your world
DON TAPSCOTT
DIGITAL STORYTELLING
GUIDE FOR EDUCATORS
iste
Midge Frazel
TEACHING with digital images
ACQUIRE
CREATE
COMMUNICATE
GLEN L. BULL
LYNN BELL
iste Publications



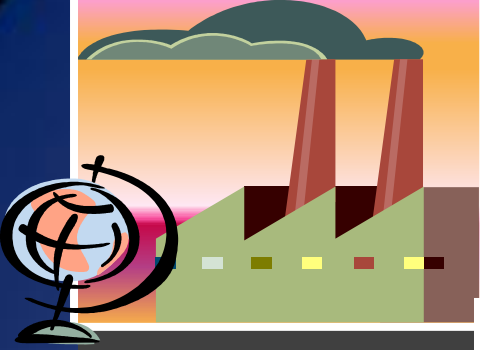
Industrial Age

Information Age



Digital Age

Digital Generation



Industrial Age

Interaction Age

Interaction Generation












Interaction Generation

What are the challenges in the classroom?

To strive for more and better digital devices?

Interaction Generation

What are the challenges in the classroom?

To strive for more and better digital devices?

Interaction Generation

What are the challenges in the classroom?

To strive for more and better **Interactions…**

…by using the digital devices well!

Interaction Generation

So, we must use classroom technologies….

- **Interactive Whiteboards (IWB) and Projectors**
- **Learner Response Systems (Clickers)**

- LCD Projectors
- Document Cameras
- One-to-one Laptops
- iPods
- Smart phones
- Wikis, blogs, podcasts

Interaction Generation

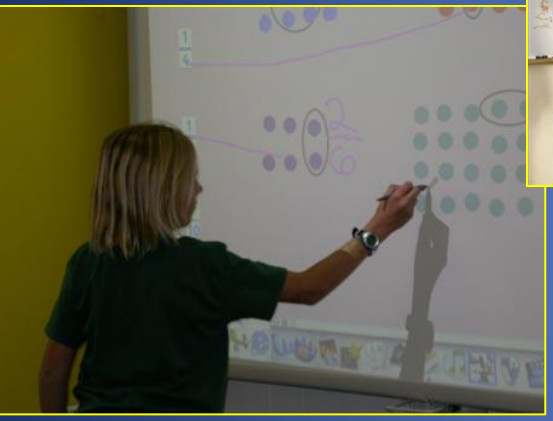
So, we must use classroom technologies….

…to <u>enhance and expand</u> students' interactions…

…with knowledge and people

We've always valued interactions.

…and digital technologies add to the types of interactions that are possible.



However,
the focus here…

…is not on the interactions with the digital technologies.

The focus is on the interactions that happen because of
the digital technologies.

Interaction Generation

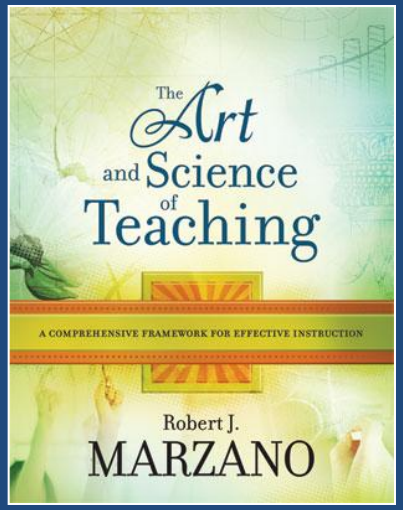
So, we must use classroom technologies….

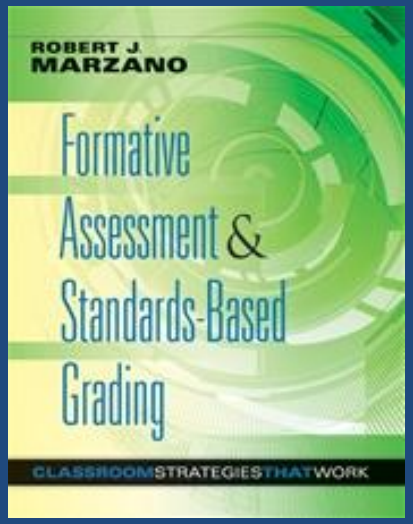
…to <u>enhance and expand</u> students' interactions…

…with knowledge and people

How?

Use what we know NOW
about creating effective interactions…

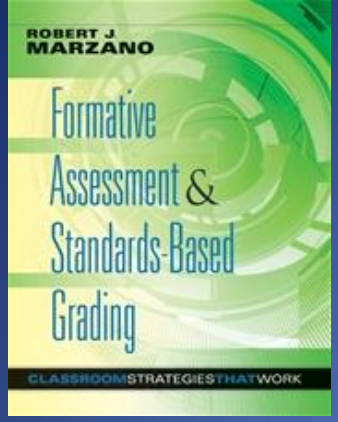




..and then enhance, and expand on,
what we know

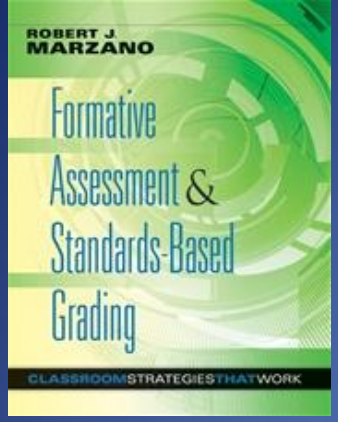
- Formative assessment/feedback
- Student engagement
- Focusing students on learning goals
- Interacting with knowledge

- Formative assessment/feedback



- Summative Assessment
- Formative Assessment
- Instructional Feedback

Formative Assessment and Instructional Feedback



- Summative Assessment
- Formative Assessment
- Instructional Feedback

Formative Assessment and Instructional Feedback

The challenges?

The most important thing is
what happens (the interactions)
AFTER the assessment results are in.

John Hattie—reviewed 7,827 studies on learning and instruction.

Conclusion… “The most powerful single innovation that enhances achievement is feedback. The simplest prescription for improving education must be ‘dollops’ of feedback.”

…reported that providing students with specific information about their standing in terms of particular objectives increased their achievement by 37 percentile points.

John Hattie – 2009.

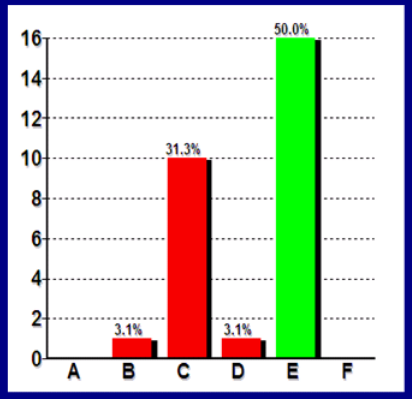
The mistake I was making was seeing feedback as something teachers provided to students…

It was only when I discovered that feedback was most powerful when it is from the student to the teacher that I started to understand it better.

Formative assessment and Instructional Feedback

Can classroom technologies
help teachers confront these challenges
of assessment and feedback?

Caution



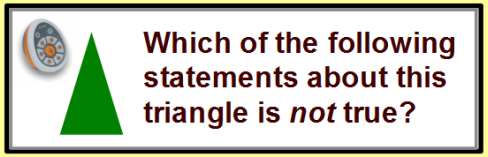
U21

	A	B	C	D	E	F	G	H	I	J	K
4	User	Total	%	Total Resp	Q1 (C)	Q2 (A)	Q3 (F)	Q4 (D)	Q5 (E)	Q6 (C)	
5											
6	A 1	1	17	0:01:45	A	B	F		D	E	
7	A 2	0	0	0:01:34	F	D	A		C	E	
8	A 3	4	67	0:01:07	C	A	F		E	E	
9	A 5	2	33	0:01:01	C		E		E	B	
10	A 6	4	67	0:01:18	C	A	F			C	
11	A 7	3	50	0:00:55	C	A	F		C		
12	A 8	2	33	0:00:49		B	F			C	
13	A 9	3	50	0:01:48	C	A	E		C	C	
14	A 10	4	67	0:01:05	C	A	F		E	A	
15	A 11	2	33	0:01:32	D	A	E		E	B	
16	A 12	2	33	0:01:13	C		F		C	E	
17	A 13	3	50	0:01:21	C		F		E	F	
18	A 14	4	67	0:01:24	C	D	F		E	C	
19	A 15	3	50	0:01:17	C	D	F		E	B	
20	A 16	3	50	0:01:09	C		A		E	C	
21	A 17	3	50	0:01:21	C	A	B		C	C	
22	A 18	2	33	0:00:51	C				E	B	
23	A 19	2	33	0:00:53	E	A	F		C	B	
24	A 20	3	50	0:01:07	C	A	F		C		
25	A 21	1	17	0:00:25		D	F			E	
26	A 22	5	83	0:00:54	C	A	F		E	C	
27	A 23	3	50	0:00:41	C	A	E		E	E	
28	A 24	3	50	0:01:38	C	A	A		E	F	
29	A 25	1	17	0:01:24	C	D	F		B	F	

Summary | Sheet2 | Sheet3

Formative Assessment and Instructional Feedback

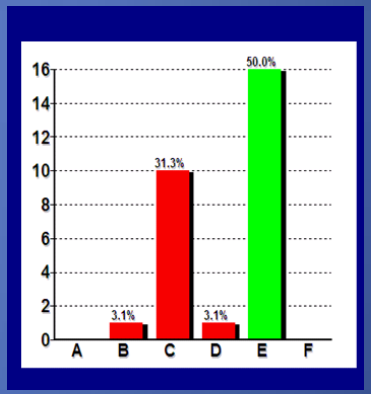
Content Assessment



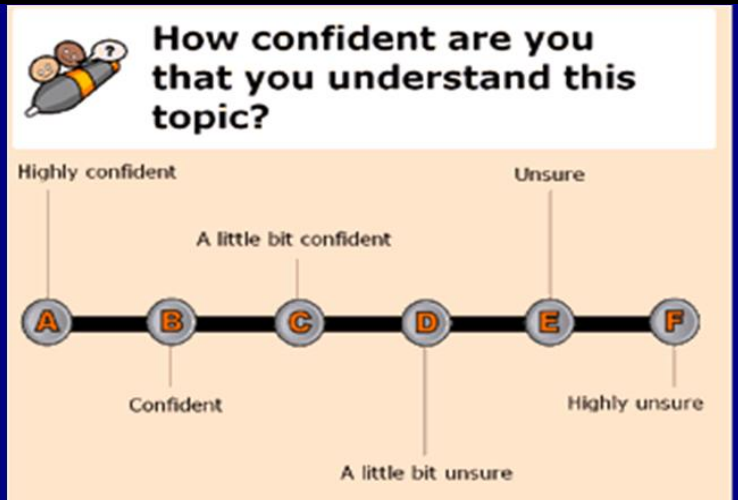
Which of the following statements about this triangle is *not* true?

- **A** This triangle has two sides that are congruent.
- **B** This triangle could be called an *acute triangle.*
- **C** This triangle could be called a *scalene triangle.*
- **D** All three angles in this triangle are less than 90°.

?



Student Confidence/Self-Assessment



Interactions—with people and knowledge—designed to improve performance

Teachers

- Re-teach
- Group students for peer interaction
- Create support classes– double dipping
- Provide resources
- ??????????????

Students

- Review materials
- Seek help – teacher, tutor, peer
- Seek other resources – internet, alternative materials
- ???????????????

Formative assessment and Instructional Feedback

…the most important thing is
what happens (the interactions)
AFTER the assessment results are in.

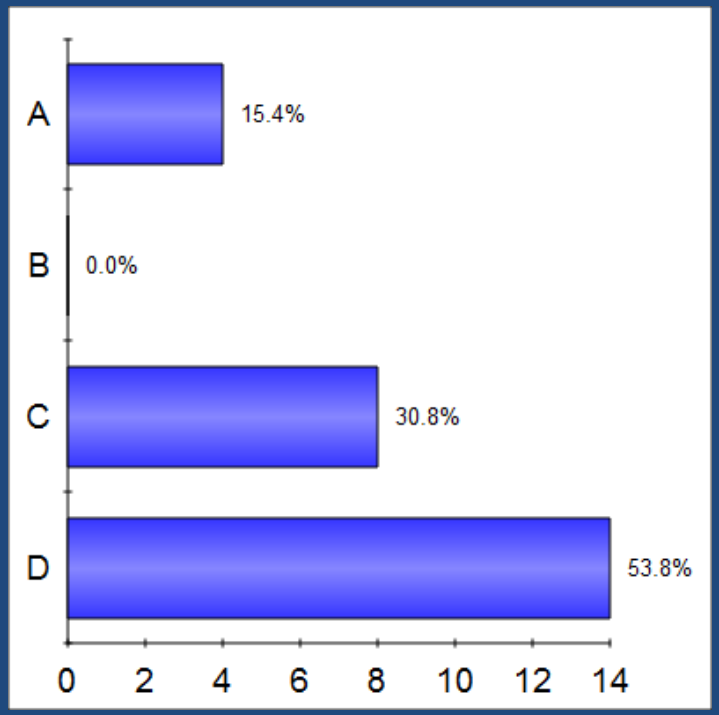
Michelle is having fraternal twins. Which of the following scenarios is most probable?

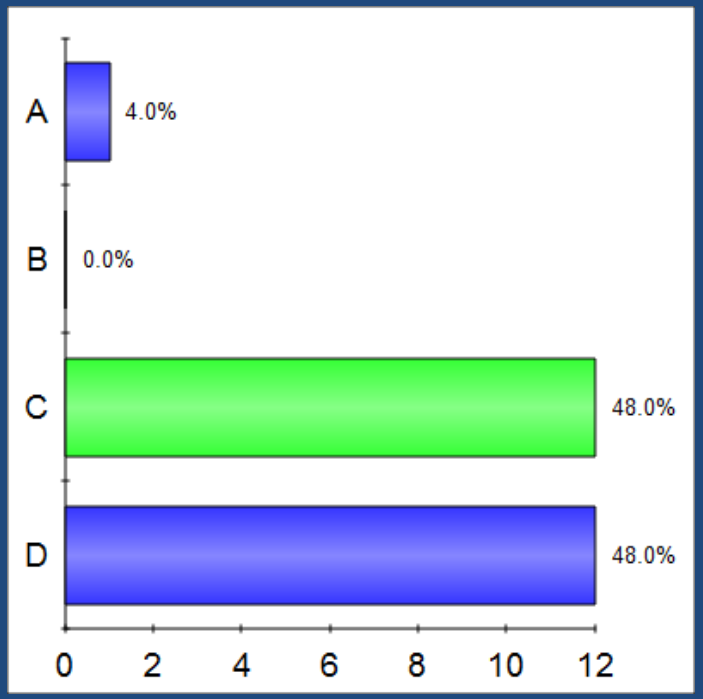
A. Two boys

B. Two girls

C. A boy and a girl

D. All of the above are equally probable





Interactions—with people and knowledge—designed to improve performance

Teachers

- Re-teach
- Group students for peer interaction
- Create support classes– double dipping
- Provide resources
- ??????????????

Students

- Review materials
- Seek help – teacher, tutor, peer
- Seek other resources – internet, alternative materials
- ???????????????

Topics	Quarter 1	Quarter 2	Quarter 3	Quarter 4
1				
2				
3				
4				
5				
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7				
8				
9				
10				
11				
12				
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17				
18				
19				
20				

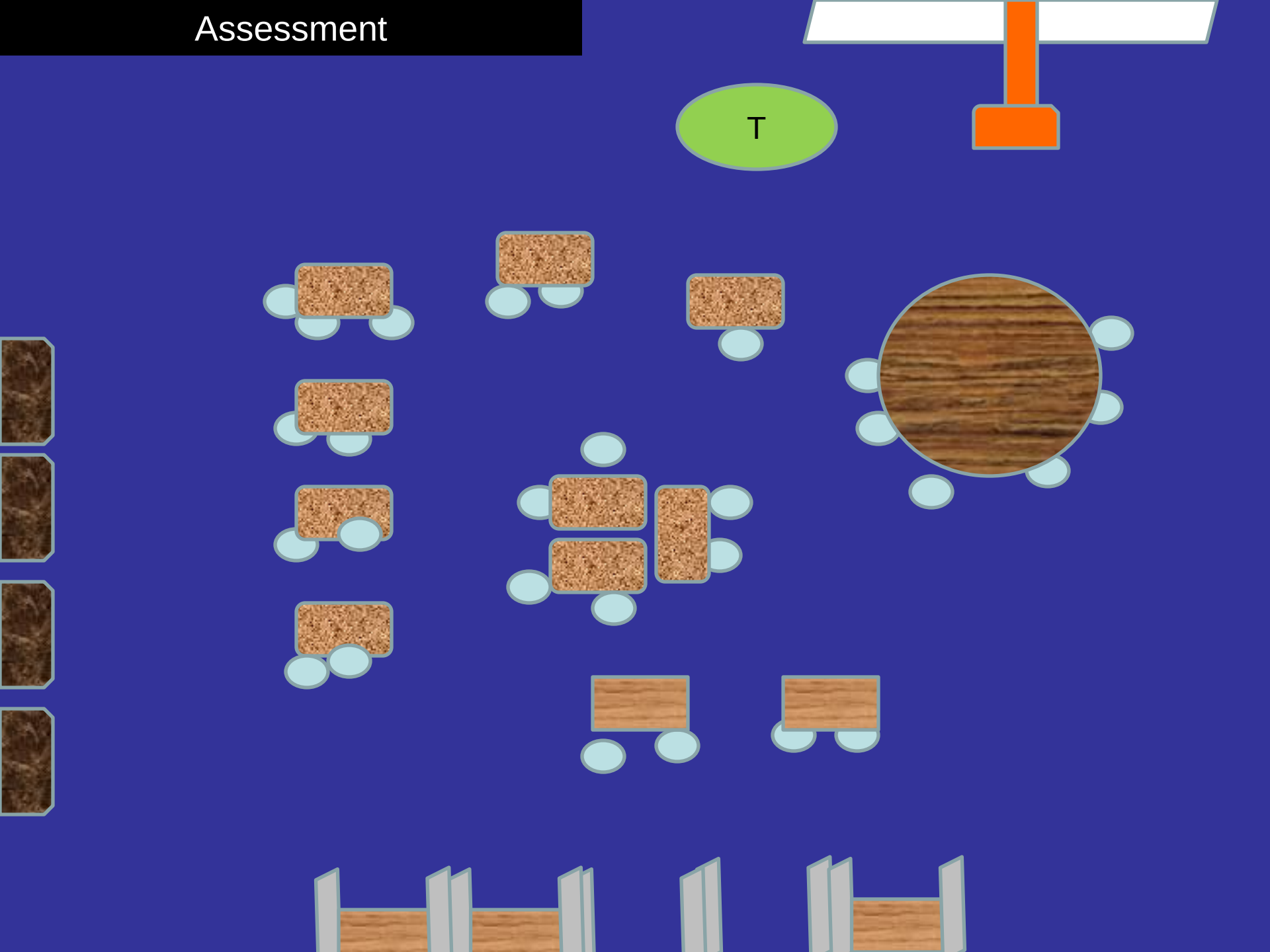
Topics	Quarter 1	Quarter 2	Quarter 3	Quarter 4
1	2.0	3.0	3.0	3.0
2	2.0	2.5	2.5	2.5
3	2.0	2.0	2.0	3.5
4	1.5	2.5	3.0	3.0
5	3.0	3.0	3.0	3.0
6	4.0	4.0	4.0	4.0
7		2.0	2.0	3.0
8		2.0	2.5	2.5
9		2.5	3.0	3.0
10		3.0	3.0	3.0
11	3.0	3.5	3.5	3.5
12			3.0	3.0
13			3.5	3.5
14	3.5		2.0	2.5
15			3.0	3.0
16			3.5	3.5

Monday	Tuesday	Wednesday	Thursday	Friday
Whole Class. →			Learning Lab	Learning Lab

Monday	Tuesday	Wednesday	Thursday	Friday
Whole class →				

Monday	Tuesday	Wednesday	Thursday	Friday
Learning Lab →				Whole Class.

Assessment



Learning Lab (after Assessment)

T

T

T

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Formative assessment and Instructional Feedback

Can classroom technologies
help teachers confront these challenges
of assessment and feedback?

Yes, if we build on our understanding of
effective instruction and assessment strategies.

Interaction Generation

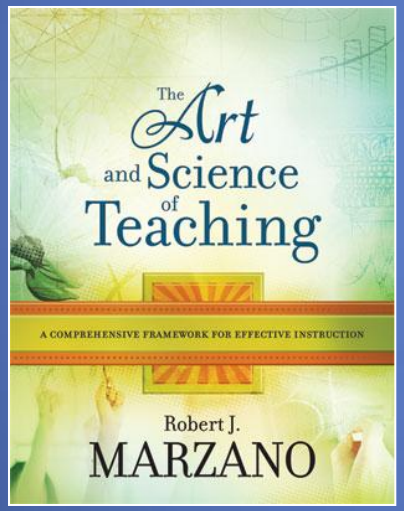
So, we must use classroom technologies….

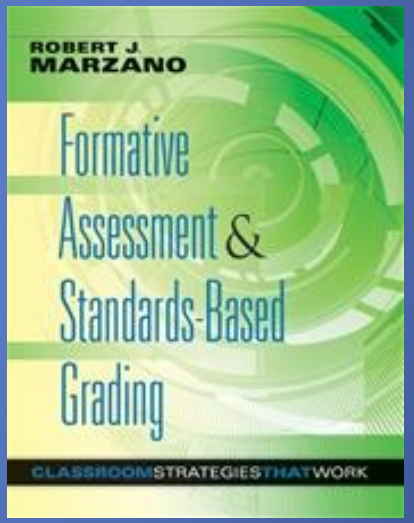
…to <u>enhance and expand</u> students' interactions…

…with knowledge and people

How?

