欢迎 Welcome! Hoşgeldiniz! Bienvenido! مرحبا

Storytelling with Data:



Visualization in Education

Melda N. Yildiz, Ed.D.

New York Institute of Technology

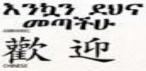


Melda.Yildiz@Fulbrightmail.org



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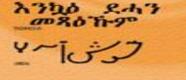
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Melda.Yildiz@Fulbrightmail.org

Melda N. YILDIZ

The Big Picture: Teaching 21st Century Visualization Skills

New York Institute of Technology

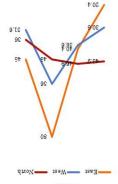


Fast Fact: In 2017, U.S. News & World Report ranked NYIT's online programs in Education among the top 23 in the United

-Instructional Technology -School Counseling -School Leadership and Technology -Teacher Education

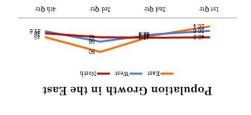
States.

Division of Education – Academic Programs:



1st Qtr 2nd Qtr 3rd Qtr 4th Qtr

Population
Growth in the
East
— West



Which graphic shows Population Growth in 3rd Qtr on the EAST?

The Big Picture: Teaching 21st Century Visualization Skills

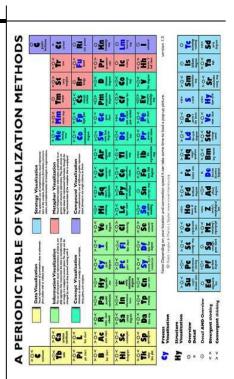
We will examine forms of visual information encountered by P-12 students. Workshop participants will explore the use of graphics in educator preparation curricula and identify ways to integrate visual imagery and data literacy in coursework. We will demonstrate how the use of visualization prepares educators for the new generation of "digital" students.

https://tinyurl.com/NYITdata



The great fun of information visualization is that it gives you answers to questions you didn't know you had.

Ben Shneiderman, NYT







MILID Yearbook 2016

A collaboration between UNESCO, UNITWIN Cooperation Programme on MIL and Intercultural Dialogue, UNAOC and GAPMIL

Media and Information Literacy http://unesdoc.unesco.org/images/0024/002463/246371e.pdf **Reinforcing Human Rights, Countering** Radicalization a

Edited by Jagtar Singh, Paulette Kerr and Esther Hamburger

Extremism

MILID Partner Universities: Ahmadu Bello University, Cairo University, Hosei University, Nnamdi Azikiwe University, Punjabi University, Queensland University of Technology, Sidi Mohamed Ben Abdellah University, Temple University, The Autonomous University of Barcelona, The University of Sap Paulo, Tsinghua University, University of Gothenburg, University of Guadalajara, University of South Africa, University of the South Pacific, University of West Indies, Western University











Media Binds or Blinds? Community Mapping and Digital Stories from P20 Classrooms

Deconstructing Myths and Misconceptions in Global Media Education

Melda N. Yildiz

"A Lie Can Travel Halfway Around the World While the Truth Is Putting On Its Shoes."

- Anonymous

Situated within the cantext of global media education, this participatory action research (PAR) project aims to advance scientific knowledge of social justice education as a means to promote global media literacy skills in teacher education programs and attempts to address deep-rooted ideologies to social inequities and misconceptions by creating a space to re-examine current curricula as appased to transformative, collaborative, and inclusive curriculum.