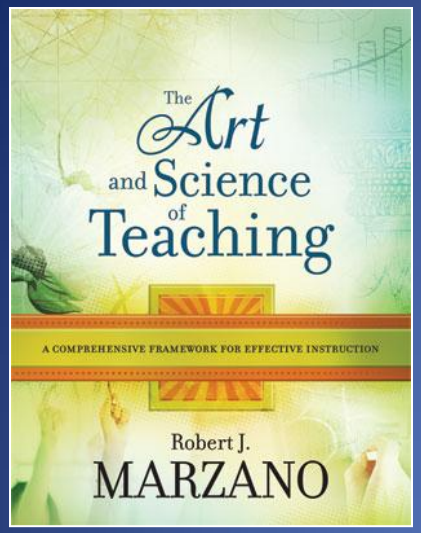
Use what we know NOW
about creating effective interactions…





..and then enhance, and expand on,
what we know

- Formative assessment/feedback
- Student engagement

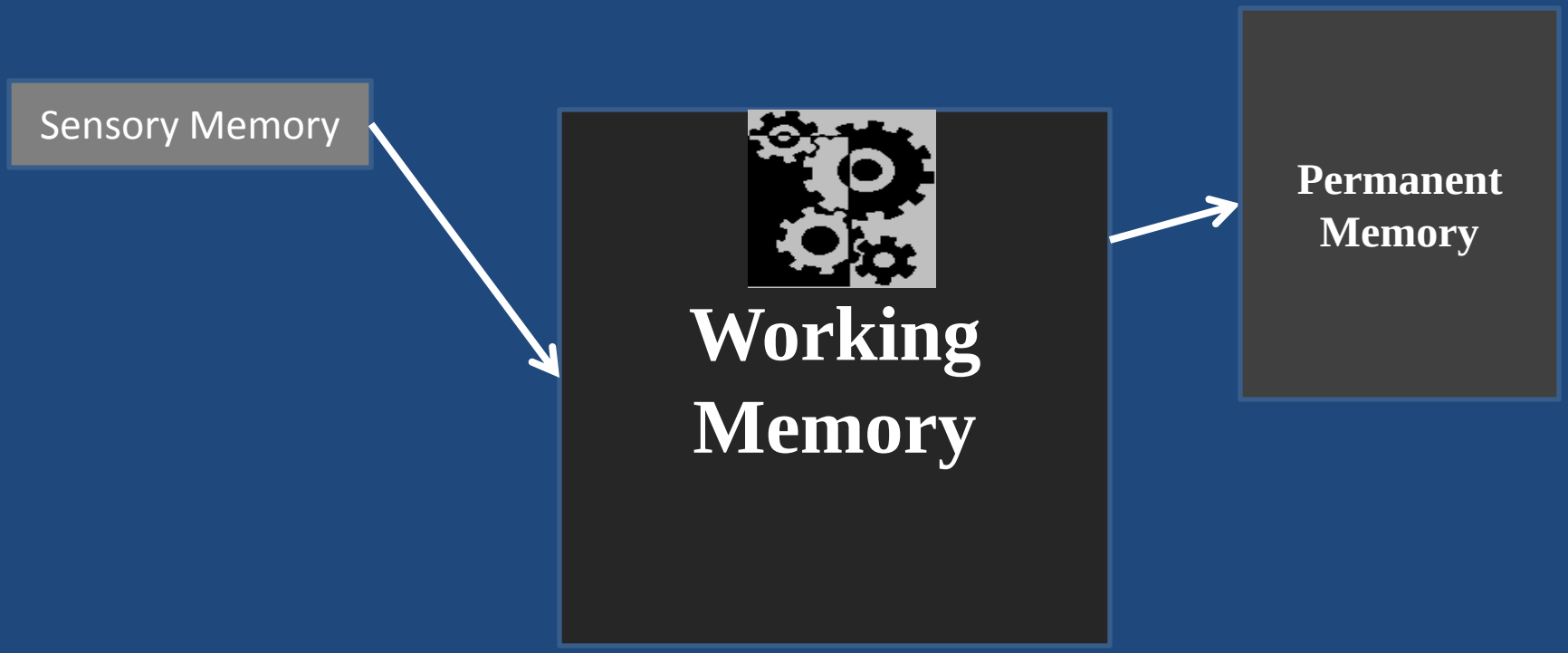


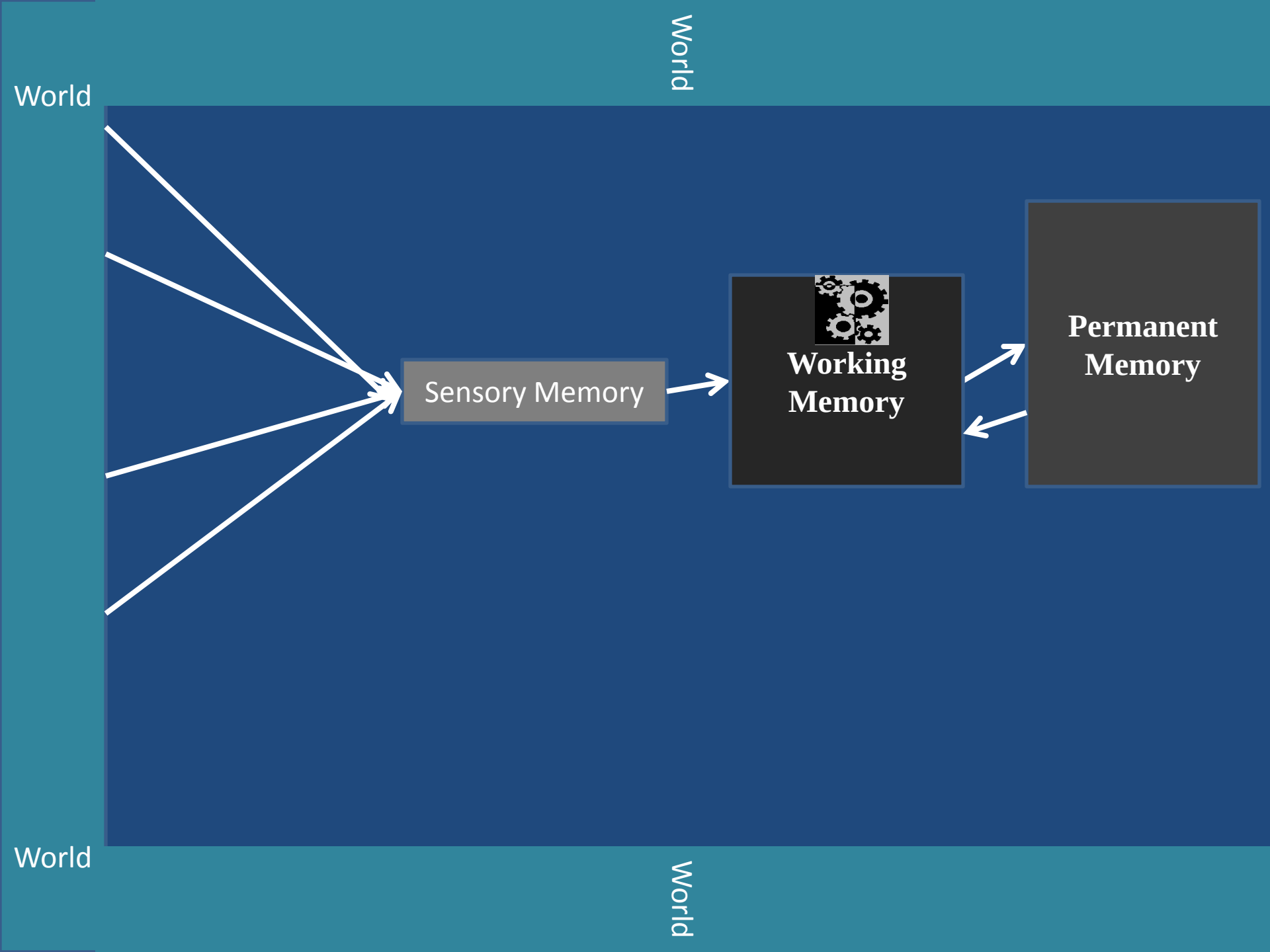
What will I do to help students:

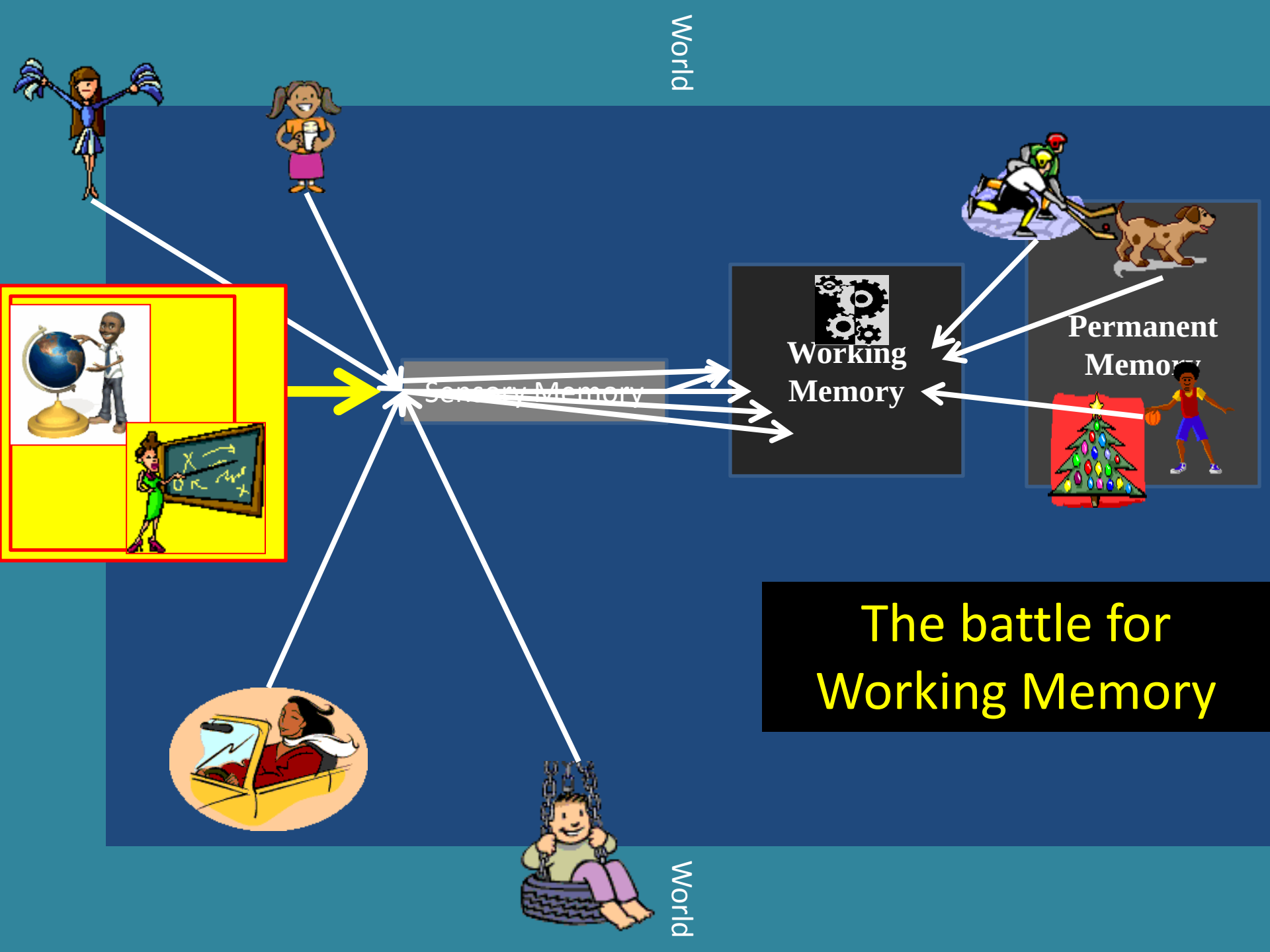
- engage?

Engagement: The challenges

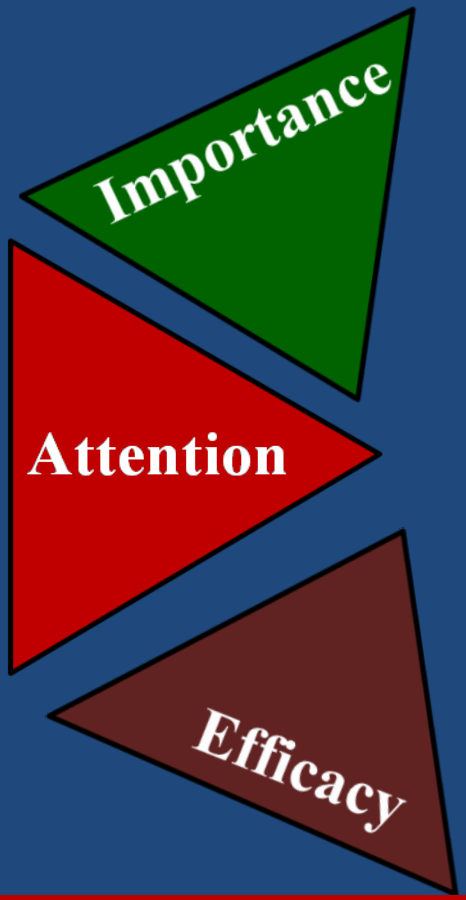
Engagement

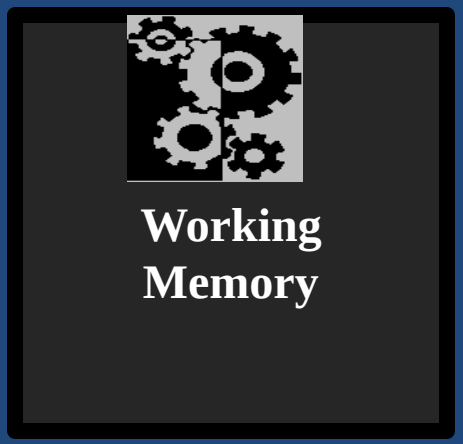



World
World
World
World
Sensory Memory
Working Memory
Permanent Memory


World
Working Memory
Permanent Memory
The battle for Working Memory
World

Engagement= Winning the Battle for Working Memory

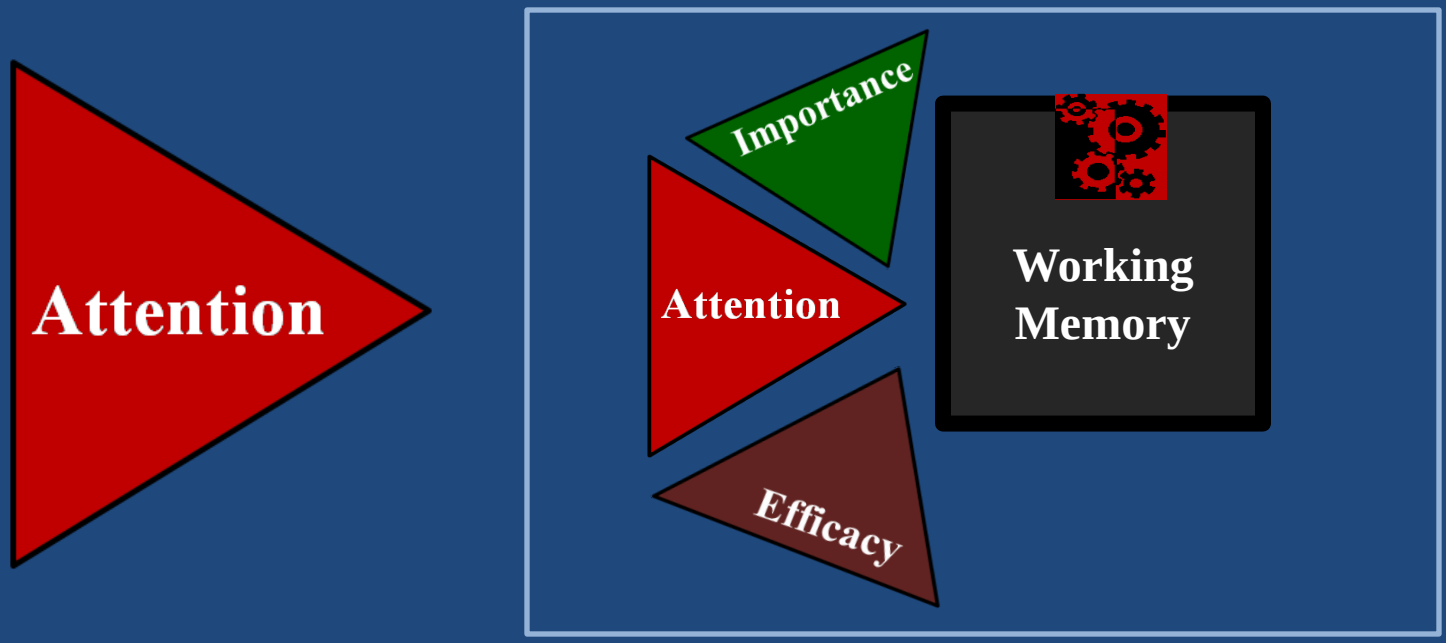




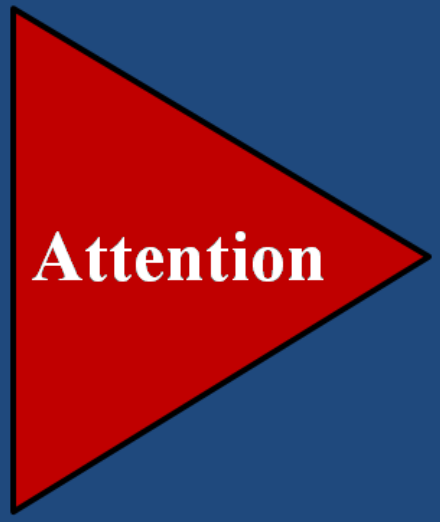
Am I paying attention?

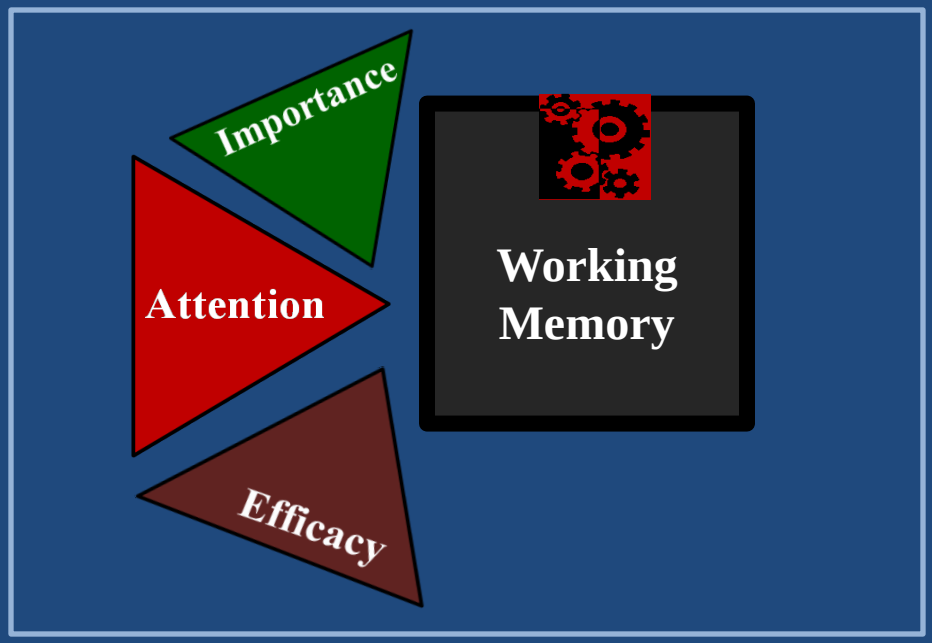
How important is this?

What are the chances I will be successful?



- Attention is the gatekeeper.





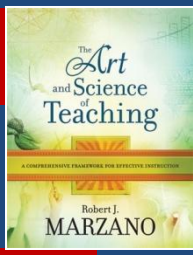
- Attention is the gatekeeper.

- Attention, more than the other two, comes and goes. Teachers are continually monitoring and responding.

So… teachers need a repertoire of easily accessible resources to gain, and sustain, students' attention.

Attention

Gaining--and regaining--student attention



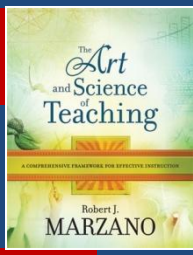
- Games
- Inconsequential competition
- Questions and response rates
- Physical movement
- Pacing
- Intensity and enthusiasm
- Friendly controversy
- Opportunities for students to talk about themselves
- Unusual information

Engagement: The challenges

Can the classroom technologies
help teachers engage students,
specifically gain and sustain their attention?

Attention

Gaining--and regaining--student attention



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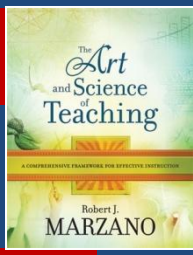
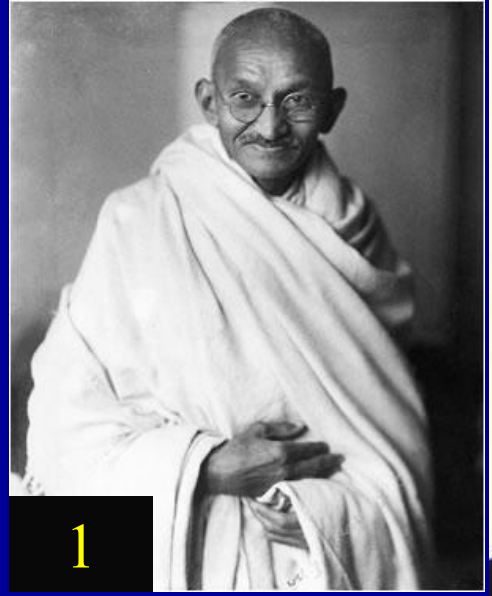


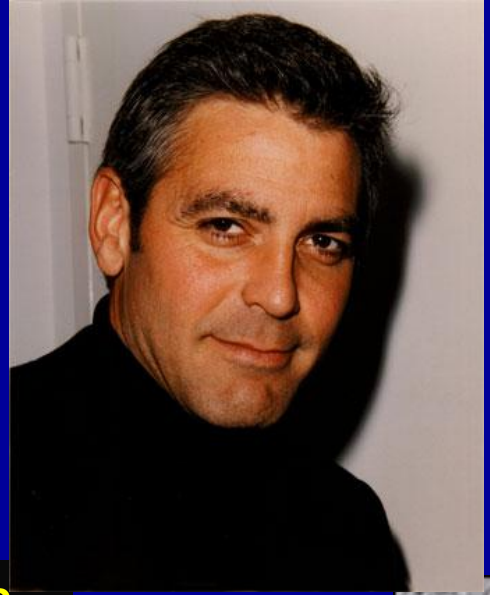
- Games
- Inconsequential competition

Famous people



1

2



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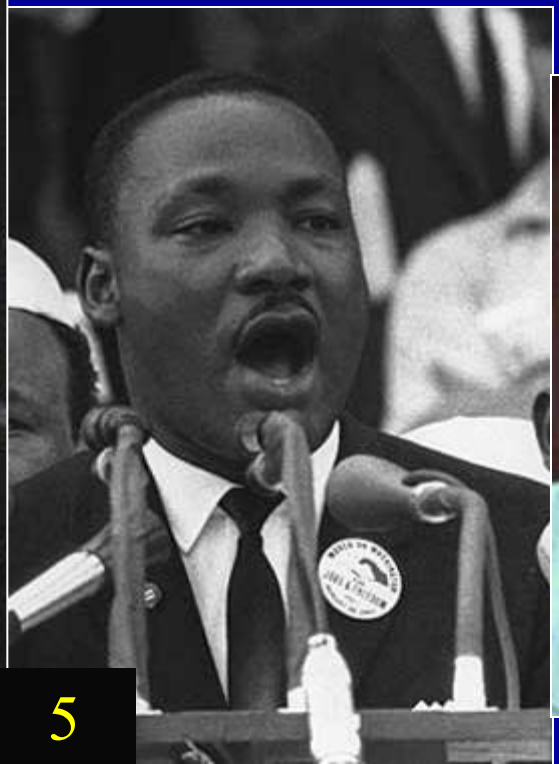

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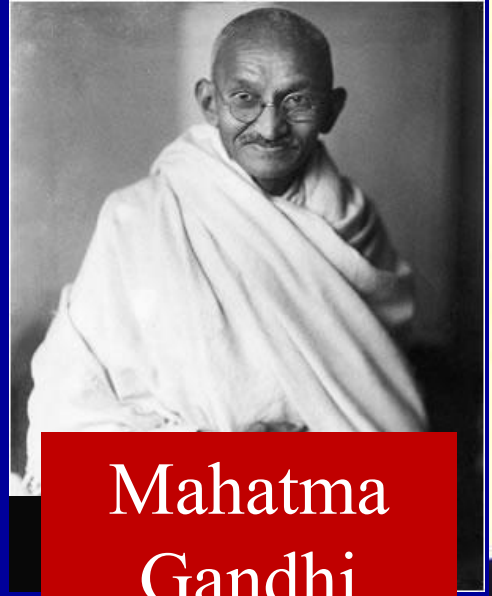
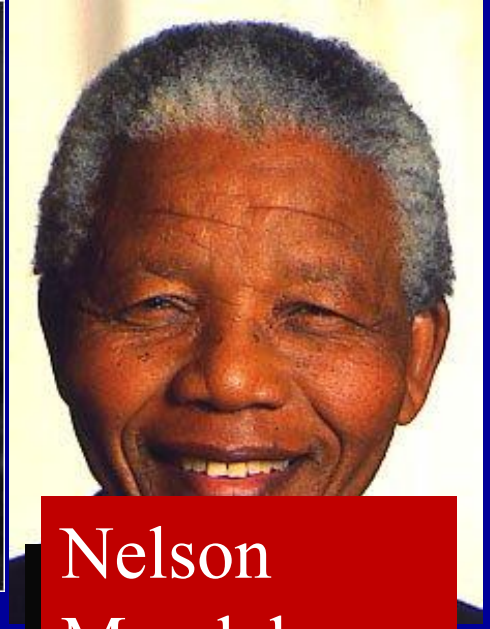
7

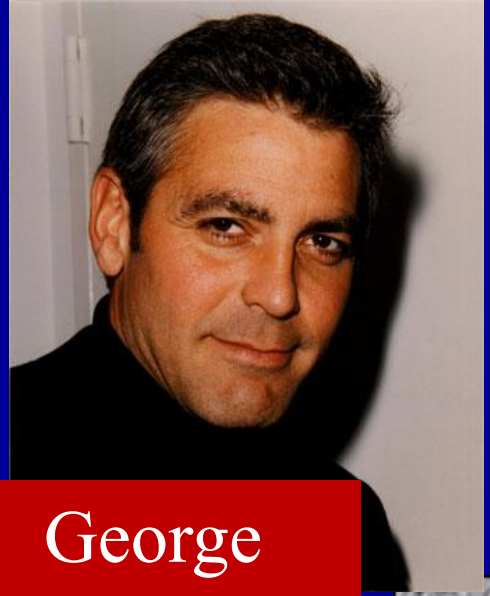
Famous people



Mahatma Gandhi



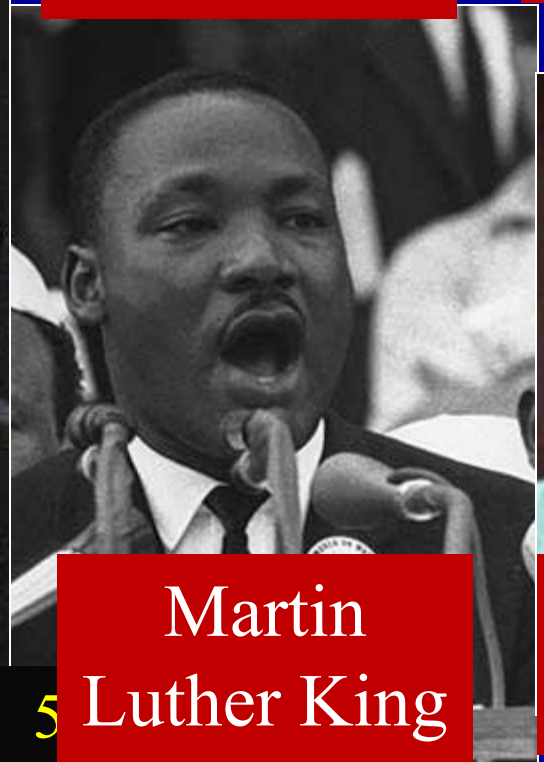
Nelson Mandela



George Clooney

Osama bin Laden

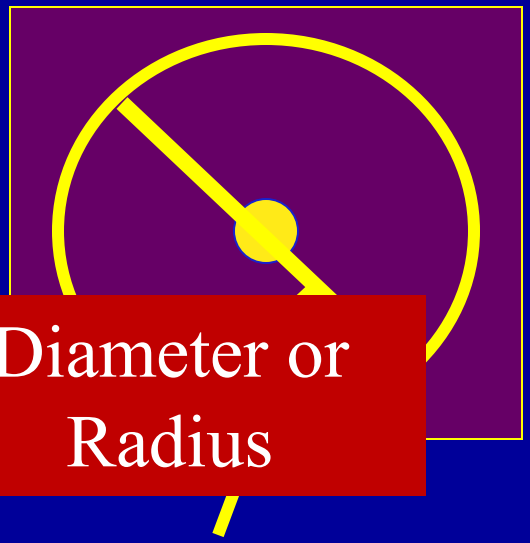
Mother Teresa



Martin Luther King

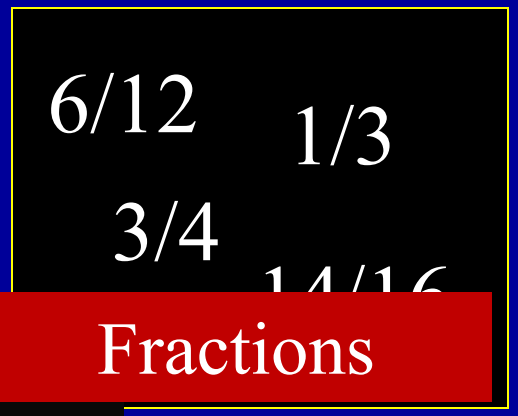
Princess Di

Math Terms

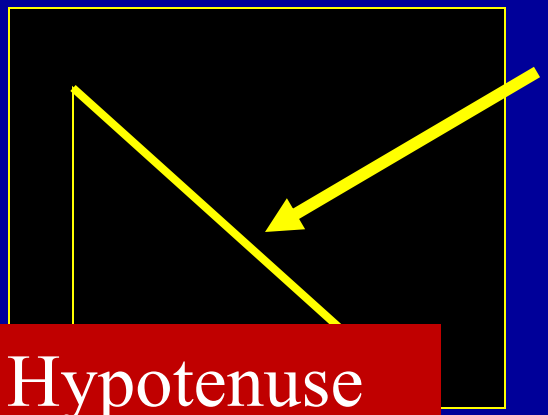


Diameter or Radius

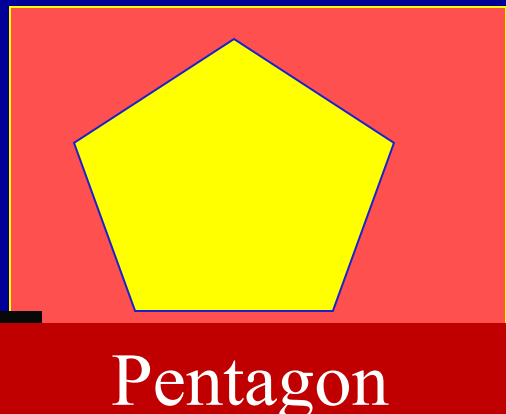
Percent



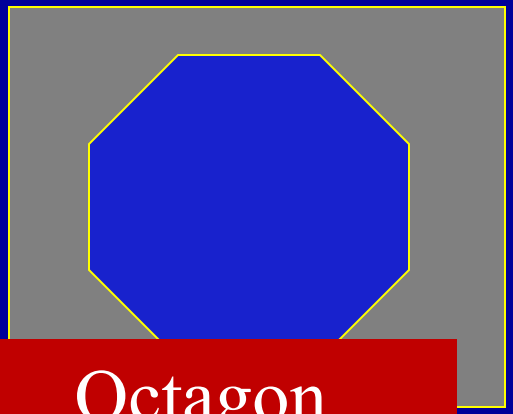
Fractions



Hypotenuse



6 Pentagon

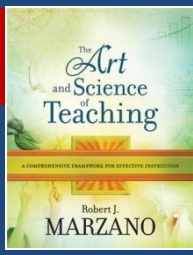


Octagon

7 Pie chart

Attention

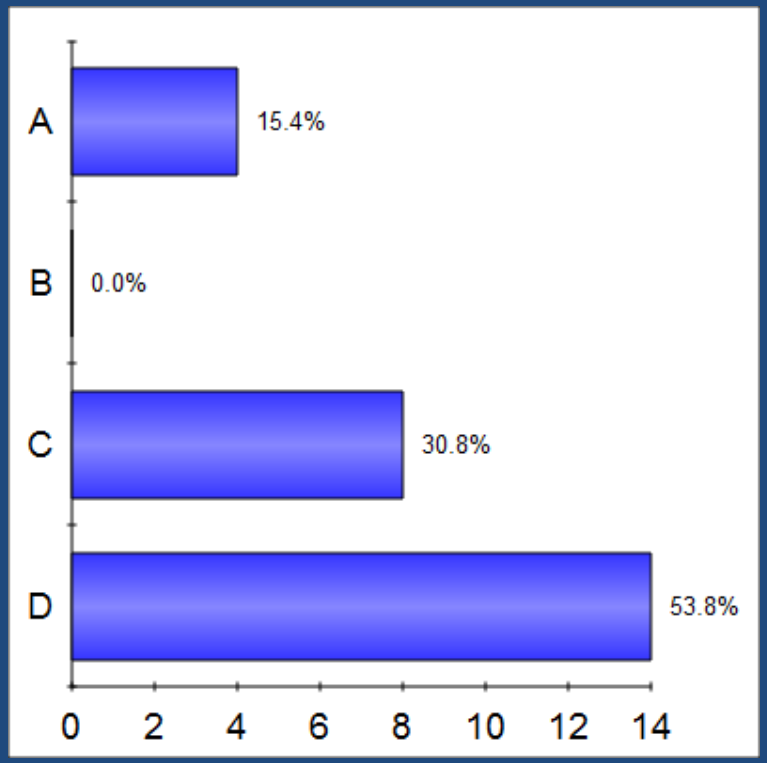
Gaining--and regaining--student attention

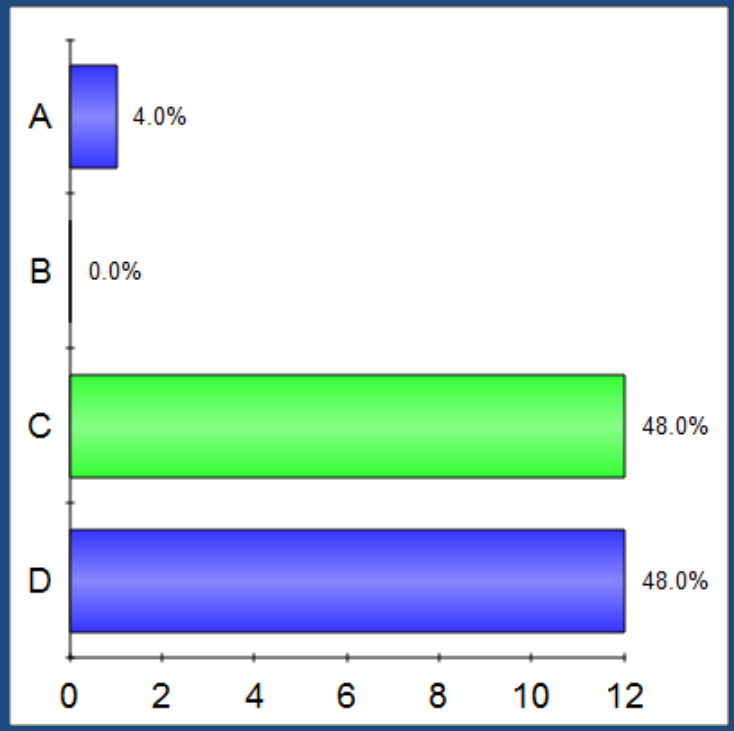


- Questions and response rates

Michelle is having fraternal twins. Which of the following scenarios is most probable?

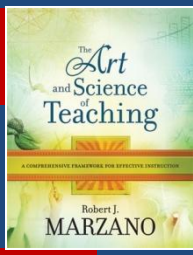
A. Two boys
B. Two girls
C. A boy and a girl
D. All of the above are equally probable





Attention

Gaining--and regaining--student attention



- Friendly controversy

Open-ended Controversy

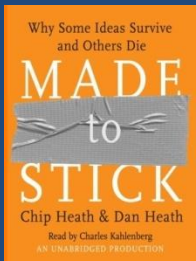
Study: Grades 5-6, Discussion of controversial topic

	Group One : Discussion designed to come to consensus	**Group Two: Discussion designed to end without resolving**
Interest in topic?		★
Study time?		★
Likely to visit library to get additional information?		★
Attendance at film on the topic shown at recess?	**18%**	**45%**

as reported in Made to Stick, pg. 89

Effects of controversy on epistemic curiosity, achievement, and attitudes

Nancy Lowry, David W Johnson; Journal of Social Psychology (1981));Volume: 115 Issue: 1 Pages: 31-43

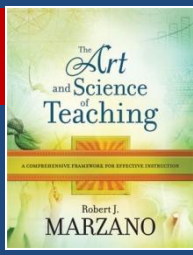


If a Viking and a Samurai had a battle, who would win?

A. Viking B. Samurai

Attention

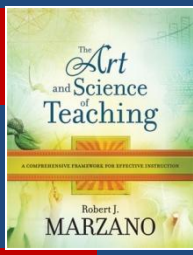
Gaining--and regaining--student attention



- Opportunities for students to personalize learning and talk about themselves

Attention

Gaining--and regaining--student attention



- Unusual information

Unit on National Economic (GNP, National Debit, Deficit, etc.)

Students developing an understanding of:

The government is raising the national debit ceiling to above the previous 12 trillion dollars.

How does a **trillion** compare to a million or a billion?

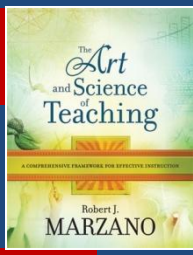
A million seconds is 12 days.

A billion seconds is 31 years.

A trillion seconds is 31, 688 years.

Attention

Gaining--and regaining--student attention



- Games
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Caution

Those things that gain students' attention,
do not necessarily sustain students' attention.

Engagement: The challenges

Can the classroom technologies
help teachers engage students,
specifically gain and sustain their attention?

Yes, if we build on our understanding of
effective instruction and assessment strategies.

Reflect and Discuss

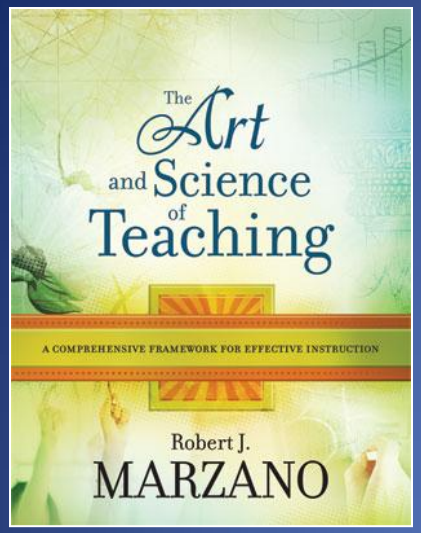
1. To what extent do you believe that **engagement** can be significantly enhanced with classroom technology?

1	2	3	4
Not yet			Absolutely

Why do you believe this?

What have you heard that makes sense or validates what you knew?
What concerns do you have?

- Formative assessment/feedback
- Student engagement
- Focusing students on learning goals



What will I do to help students:

- communicate clear and essential learning goals?

Learning Goals

What we know

Learning Goals are clear statements of what students are learning, separate from what they will do to demonstrate that learning.

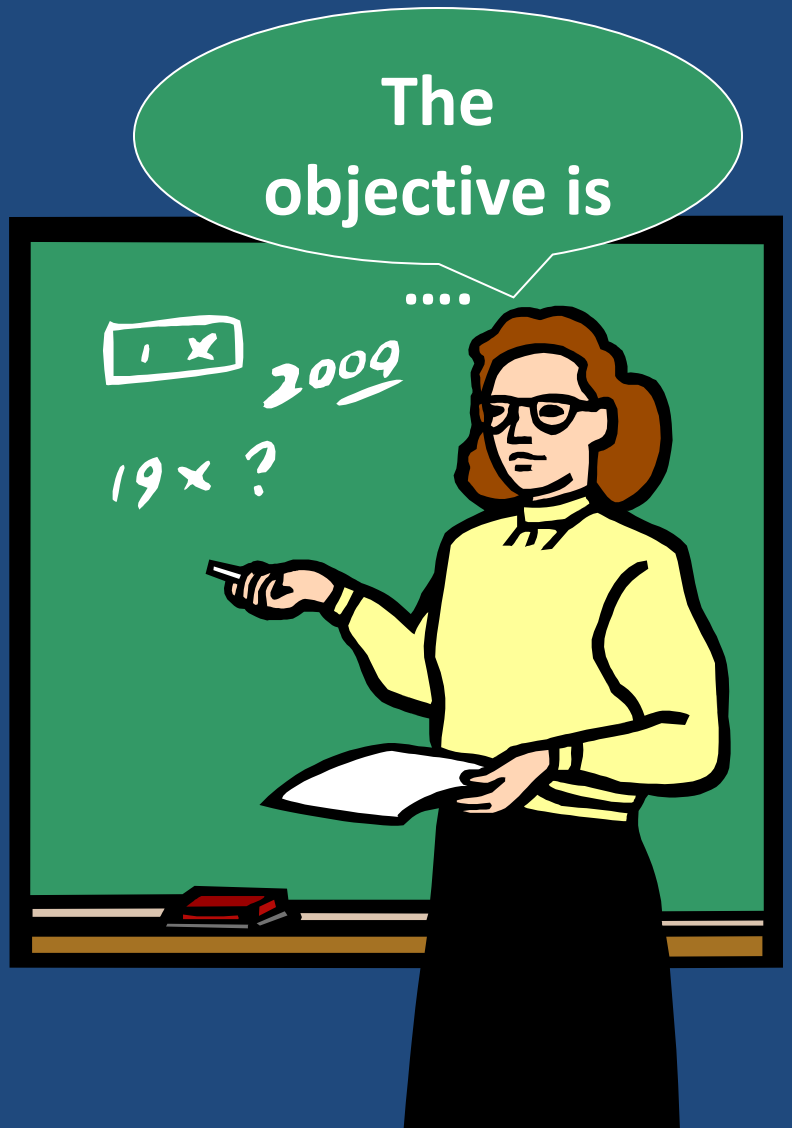
Learning Goals: The challenges

Focusing, and REFOCUSING, students on clear Learning Goals.

Teaching IMPORTANT Learning Goals

Making sure the Activities SERVE the Learning Goals well.

Learning Goals



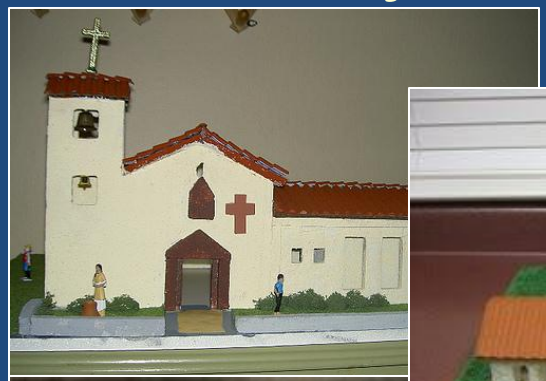
Learning Goals

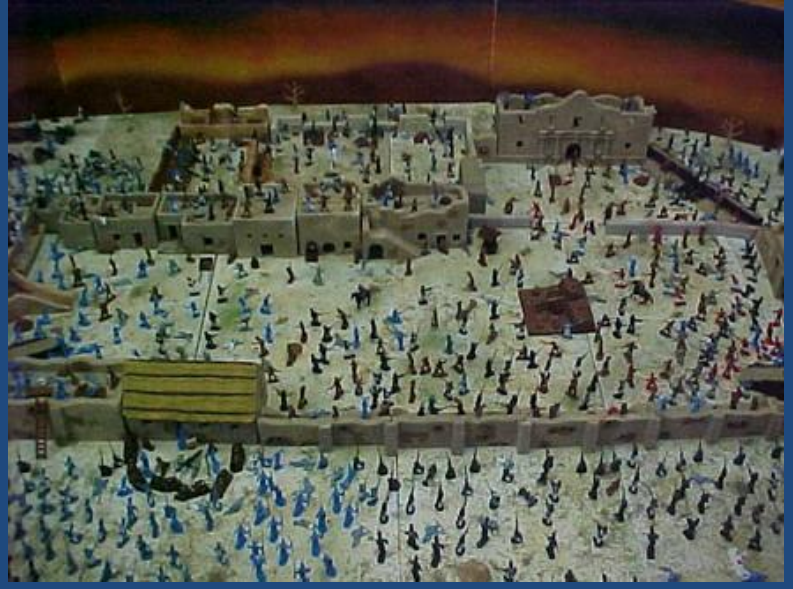
Which are the Learning Goals? Which are Activities/Assignments?

Students will :

- *Add and subtract fractions*
- *Understand that primary sources provide unique insights into history*
- *On a blank map of the United States, label each state*
- *Identify similarities and differences between themselves and Emily Dickinson*
- *Create a simple machine*
- *Know the major types of volcanoes*
- *Create a travel brochure*

Mission Project





The Alamo Project

The Leaf Project

School Project California Mission Kit San Juan Bautist

Item numbe

Buyer or seller of this item? Sign in for your status

Watch this

View larger picture

Buy It Now price: **US $17.99** Buy It Now >

Shipping costs: **US $5.00**
US Postal Service Parcel Post®
Service to United States

Ships to: United States

Item location: Los Angeles, California, United States

Quantity: 12 available

History: Purchases

You can also: Watch This Item

Solar System Kit
Handy kit contains materials and instructions to build a scale model solar system (glue and paint not included).

Buy the Costume WITH the book.

Better than a Shoe Box!
Genuine Stryofoam.
Easy to Assemble

Learning Goals:
The Challenges

Can the classroom technologies help teachers…

Focusing, and REFOCUSING, students on clear Learning Goals?

Teaching IMPORTANT Learning Goals?

Making sure the Activities SERVE the Learning Goals?

Caution

The danger of WOW

“I can link directly to a Web site on this topic…”

“We are embedding each of these videos right in the lesson slides…”

“The class was Skyping today with…”

“Look at this graphic…”

“10 things you can do with Twitter in the classroom…”

Learning Goals:
The Challenges

Can the classroom technologies
help teachers…

- Focusing, and REFOCUSING, students on clear Learning Goals?

History

Primary Sources & Immigration

Historical Record

Primary Sources

Secondary Sources

Ellis Island

In 1907, its peak year, Ellis Island processed over 1.2 million immigrants. By 1924, over 16 million immigrants had entered the US here - 71 percent of all those arriving in total. By 1954, when it closed for good, more than 40 million immigrants had passed through its gates. Today, 100 million Americans - roughly 40 percent of the population - can trace their roots through ancestors who came through this 27 1/2 acre island.

Photographs

What do these pictures tell you about the journey to America?

Artifacts

This wool petticoat was owned by Maren Oleson. It was worn when she made the trip from Denmark to the United States in 1917. The skirt was made from the wool of sheep raised on the family farm. The wool was carded, dyed and woven into fabric by Marin's mother to keep her daughter warm on the long voyage to America.

Grout Museum
http://www.campsilos.org/excursions/grout/one/act7.htm

Makeover…
With clearly communicated learning goals

Students will increase their understanding of the following:

Primary sources are important because they

- provide insights into the views and experiences of people
- without showing them through the lens of later events.

Newspaper

J. H. JOHNSON, Song Publisher, 7 N. Tenth St., Philadelphia.

NO IRISH NEED APPLY.

Written and sung by Miss KATHLEEN O'NEIL.

WANTED.—A smart active girl to do the general housework of a large family, one who can cook, clean plates, and get up fine linen, preferred.
N. B.—No Irish need apply. *London Times Newspaper, Feb.* 1862.

I'm a simple Irish girl, and I'm looking for a place,
I've felt the grip of poverty, but sure that's no disgrace,
'Twill be long before I get one, tho' indeed it's hard I try,
For I read in each advertisement, "No Irish need apply."
Alas! for my poor country, which I never will deny,
How they insult us when they write, "No Irish need apply."

Now I wonder what's the reason that the fortune-favored few,
Should throw on us that dirty slur, and treat us as they do,
Sure they all know Paddy's heart is warm, and willing is his hand,
They rule us, yet we may not earn a living in their land,
O, to their sister country, how can they bread deny,
By sending forth this cruel line, "No Irish need apply."

Sure I did not do the like when they anchor'd on our shore,
For Irish hospitality there's no need to deplore,
And every door is open to the weary stranger still,
Pat would give his last Potato, yes, and give it with a will,
Nor whisky, which he prizes so, in any case deny,
Then wherefore do they always write, "No Irish need apply."

Now what have they against us, sure the world knows Paddy's brave,
For he's helped to fight their battles, both on land and on the wave,
At the storming of Sebastopol, and beneath an Indian sky,
Pat raised his head, for their General said, "All Irish might apply."
Do you mind Lieutenant Massy, when he raised the battle cry?
Then are they not ashamed to write, "No Irish need apply?"

Then they can't deny us genius, with "Sheridan"—"Tom Moore?"
The late lamented "Catharine Hays," and Sam Lover to the fore,—
Altho' they may laugh at our "Bulls," they cannot but admit,
That Pat is always sensible and has a ready wit,—
And if they ask for Beauty, what can beat their nice black eye?
Then is it not a shame to write, "No Irish need apply?"

Och! the French must loudly crow to find we're slighted thus,
For they can ne'er forget the blow that was dealt by one of us,
If the Iron Duke of Wellington had never drawn his sword,
They might have had "Napoleon Sauce" with their beef, upon my word,
They think now of their hero, dead; his name will never die,
Where will they get another such if "No Irish need apply."

Ah! but now I'm in the land of the "Glorious and Free,"
And proud I am to own it, a country dear to me,
I can see by your kind faces, that you will not deny,
A place in your hearts for Kathleen, where "All Irish may apply."
Then long may the Union flourish, and ever may it be,
A pattern to the world, and the "Home of Liberty!"

J. H. JOHNSON, Stationer & Printer, 7 N. 10th St., Phila.

Artifacts

This wool petticoat was owned by Maren Oleson. It was worn when she made the trip from Denmark to the United States in 1917. The skirt was made from the wool of sheep raised on the family farm. The wool was carded, dyed and woven into fabric by Marin's mother to keep her daughter warm on the long voyage to America.

Grout Museum
http://www.campsilos.org/excursions/grout/one/act
htm

Students will increase their understanding of the following:

Primary sources are important because they

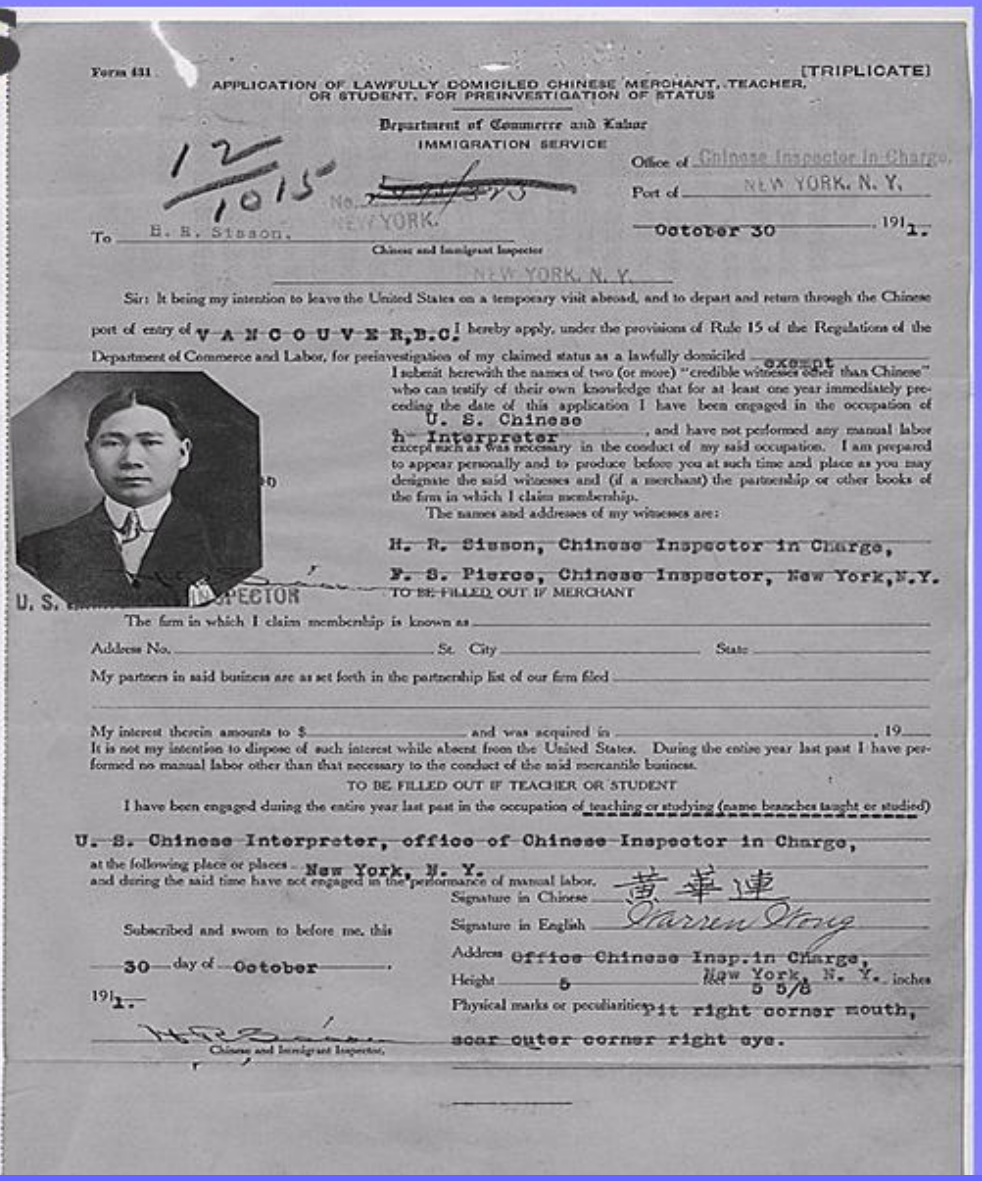
- provide insights into the views and experiences of people
- without showing them through the lens of later events.

Documents

What can we learn from this document?

What was its purpose?

How were the Chinese immigrants viewed by American Citizens?



Form 431 [TRIPLICATE]

APPLICATION OF LAWFULLY DOMICILED CHINESE MERCHANT, TEACHER, OR STUDENT, FOR PREINVESTIGATION OF STATUS

Department of Commerce and Labor
IMMIGRATION SERVICE

12/1015

No. [illegible]
NEW YORK.

Office of Chinese Inspector in Charge.
Port of NEW YORK, N. Y.
October 30, 1911.

To H. R. Sisson,
Chinese and Immigrant Inspector
NEW YORK, N. Y.

Sir: It being my intention to leave the United States on a temporary visit abroad, and to depart and return through the Chinese port of entry of VANCOUVER,B.C. I hereby apply, under the provisions of Rule 15 of the Regulations of the Department of Commerce and Labor, for preinvestigation of my claimed status as a lawfully domiciled exempt

I submit herewith the names of two (or more) "credible witnesses other than Chinese" who can testify of their own knowledge that for at least one year immediately preceding the date of this application I have been engaged in the occupation of U. S. Chinese Interpreter, and have not performed any manual labor except such as was necessary in the conduct of my said occupation. I am prepared to appear personally and to produce before you at such time and place as you may designate the said witnesses and (if a merchant) the partnership or other books of the firm in which I claim membership.

The names and addresses of my witnesses are:

H. R. Sisson, Chinese Inspector in Charge,
F. S. Pierce, Chinese Inspector, New York, N.Y.

U. S. [illegible] INSPECTOR

TO BE FILLED OUT IF MERCHANT

The firm in which I claim membership is known as _____

Address No. _____ St. _____ City _____ State _____

My partners in said business are as set forth in the partnership list of our firm filed _____

My interest therein amounts to $_____ and was acquired in _____, 19__.
It is not my intention to dispose of such interest while absent from the United States. During the entire year last past I have performed no manual labor other than that necessary to the conduct of the said mercantile business.

TO BE FILLED OUT IF TEACHER OR STUDENT

I have been engaged during the entire year last past in the occupation of teaching or studying (name branches taught or studied)
U. S. Chinese Interpreter, office of Chinese Inspector in Charge,
at the following place or places New York, N. Y.
and during the said time have not engaged in the performance of manual labor.

Signature in Chinese 黃華連
Signature in English Warren Stong
Address Office Chinese Insp. in Charge, New York, N. Y.
Height 5 5 5/8 inches
Physical marks or peculiarities pit right corner mouth, scar outer corner right eye.

Subscribed and sworn to before me, this 30 day of October, 1911.

H. R. Sisson
Chinese and Immigrant Inspector.

Learning Goals:
The Challenges

Can the classroom technologies
help teachers…

Focusing, and REFOCUSING, students on clear Learning Goal?

Teaching IMPORTANT Learning Goals?

Making sure the Activities SERVE the Learning Goals?

What’s the Learning Goal?

Learning Goals:
The Challenges

Can the classroom technologies
help teachers with these challenges?

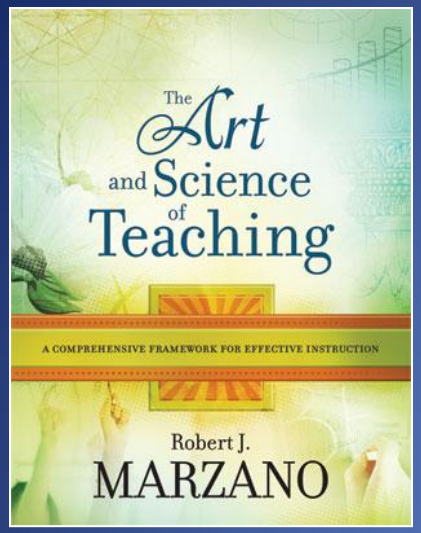
Yes, if we build on our understanding of
effective instruction and assessment strategies.

Reflect and Discuss

As you begin to think more about the importance of using technologies to focus students on learning goals,

- What makes sense to you?
- What concerns do you have?
- What recommendations would you make to schools—regarding the focus on learning goals-- that are increasing their use of technologies in the classroom?

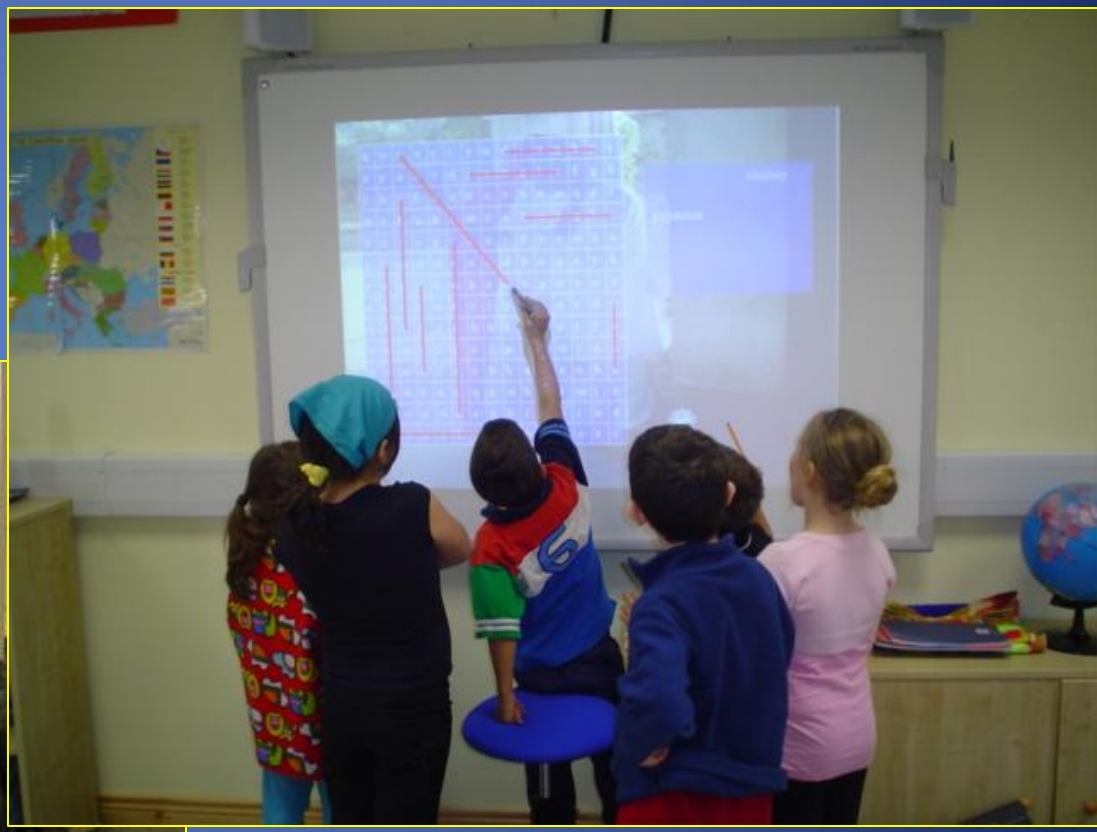
- Formative assessment/feedback
- Student engagement
- Focusing students on learning goals
- Interacting with knowledge



What will I do to help students:

- Interact with new knowledge?

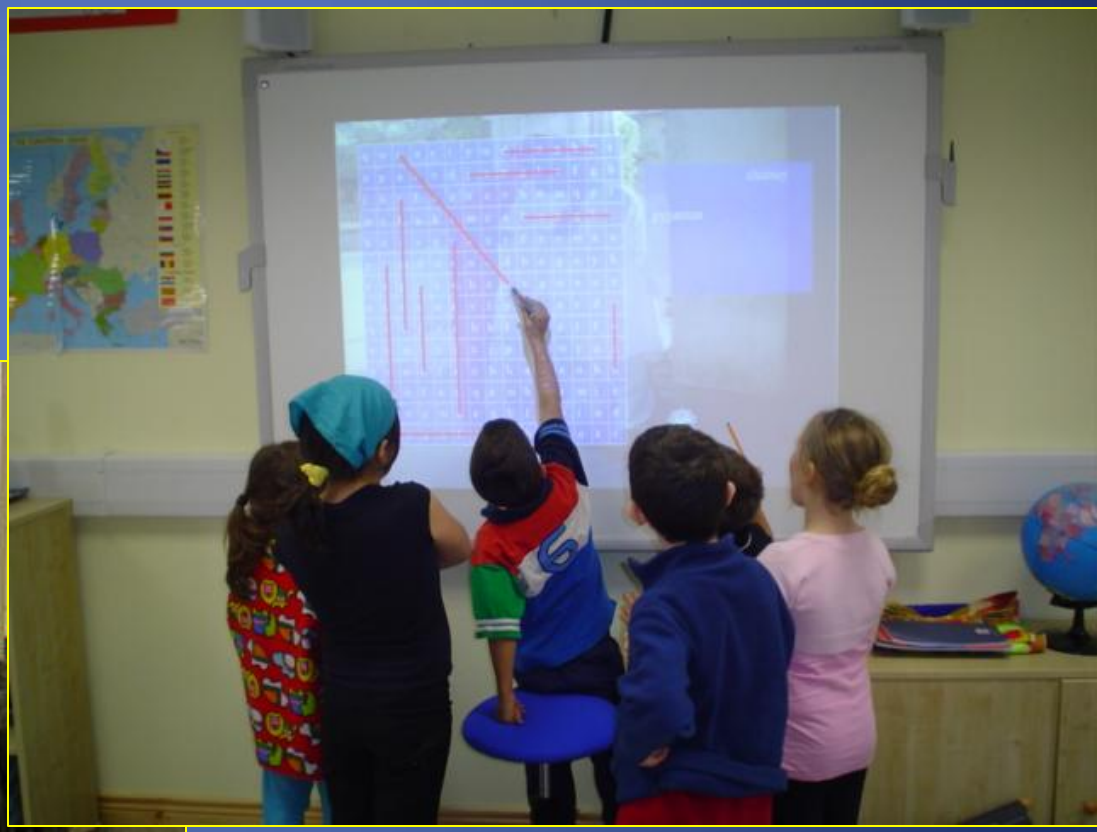

look




short "a"

Interacting with new knowledge: The Challenges?

Physical Interaction



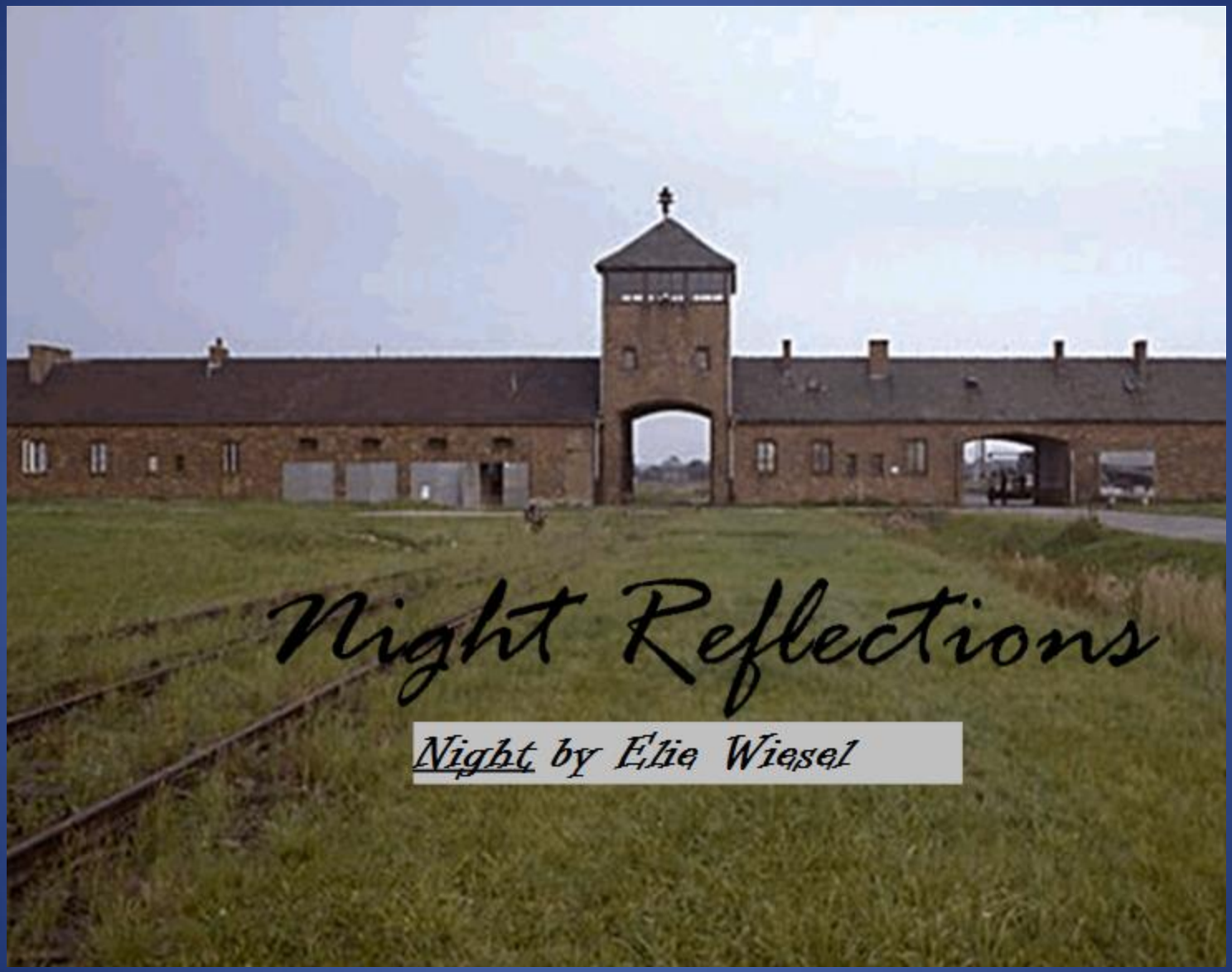
Interacting with new knowledge: The Challenges?

Cognitive Interaction

Interacting with new knowledge: The Challenges

Can the classroom technologies
help teachers interact with new knowledge?

Caution


Night Reflections
Night by Elie Wiesel

What is the Learning Goal?

Test questions on
Night
Elie Wiesel

Wiesel uses eyes to characteriz
Moche the Beadle is first intro
described as ...

A dreamy

C burning

B joyless

D those of a corpse

Moche returns to Sighet and claims that the Jews were forced to dig their own graves before being murdered. Why doesn't anyone believe him?

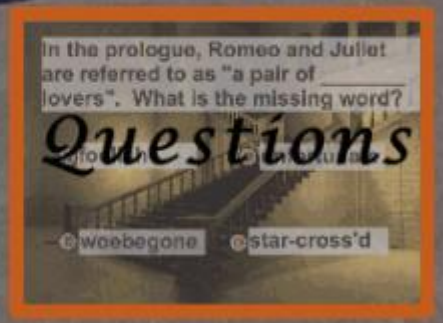
A The townspeople are too busy to listen

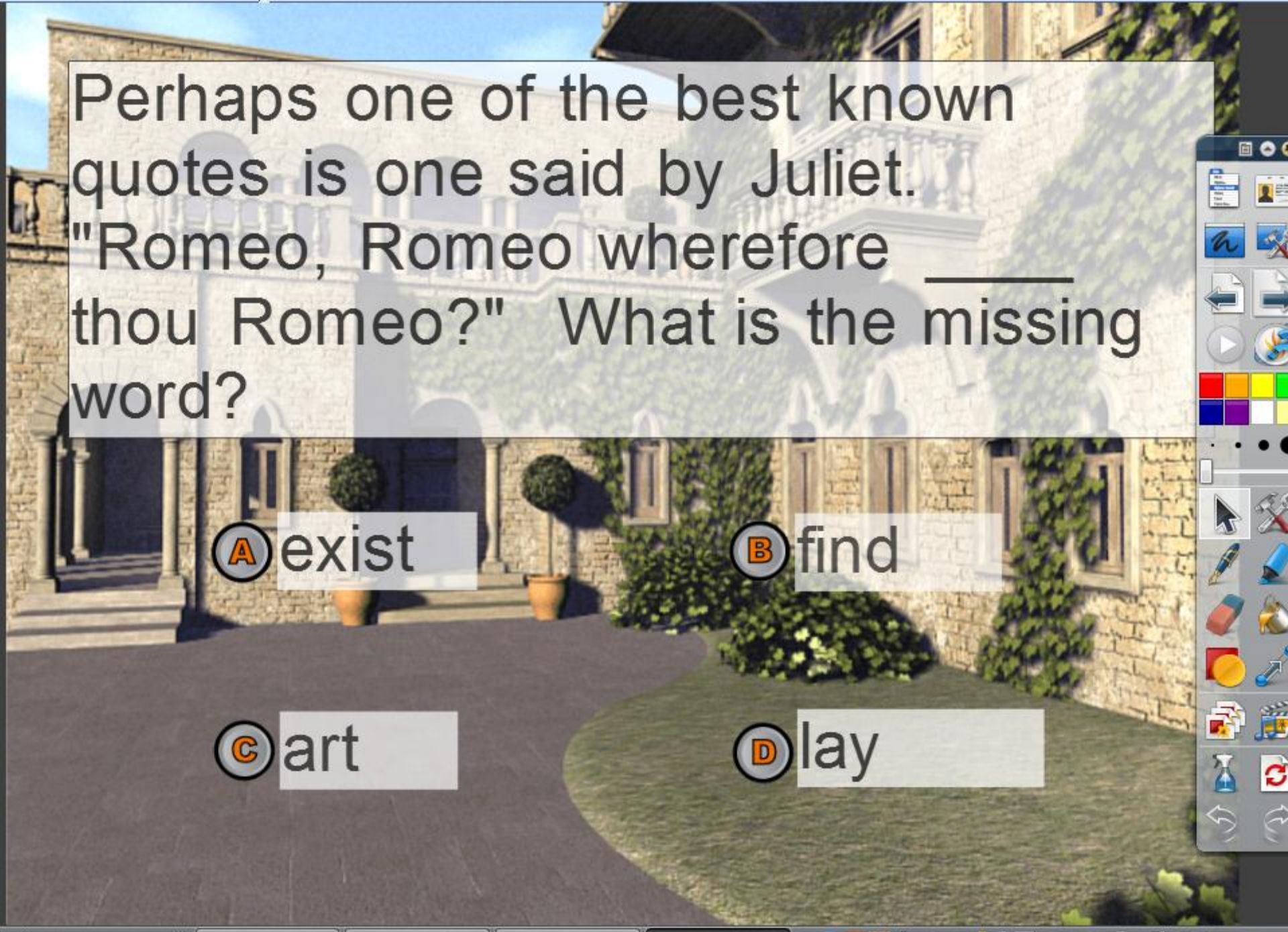
C The Germans have always treated the townspeople with respect

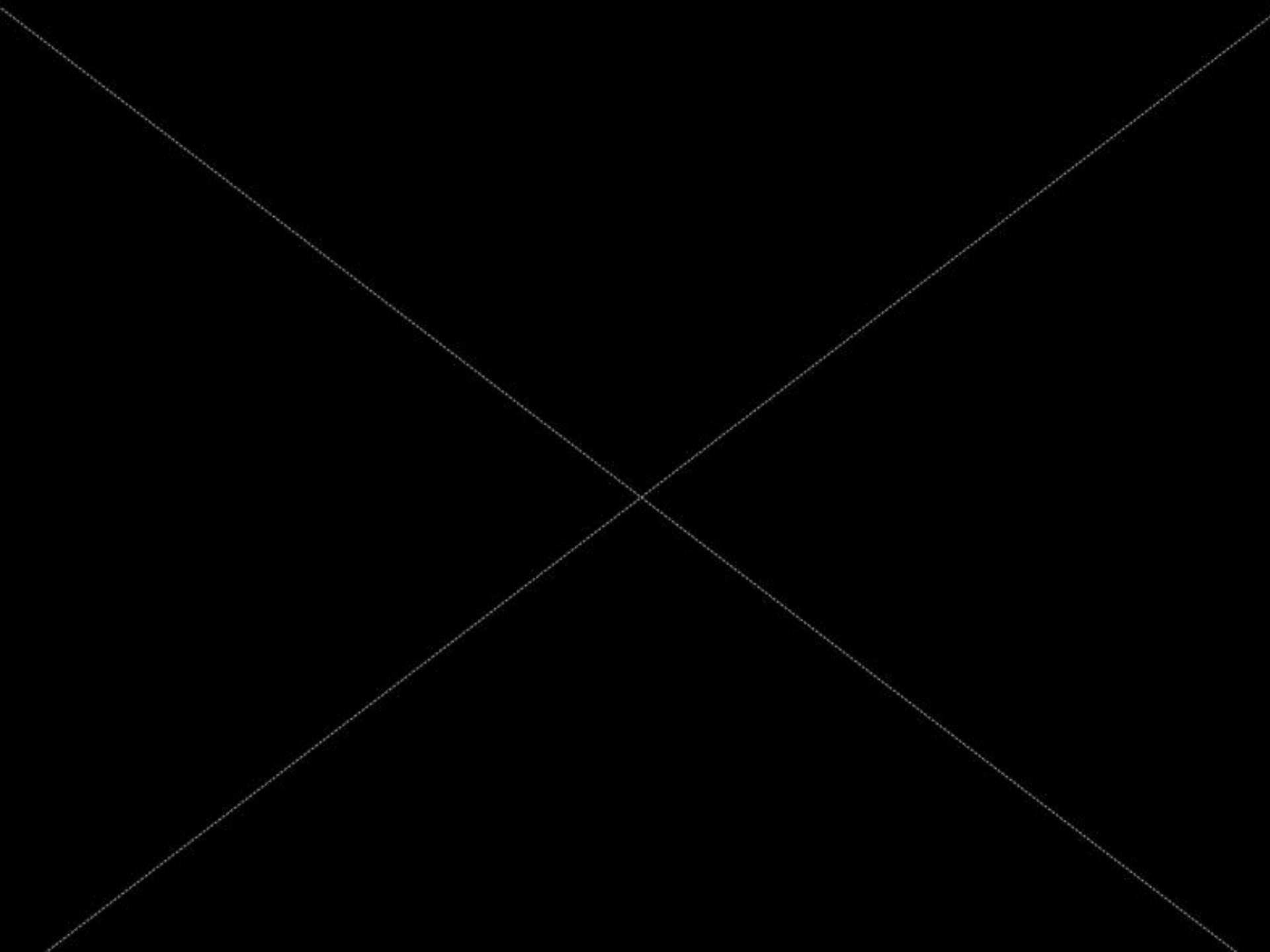
B The rabbis tell the townspeople that he's lying

D The townspeople think that he is crazy

Romeo and Juliet Activities



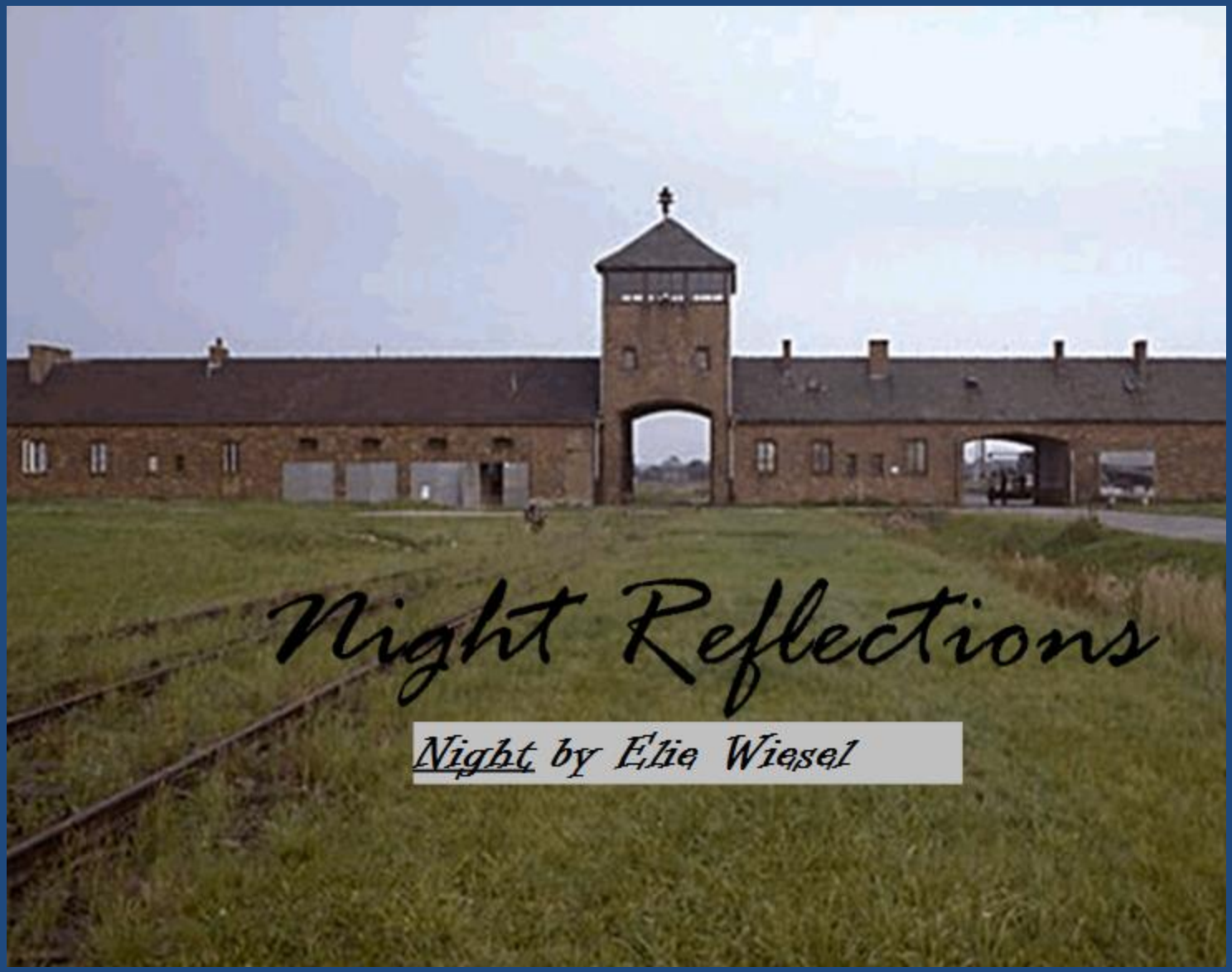

Perhaps one of the best known quotes is one said by Juliet. "Romeo, Romeo wherefore _____ thou Romeo?" What is the missing word?
A exist
B find
C art
D lay



Interacting with new knowledge: The Challenges

Can the classroom technologies help teachers interact with new knowledge?

Yes


Night Reflections
Night by Elie Wiesel

Excerpt from **Night** by Elie Wiesel

"The yellow star? Oh well, what of it? You don't die of it..." Poor father! Of what then did you die? pg. 21

Students come to the IWB and record their reactions.

Could an asteroid crashing into Earth wipe out the human race?

A. Yes
B. I think so
C. I don’t think so
D. No way

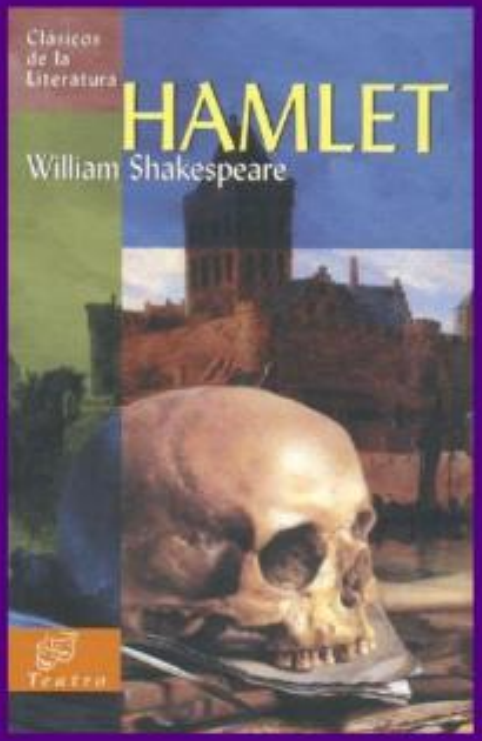
Let’s Make a Deal

There is a car behind one of three doors; there is a goat behind each of the other two. The game show host (Monty Hall) invites you to pick a door. Once you've picked a door, Monty opens one of the OTHER two doors to show you there is a goat behind that one.

Let's Make a Deal

So far, so good. Now he gives you a choice. Before he opens the next door, you can keep your original guess or change your guess.
Which is the wisest course of action?

A. Keep your original guess– odds are better
B. Change your guess– odds are better
C. It does not matter; your odds are the same either way

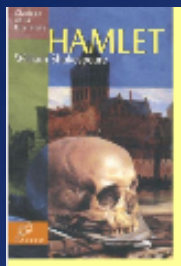


Learning goal:
Students will increase their understanding of the following:

One reason that pieces of literature are considered “classics” is that they have a <u>universal message.</u>

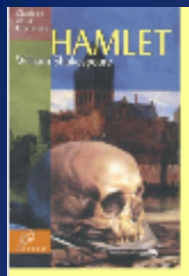
Polonious to his son, Laertes-- Universal message?

Give thy thoughts no tongue, Nor any unproportion'd thought his act.



<u>Polonious to his son, Laertes</u>-- Universal message?

Beware of entrance to a quarrel; but being in, Bear't that they opposed may beware of thee.

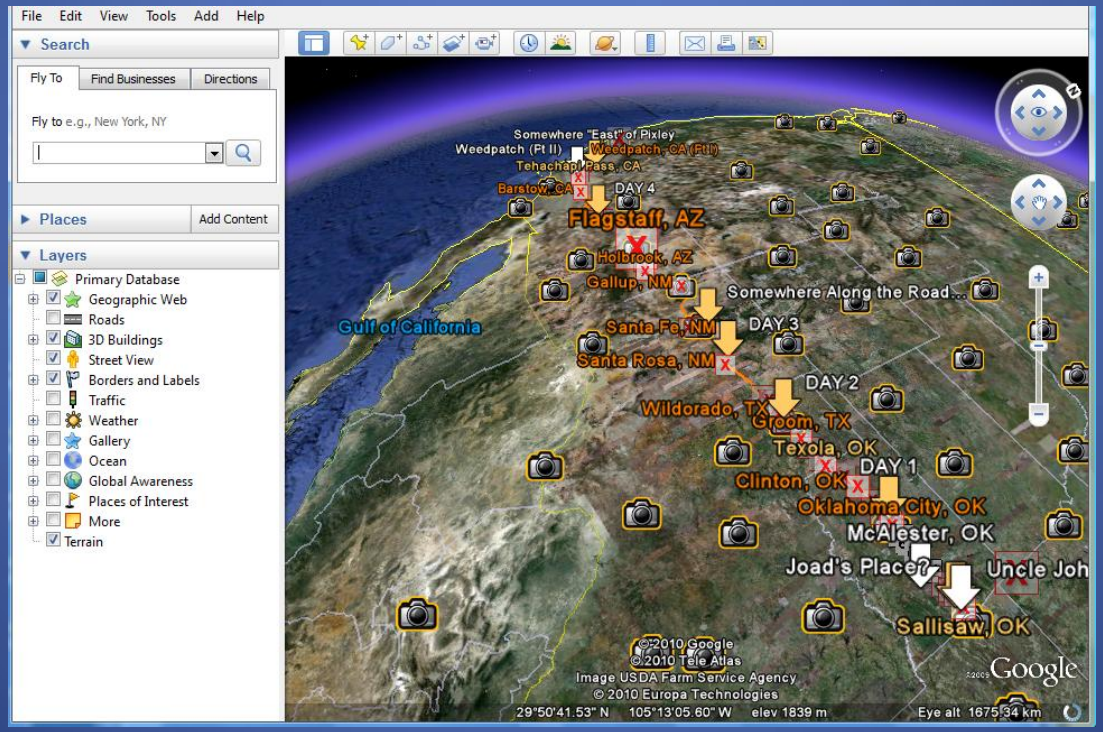


<u>Polonious to his son, Laertes</u>-- Universal message?

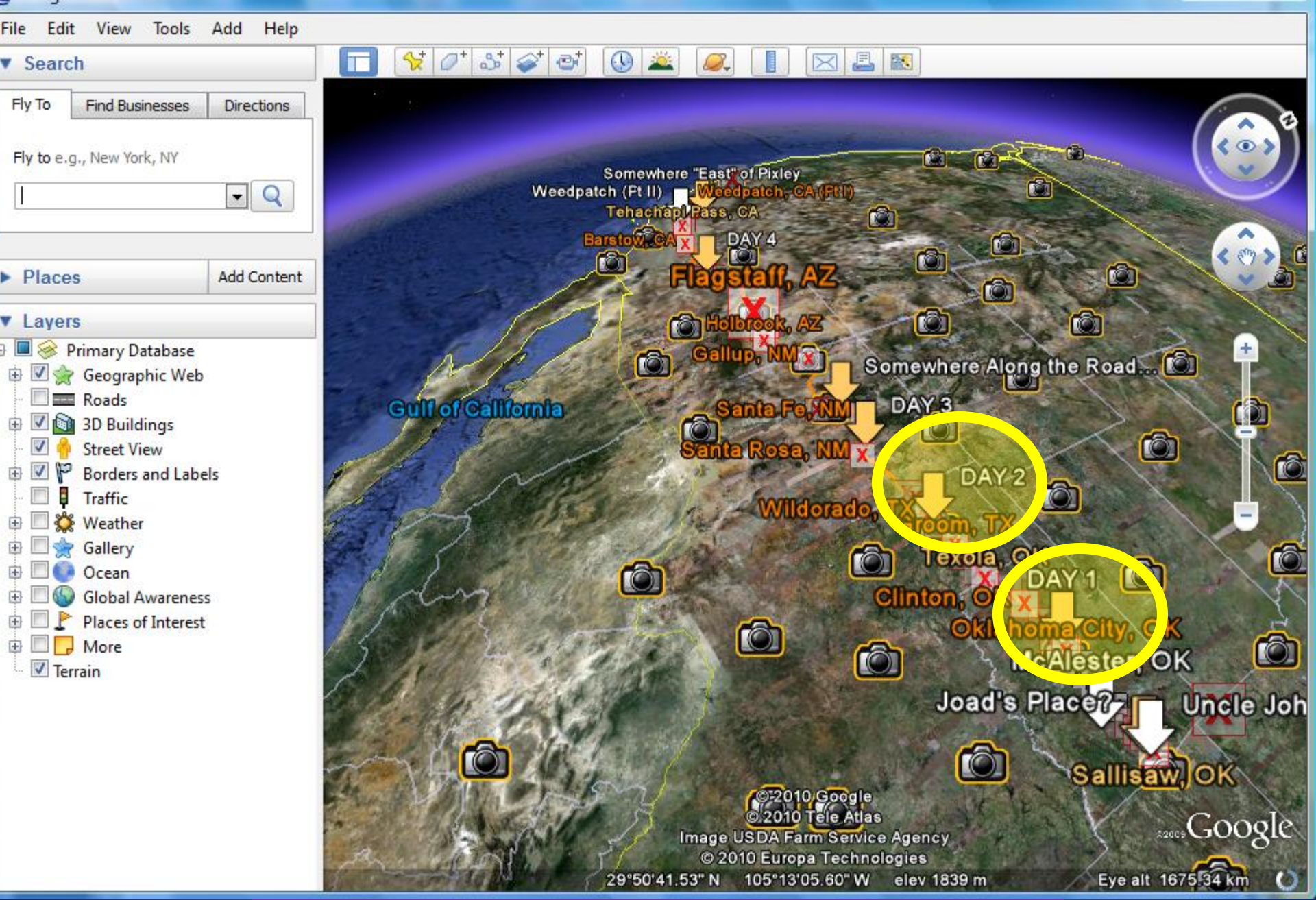
Neither a borrower nor a lender be; For loan oft loses both itself and friend.

Google LitTrips

googlelittrips.org



Grapes of Wrath



Grapes of Wrath

Read more about Thomas Paine, Karl Marx, Thomas Jefferson and Vladimir Lenin.

1. In the United States, two of these men are seen as "good guys" and the other two are often described as "bad guys." What do they all have in common that might have led Steinbeck to reference them at this point in the story?

Typical roadside cafe along Route 66

ifteen: An encounter with prejudice against the at a roadside cafe

e previous chapter, Steinbeck introduces the growing udice against the migrants. What happens in this

DAY 4

Chapter Eighteen (continued)**: As the family enters California, they camp outside of Needles, CA.**

in the Mojave Desert
Photo Source

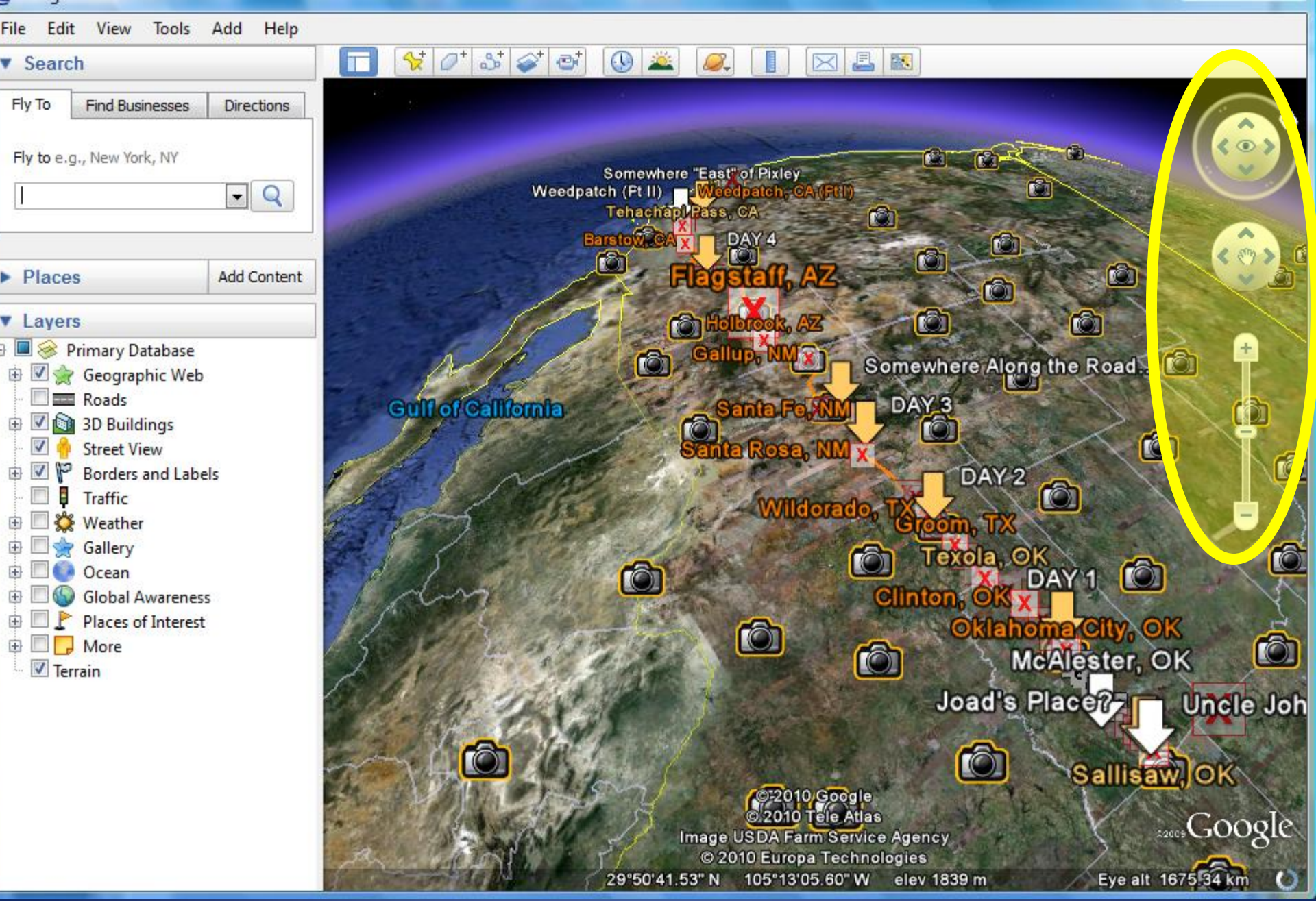
The Joads encounter a man and his son heading east. The man explains that California isn't as great as the migrants believe it will be.

1. What are some of the "truths" the man reveals to the Joads?

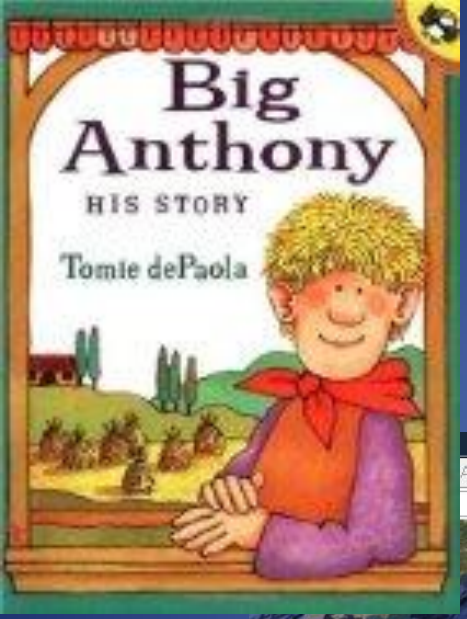
The man tells them that all the land is already owned by the super rich. He tells the Joads of "a fella, newspaper fellas near the coast, got a million acres..." The Joads can't imagine why anyone would need as much as this man, especially when so many folks are starving.

1. Read about William Randolph Hearst. Do you believe that there are ethical questions connected to excess wealth, particularly in times when many people are suffering from hunger and poverty?
2. What do you think of Noah's decision to simply leave the family?

Even thought Ma believes in God, she is upset by the insistence of a group of "other religious" women on holding a prayer meeting for Grandma.


File Edit View Tools Add Help
Search
Fly To
Find Businesses
Directions
Fly to e.g., New York, NY
Places
Add Content
Layers
Primary Database
Geographic Web
Roads
3D Buildings
Street View
Borders and Labels
Traffic
Weather
Gallery
Ocean
Global Awareness
Places of Interest
More
Terrain
Somewhere "East" of Pixley
Weedpatch (Ft II)
Weedpatch, CA (Ft I)
Tehachapi Pass, CA
Barstow, CA
DAY 4
Flagstaff, AZ
Holbrook, AZ
Gallup, NM
Somewhere Along the Road...
Gulf of California
Santa Fe, NM
DAY 3
Santa Rosa, NM
DAY 2
Wildorado, TX
Groom, TX
Texola, OK
DAY 1
Clinton, OK
Oklahoma City, OK
McAlester, OK
Joad's Place?
Uncle Joh
Sallisaw, OK
©2010 Google
©2010 Tele Atlas
Image USDA Farm Service Agency
©2010 Europa Technologies
29°50'41.53" N 105°13'05.60" W elev 1839 m
Eye alt 1675.34 km
Google


© 2010 Google
Image © 2010 DigitalGlobe
Image USDA Farm Service Agency
© 2010 Europa Technologies
Google
Imagery Date: Jun 8, 2007 36°15'27.92" N 113°02'18.75" W elev 1523 m Eye alt 6.40 km



Add Help

#1: Pisa

#2: Firenze

#5 Mt. Vesuvius

#5 Mt. Vesuvius

At least the volcano's eruption wasn't Big Anthony's fault.

Learn more about the history of Mt. Vesuvius at Science News for Kids.

Discovery.com

Directions: To here - From here

01:54

Data SIO, NOAA, U.S. Navy, NGA, GEBCO

Image © 2009 DigitalGlobe
© 2009 Cnes/Spot Image

40°41'27.52" N 13°32'29.17" E elev -149 ft

#6 Calabria

©2009 Google

Eye alt 576.30 mi

Interacting with new knowledge: The Challenges

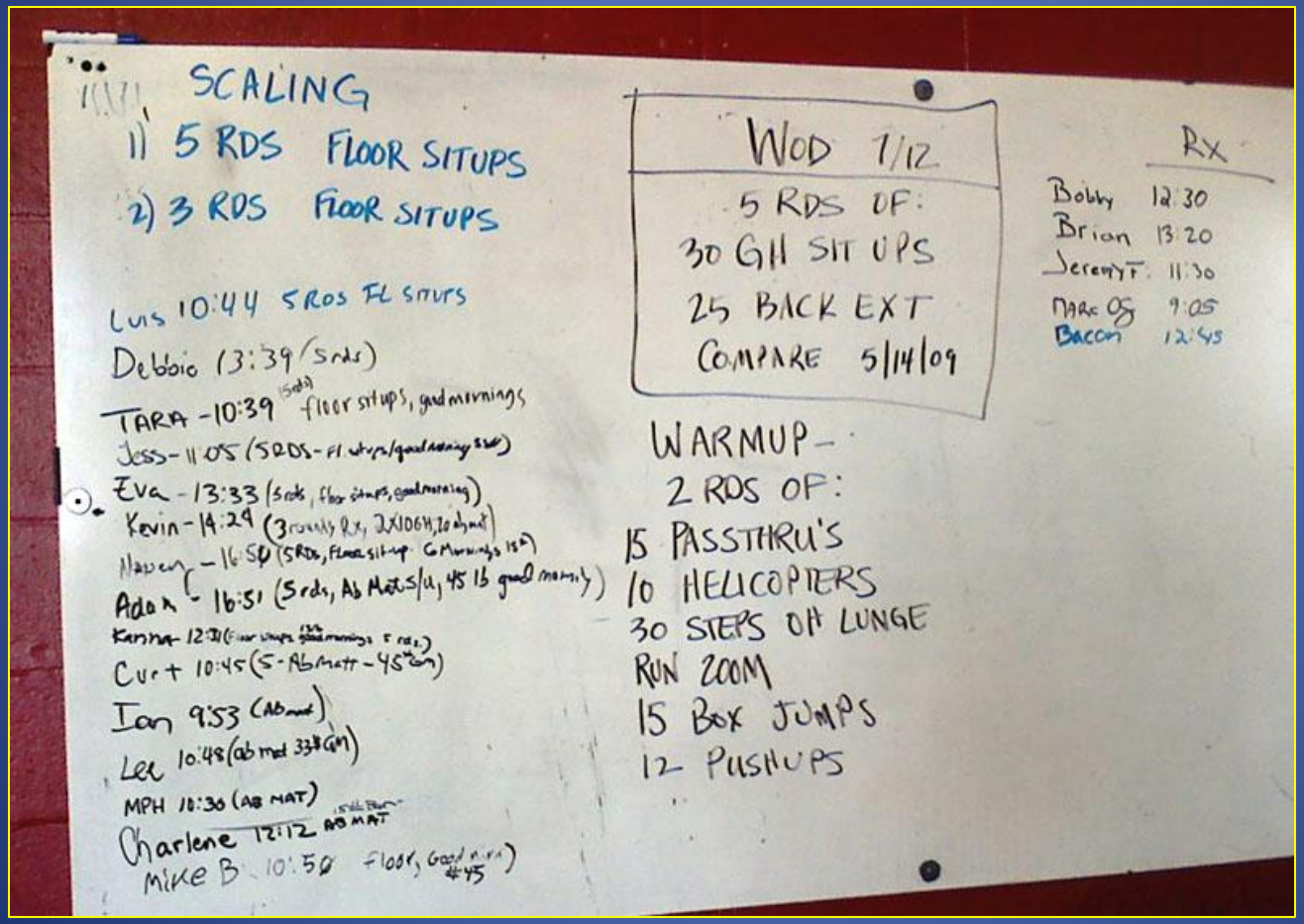
Can the classroom technologies help teachers interact with new knowledge?

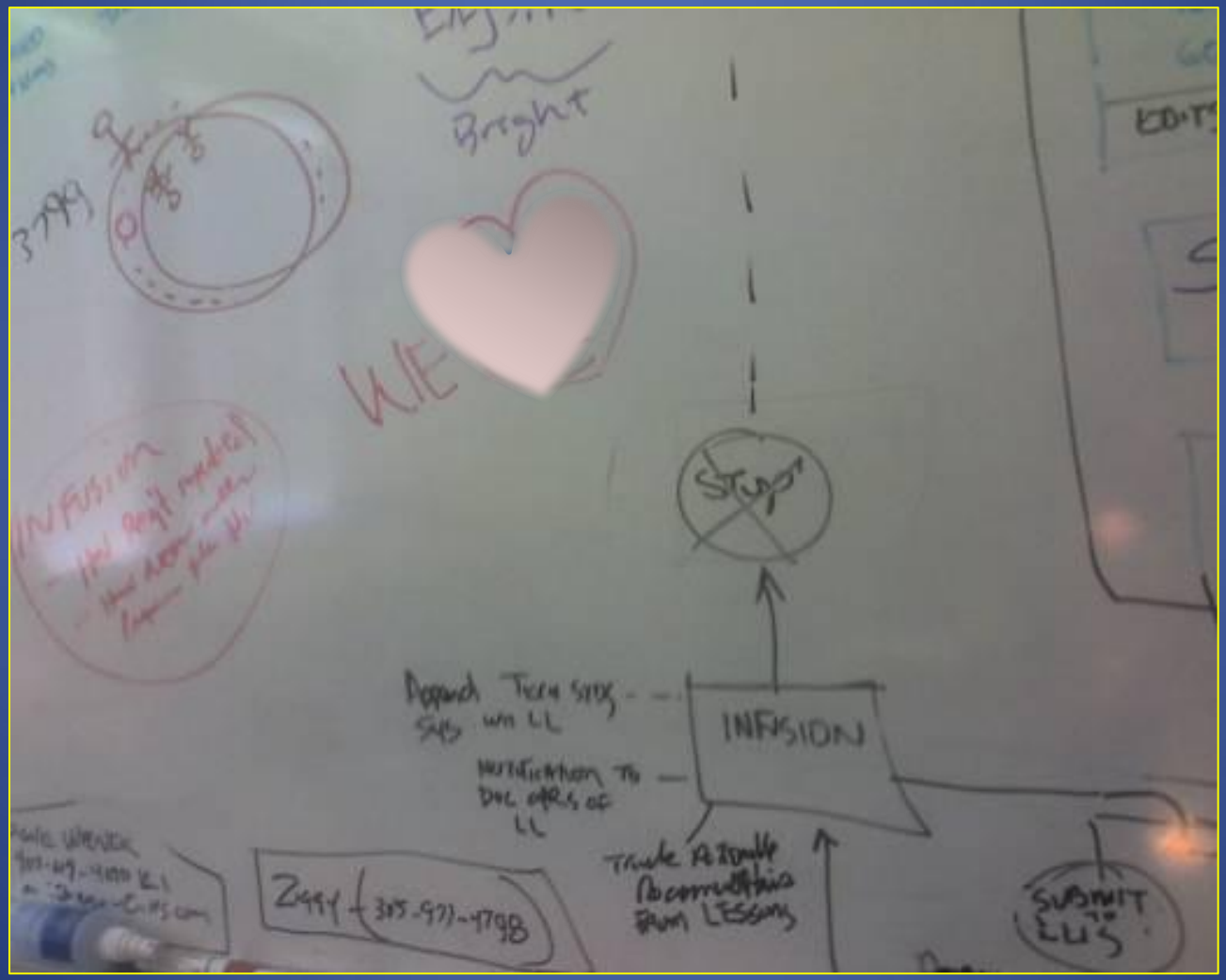
Yes, if we build on our understanding of effective instruction and assessment strategies.

Special Topic

- Nonlinguistic Representations
- Visuals
- Imagery

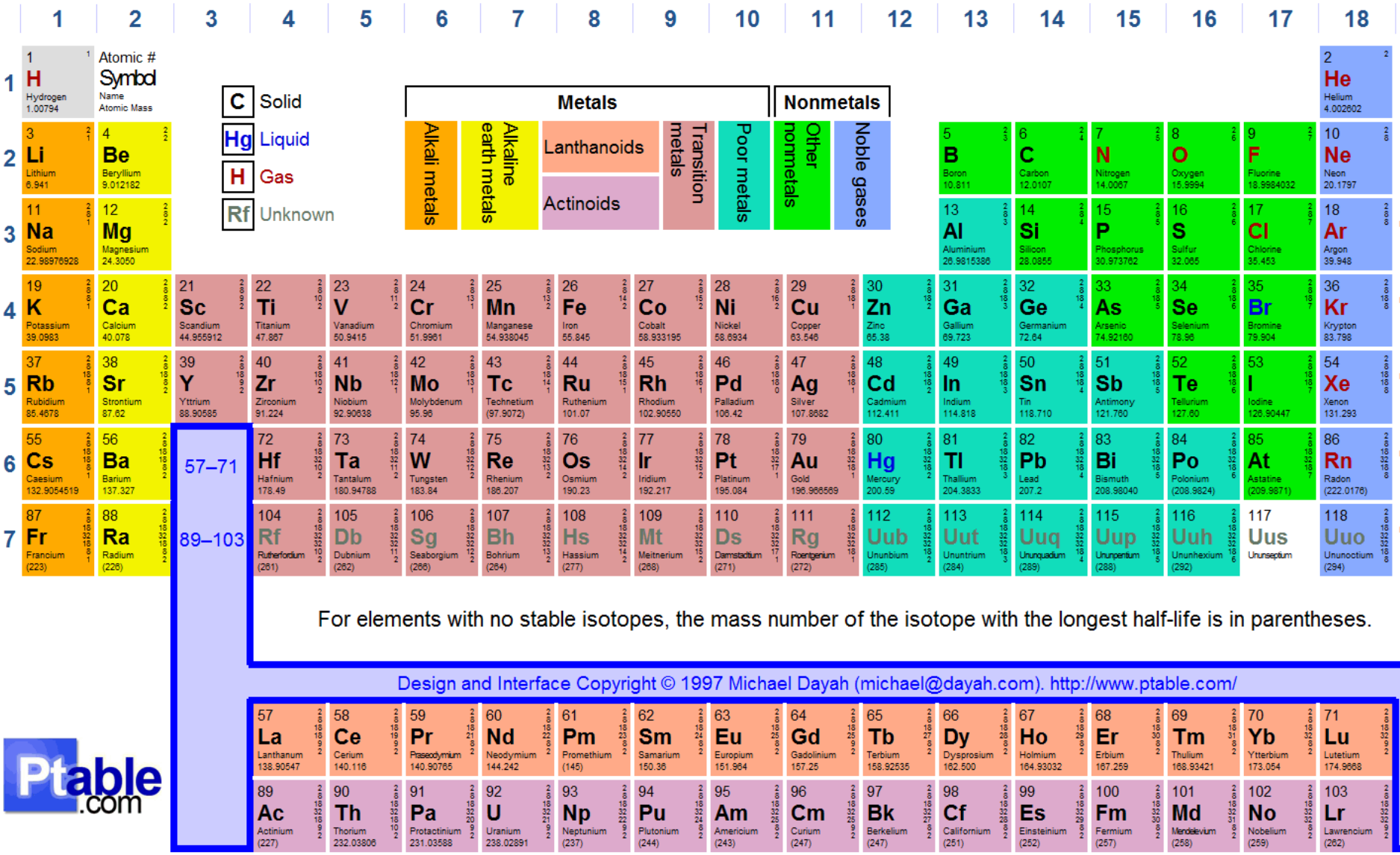

integrity
∞ enemies left
< VL 3
Evil
Clone
LVL 2
LVL 7


SCALING
1) 5 RDS FLOOR SITUPS
2) 3 RDS FLOOR SITUPS
Luis 10:44 5 RDS FL SITUPS
Debbie 13:39 (5rds)
TARA - 10:39 (5rds) floor situps, good mornings
Jess - 11:05 (5RDS - Fl situps/good morning 95#)
Eva - 13:33 (5rds, floor situps, good morning)
Kevin - 14:29 (3 rounds Rx, 2X100#, 20 abmat)
Naveen - 16:50 (5RDs, Floor sit-up, G Mornings 135)
Adam - 16:51 (5 rds, Ab Mats/a, 45 lb good morn.)
Kersha - 12:21 (Floor situps 135 good mornings 5 rds)
Curt 10:45 (5 - Ab Matt - 45# GM)
Ian 9:53 (AB mat)
Lee 10:48 (ab mat 33# GM)
MPH 10:30 (AB MAT)
Charlene 12:12 AB MAT (15# Ball)
Mike B 10:50 floor, Good morn #45
WOD 1/12
5 RDS OF:
30 GH SIT UPS
25 BACK EXT
COMPARE 5/14/09
WARMUP -
2 RDS OF:
15 PASSTHRU'S
10 HELICOPTERS
30 STEPS OH LUNGE
RUN 200M
15 BOX JUMPS
12 PUSHUPS
Rx
Bobby 12:30
Brian 13:20
Jeremy T. 11:30
Marc OS 9:05
Bacon 12:45


Bright
STOP
INFUSION
Ziggy 305-972-4798
SUBMIT
LLIS


Dear Green Place Retrospective
White Hat
Facts
1st 20,000
2nd 5000
1000 Hannah
4000 Clean Glasgow pack
New home for web
internet connection is rubbish
10 regular members
No releases to prod
designer
developers
programmers
illustrators
New Visual identity
Code change
1st Mancel Member
map is broken in ie
green reps marketing
wider spread
data updated
good association with world green map
Yellow
Becoming a Standard
Contacts
Marketing exposure
Identified as desirable
Helps having physical
New Design IS better
focused
save
Green
Alternative
Impartial Reviews
Bought from here
for identity
Stickers
Bought from Flickr shop photos
free marketing
Clear dev environment
aggregated live data
Parks
declutter
for School teachers
my promo life club
Green Map Goal
Come up with Goal
fixes
stable & description
consistency
understand
Setup
techies & non techies
Todos not just for programmers
Charity shops don't feel connected to
little feedback
Todos make No sense
Hard to get feedback
inconsistent
Black Hat
no unprogrammer tasks
No marketing pack
no website
unclear goals
No Clear Benefit to Clients
isolation of teams
not useful online too the majority of people
Can't find it
Emotive Red hat
less to do
productive
everyone gets things
learning experience
proud

Periodic Table of Elements



For elements with no stable isotopes, the mass number of the isotope with the longest half-life is in parentheses.

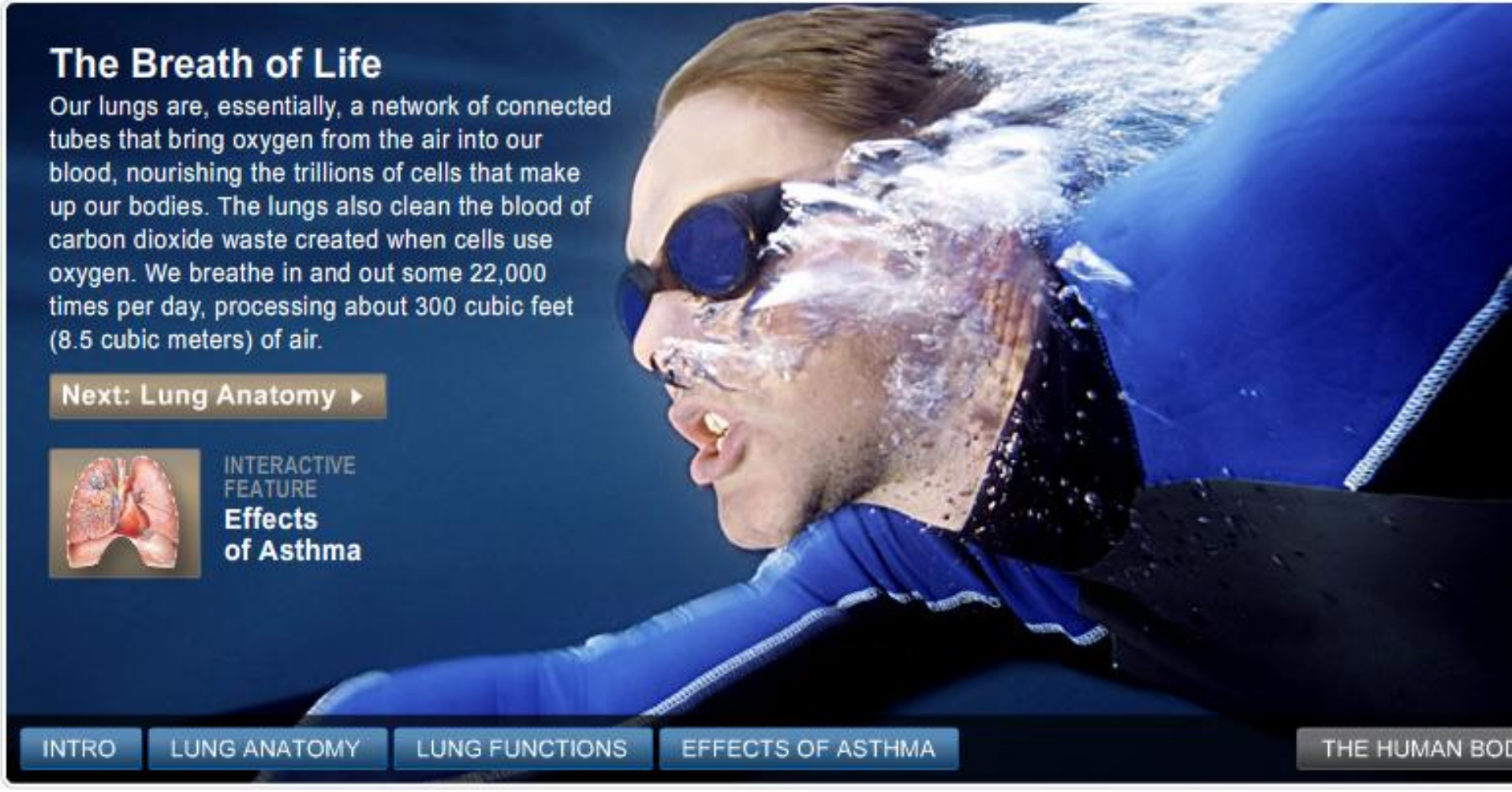
Ptable.com

- Nonlinguistic Representations

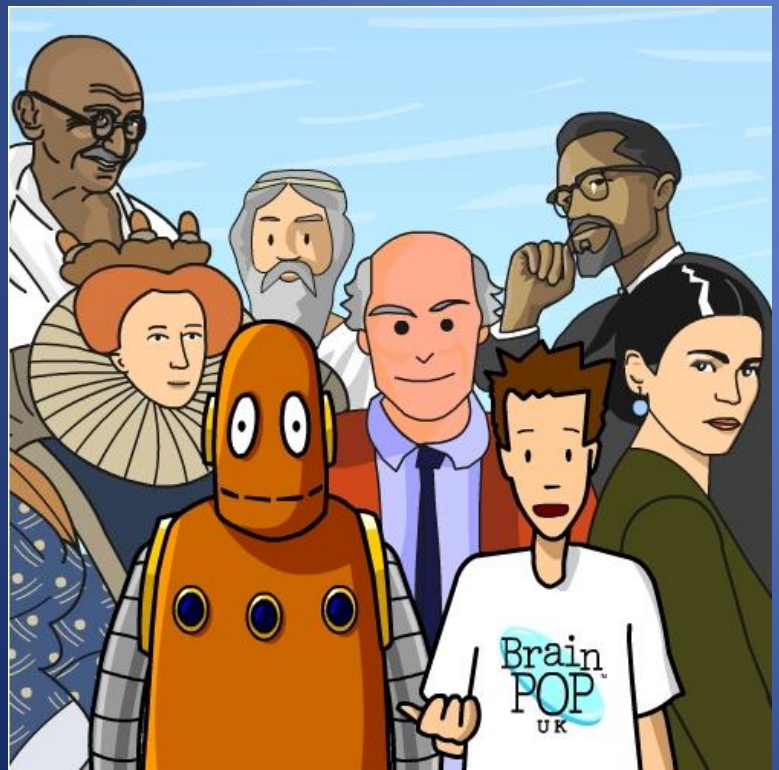
Internet

http://science.nationalgeographic.com/science/health-and-human-body/human-body/digestive-system-article.html

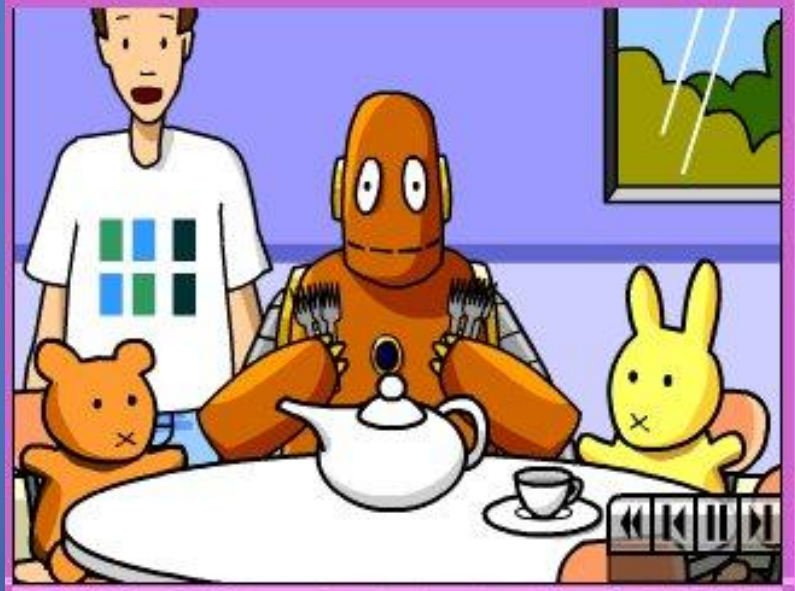
Lungs



Brain POP®

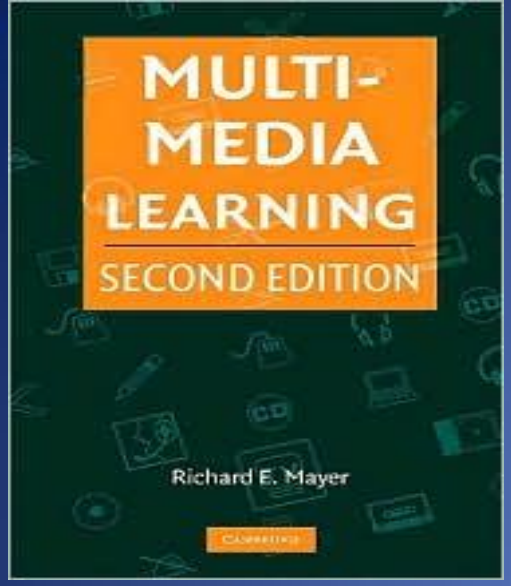


PICK A MOVIE! → Commutative



THE COMMUTATIVE PROPERTY

Caution



Multimedia Learning
Richard E. Mayer

People learn better from words and pictures than from words alone.

However,

ENERGY IN AN ECOSYSTEM

Notes

VOCABULARY

Consumer: an organism in a community that must eat to get the energy it needs.

Carnivore: animal that eats other animals for food.

Herbivore: an animal that eats plants for food.

Omnivore: animal that eats plants and other animals.

Producer: An organism that makes its own food.

Decomposer: consumer that breaks down the tissues of dead organism.

DESIGN. Don‘t decorate.

History of the Holiday

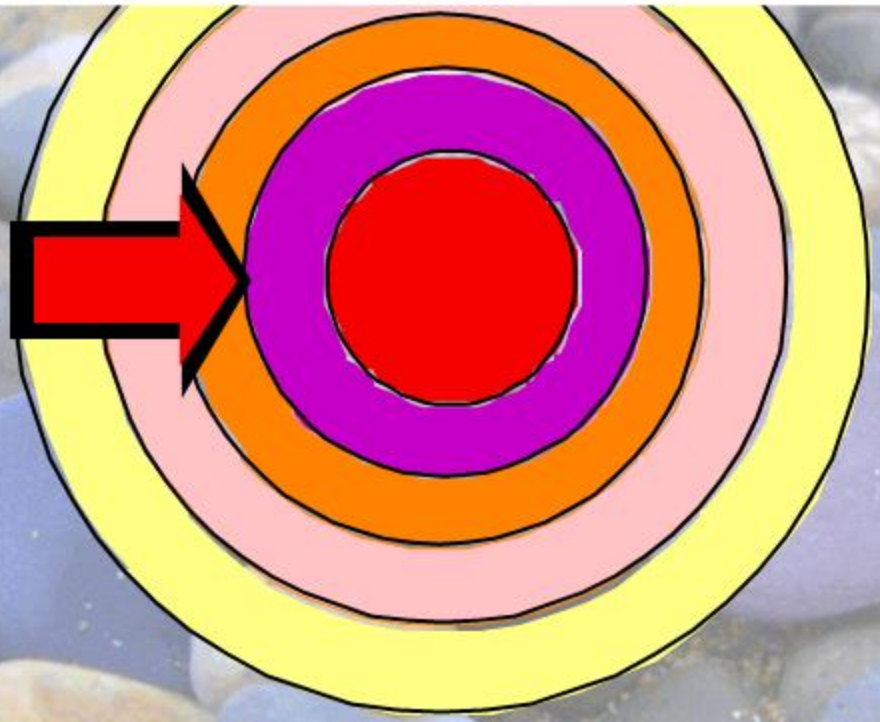
It took 15 years to create the federal Martin Luther King, Jr., holiday. Congressman John Conyers, Democrat from Michigan, first introduced legislation for a commemorative holiday four days after King was assassinated in 1968. After the bill became stalled, petitions endorsing the holiday containing six million names were submitted to Congress.

Conyers and Rep. Shirley Chisholm, Democrat of New York, resubmitted King holiday legislation each subsequent legislative session. Public pressure for the holiday mounted during the 1982 and 1983 civil rights marches in Washington.

Congress passed the holiday legislation in 1983, which was then signed into law by President Ronald Reagan. A compromise moving the holiday from Jan. 15, King's birthday, which was considered too close to Christmas and New Year's, to the third Monday in January helped overcome opposition to the law.

Rock Type #3: METAMORPHIC ROCKS

Metamorphic Rocks are rocks that have been "changed" by heat and pressure to form a *new* rock.



Forces acting...

Pull down
push up

The amount of force you use to move an object depends on its mass. The more mass something has, the more force you have to use to make it move.

A car takes more force to move because it has a larger mass.

A bike does not take as much force as the car to move because it has a smaller mass.

In Out Force side panel

1 2 3 Force Side panel text

Reset

Click on the buttons to move around...

The Shift!

Just do it

Simplicity is the ultimate sophistication.

Introducing Apple II, the personal computer.

New area of study for educators---
Effective visual learning

Clarity/Focus

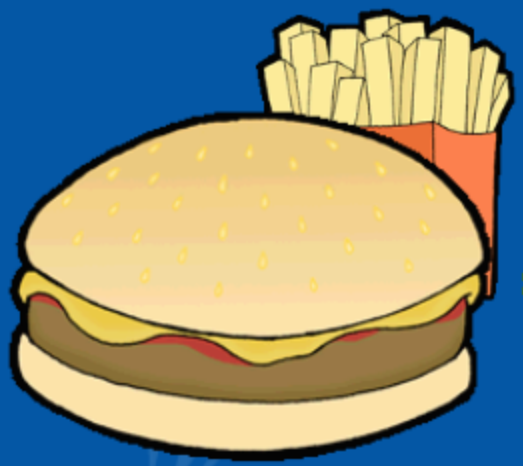
Simplicity/Parsimony

Proximity/Space

Color/Contrast

Consistency/Flow

John uses $3.00 to purchase a burger and fries. How much change will he receive?



= $2.43

Change

Solve the following word problem.

Objective: Students will understand the relationship between money and math.

John used $3.00 to purchase a burger and fries.
How much change will he receive?

Start Amount		Price of Meal		Change
	-		=	

$ 2.24

John uses $3.00 to purchase a burger and fries. How much change will he receive?

= $2.43

Change

Solve the following word problem.

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How much change will he receive?

Start Amount

$ 2.24

Price of Meal

Change

\- =

Root Words

Root words are words that may have a prefix or a suffix added to them. A root word is the word you start with.

example: appoint

*dis*appoint

appoint*ment*

*dis*appoint*ment*

Root Words

are words you can add to in order to make new words.

When you add letters to the **front** of a root word it is called a **prefix**.

When you add letters to the **end** of a root word, it is called **suffix.**

Prefix	Root Word	Suffix

Root Words

Root words are words that may have a prefix or a suffix added to them. A root word is the word you start with.
example: appoint
*dis*appoint
appoint*ment*
*dis*appoint*m*

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- When you add letters to the **end** of a root word, it is called **suffix.**

Prefix	Root Word	Suffix
*dis*appoint	appoint	appoint*ment*
	power	power*less*
*un*easy	easy	
*re*cycle	cycle	

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Organisms that are

Consumers

Carnivores

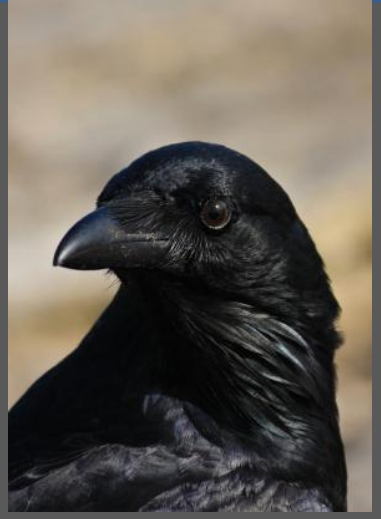
Herbivores

Omnivores

Carnivores

eat meat--
other animals--
for food.

Herbivores
eat plants
for food.



Omnivores

eat meat and plants
for food.

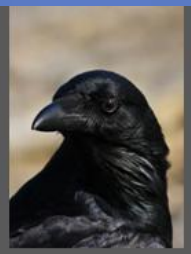
Organisms that are

Consumers

Carnivores

eat meat--
other animals--
for food.

Herbivores
eat plants
for food.



Omnivores

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Organisms that are

Consumers

Carnivores

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Organisms that are

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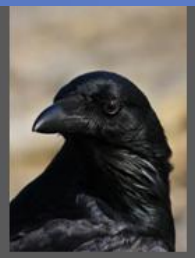
Herbivores
eat plants
for food.

Organisms that are

Consumers



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Producer: An organism that makes its own food.

Worm

Fungi

Decomposer: consumer
down the tissues of dea

1

Carnivores

eat meat--
other animals--
for food.

Editing

Janice keisha and Jake decided to go to the haunted house on halloween. There was a very scary one at the lipton mall. Janice said I get really afraid at haunted houses so prepare yourself. keisha just laughed and jake told her not to worry.

Janice keisha and Jake decided to go to the haunted house on halloween. There was a very scary one at the Upton mall. Janice said I get really afraid at haunted houses so prepare yourself. keisha just laughed and jake told her not to worry.

Janice, Keisha and Jake decided to go to the haunted house on Halloween. There was a very scary one at the Lipton Mall. Janice said, "I get really afraid at haunted houses so prepare yourself." Keisha just laughed, and Jake told her not to worry.

Capital letters - proper nouns

Janice keisha and Jake decided to go to the haunted house on halloween. There was a very scary one at the lipton mall. Janice said I get really afraid at haunted houses so prepare yourself. keisha just laughed and jake told her not to worry.

Commas for a series

Janice, Keisha, and Jake decided to go to the haunted house on Halloween. There was a very scary one at the Lipton Mall. Janice said I get really afraid at haunted houses so prepare yourself. Keisha just laughed and Jake told her not to worry.

Before

Janice keisha and Jake decided to go to the haunted house on halloween. There was a very scary one at the lipton mall. Janice said I get really afraid at haunted houses so prepare yourself. keisha just laughed and jake told her not to worry.

After

Janice, Keisha, and Jake decided to go to the haunted house on Halloween. There was a very scary one at the Lipton Mall. Janice said, "I get really afraid at haunted houses so prepare yourself." Keisha just laughed, and Jake told her not to worry.

New area of study for educators---
Effective visual learning

Clarity/Focus

Simplicity/Parsimony

Proximity/Space

Color/Contrast

Consistency/Flow

Interacting with new knowledge: The Challenges

Can the classroom technologies help teachers interact with new knowledge?

Yes, if we build on our understanding of effective instruction and assessment strategies.

Reflect and Discuss

As you begin to think more about the use of nonlinguistic representations and visuals, in general…

What makes sense to you?
What concerns do you have?
What would you recommend to schools that are using more technology?

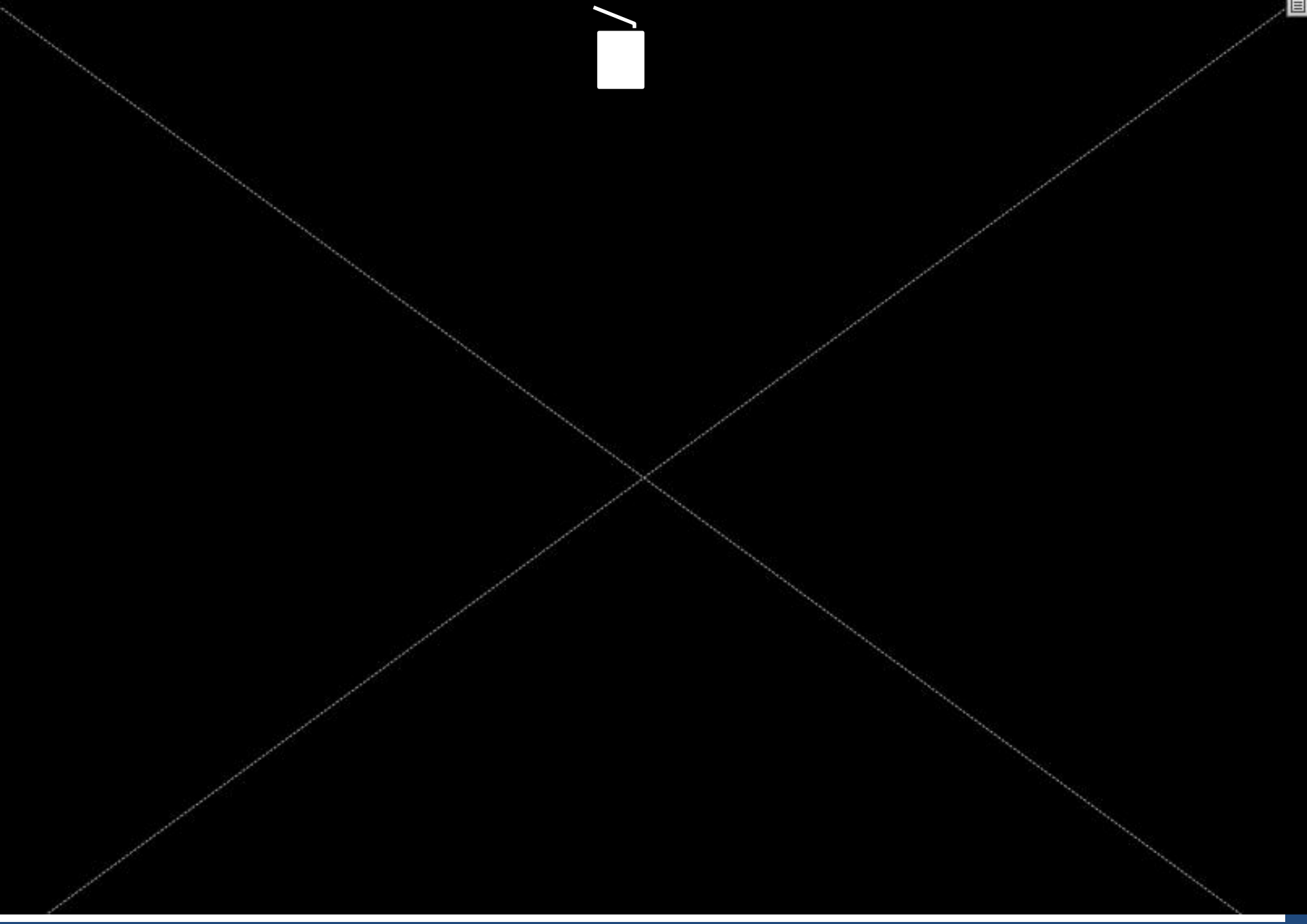
Inventors

5-3.1 Identify prominent inventors and scientists of the period and summarize their inventions or discoveries, including Thomas Edison, Alexander Graham Bell, the Wright Brothers, and Albert Einstein. (H)

What SHOULD you have learned while doing your projects last week?

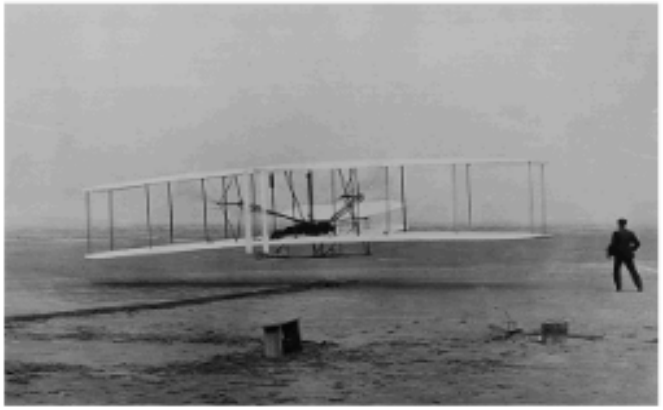
Who invented the telephone?

What do you need to record on the tree map?



Who invented the airplane?

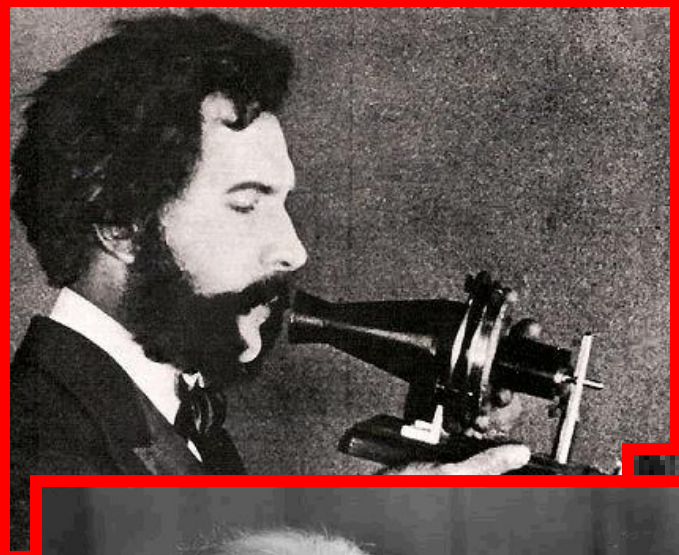
What do you need to know about the Wright Brothers?

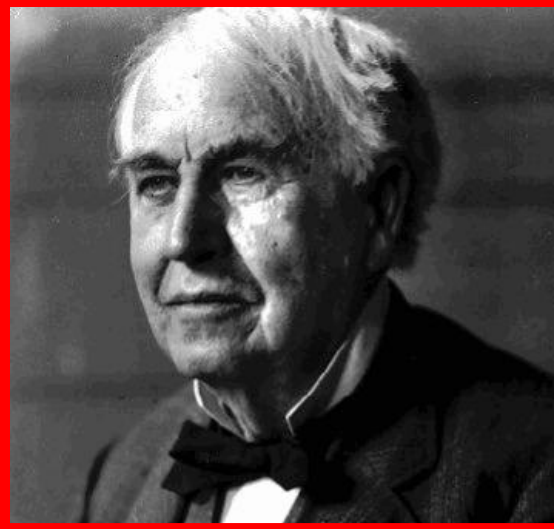


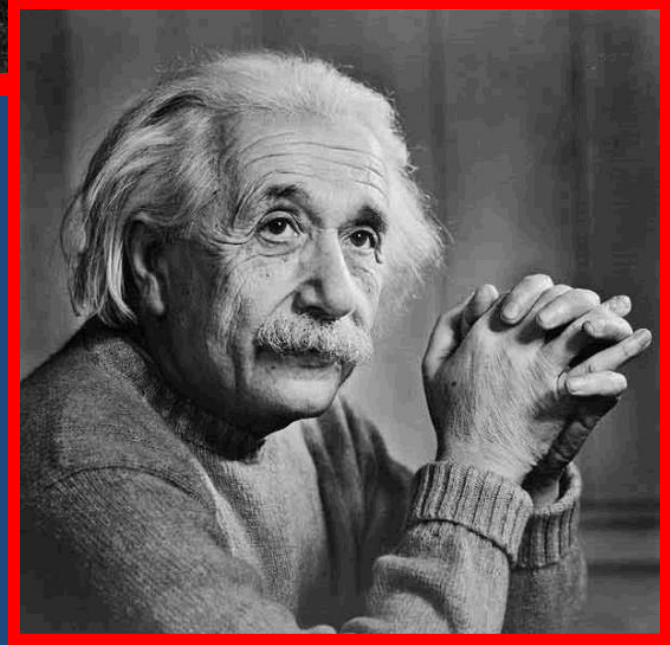
s

Makeover…

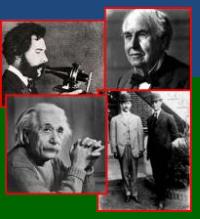
Inventors







Students will increase their understanding of the following:



- The lives and contributions of specific inventors (Einstein, Wright Brothers, Edison, Bell)

- **FACING OBSTACLES AND CHALLENGES**: Those who have contributed to our lives often must face obstacles and challenges to their ideas and work. (Ex: social, economic, physical, and personal)

- **THE PROCESS OF INVENTION involves:**

  ✓*Identifying a need*
  ✓*Setting standards*
  ✓*Drafting, testing, and revising to meet standards*

Facing Obstacles and Challenges:

- **FACING OBSTACLES AND CHALLENGES**: Those who have contributed to our lives often must face obstacles and challenges to their ideas and work.

These obstacles and challenges can be

economic, physical, social, and personal

Facing Obstacles and Challenges

ECONOMIC
Lack of money; poverty;

PHYSICAL
Illness; physical disability

SOCIAL
People laughing or criticizing;

PERSONAL
Angry; insecure; blame others

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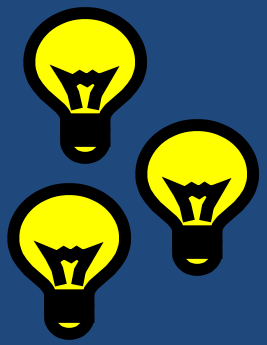
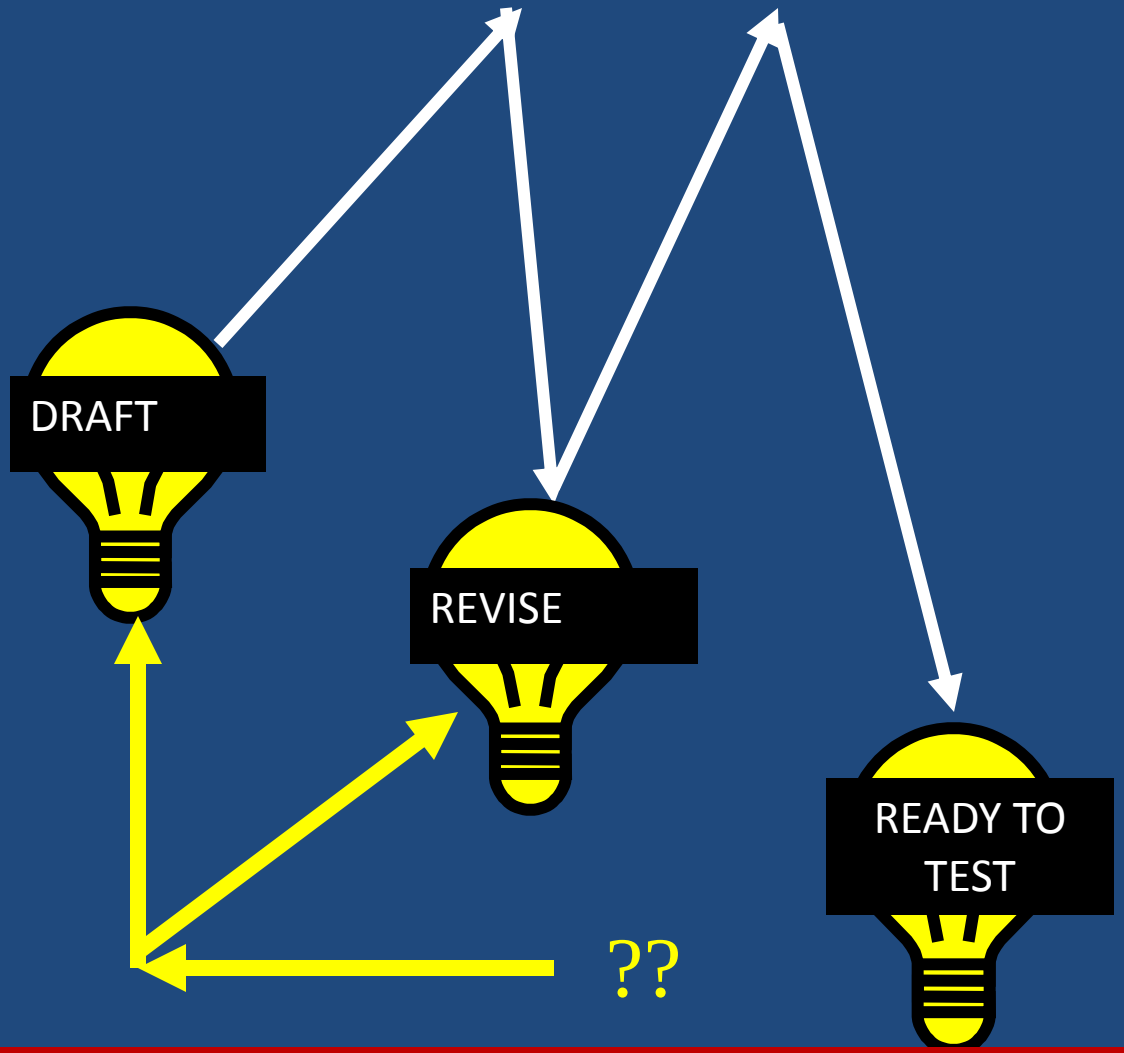
Need

Standards

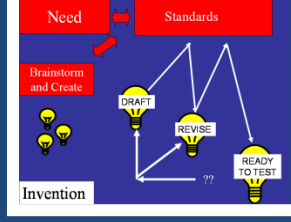
Brainstorm





THE PROCESS OF INVENTION

When evaluating how well the process of invention was used for a particular invention, you might ask…



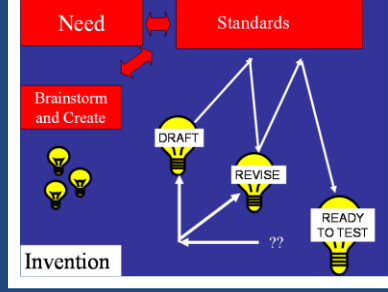
Did these inventors do a good job with…

Identifying Need?

Setting Standards?

Drafting, Testing and Revising?

THE PROCESS OF INVENTION



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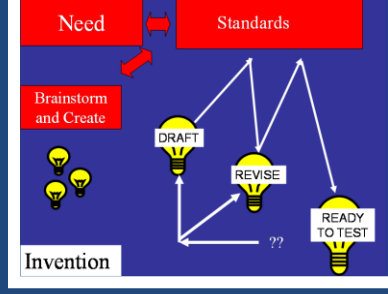

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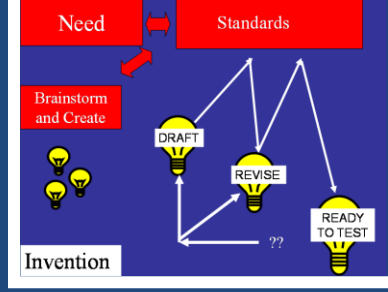

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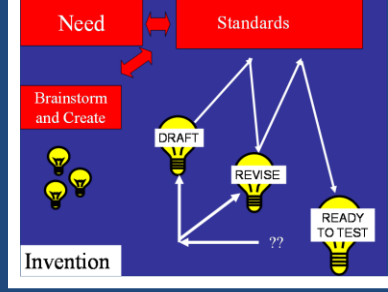

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Identifying Need?

Setting Standards?

Drafting, Testing and Revising?

For your inventor, find information to address the following:

Describe any <u>obstacles or challenges</u> that your inventor faced that were

- Economic, Physical, Social, and or Personal?

Describe how he/she overcame or could not overcome these obstacles or challenges.

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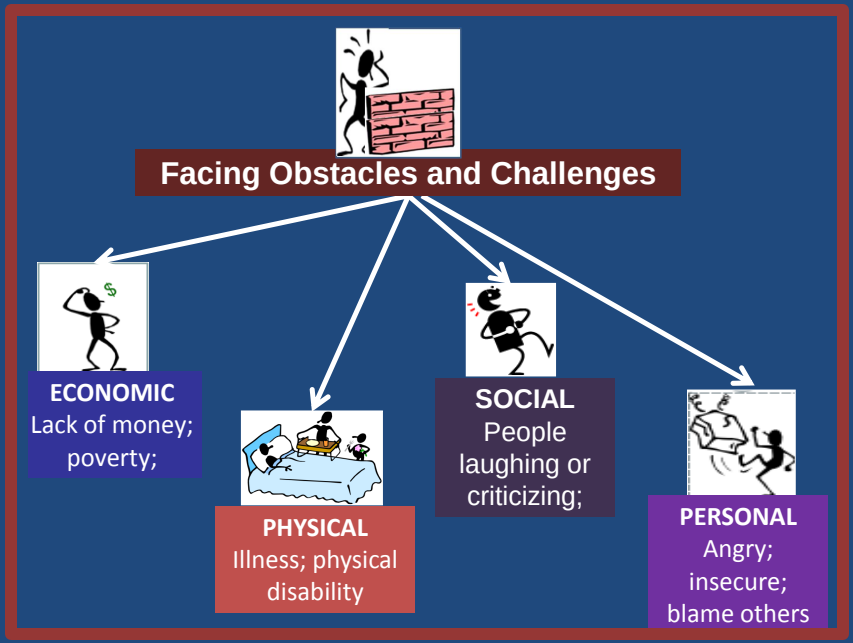
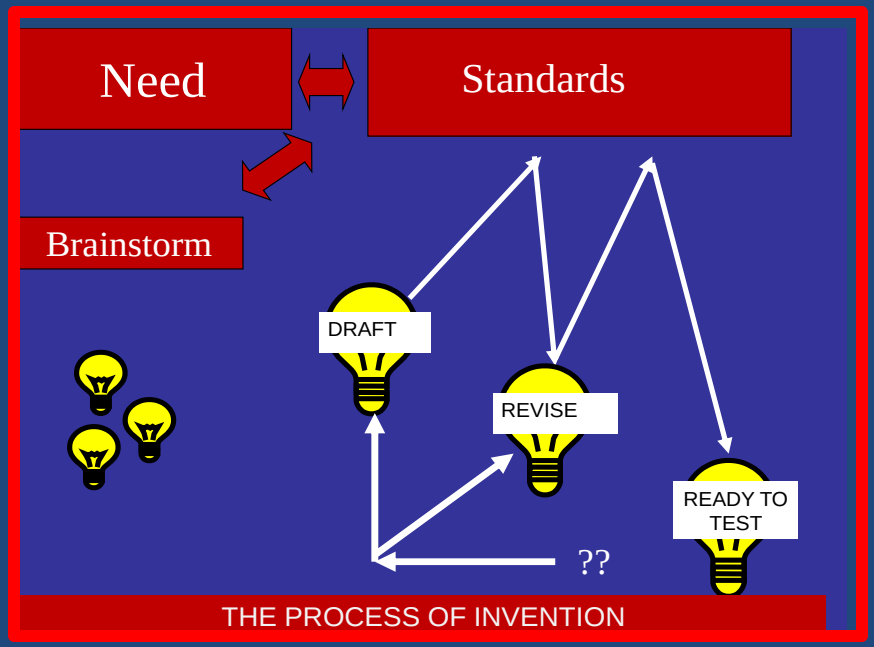
Describe how your inventor ..

- Identified a need.
- Set standards.
- Drafted, Tested, and Revised.

How well did he/she do these? Could any of these been done better?





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So, can classroom technologies help teachers with…

- Formative assessment and feedback?
- Student engagement?
- Students interaction with knowledge?
- Focusing students on the learning goals?

Interaction Generation

So, we must use classroom technologies….

…to enhance and expand students' interactions…

…with knowledge and people

Interaction Generation

By building on our <u>understanding</u> of effective instruction and assessment strategies.