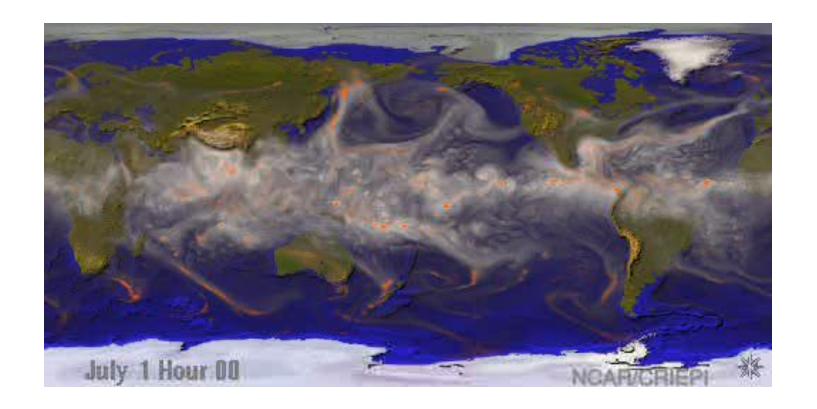
To develop culturally and linguistically responsive pedagogy, teacher candidates investigated the transformative teaching models through the lens of multicultural education, semiotics, and media literacy in the global education context. For their lesson plans, the participants deconstructed and assessed the national curriculum, frameworks, and standards; interviewed students and educators, and documented their stories to articulate the realities of conditions in schools through their research, analysis, and dialogue. Through the rediscovery process, teacher candidates explored and designed strategies, curricula, and programs for improving student autcomes, and integrated multiple literacies as a means of further developing P20 students' global competencies and 21st-century skills while re-thinking and re-designing innovative learning activities.

This PAR promotes media education in deconstructing the myths and misconceptions in P20 classrooms, integrates community mapping and digital storytelling into the curriculum, offers creative suggestions for producing media in the classroom with minimal resources and equipment, and showcases innovative and inclusive projects and best practices for developing critical autonomy, global competency, and 21st century skills in teacher education programs. As the transformative education intersects with human rights, global

Why Visualize?

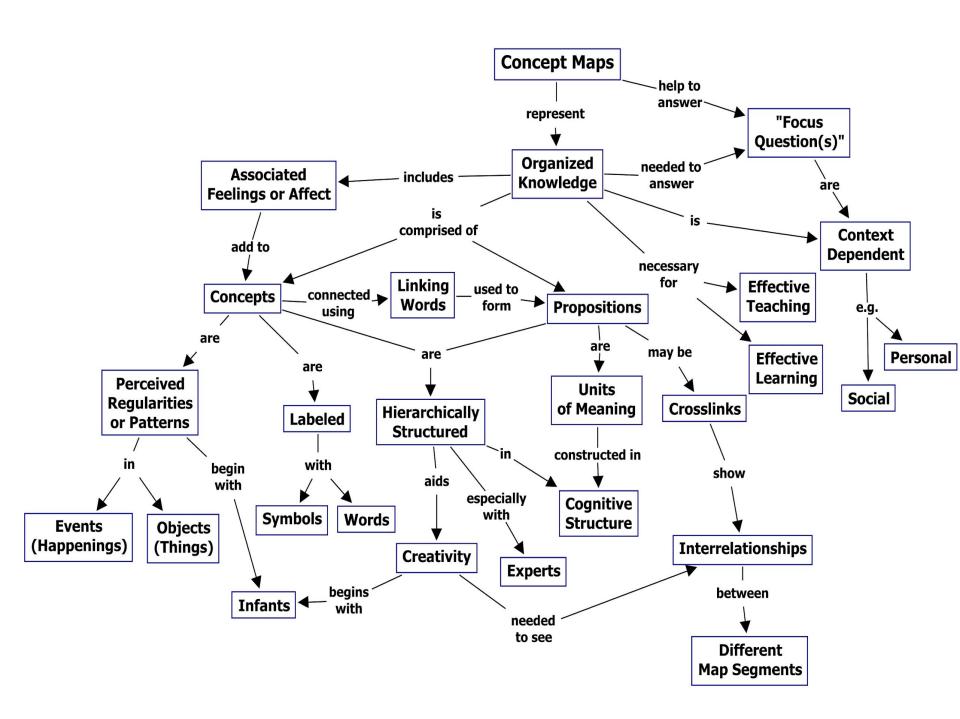
"The great fun of information visualization is that it gives you answers to questions you didn't know you had."

Ben Shneiderman, NYT



Pedagogic reasons to use visualizations

- Permits observation of the unobservable
- Renderings showing 3 dimensions or changes over time make complex processes much easier to understand (reduces cognitive load)
- Visualizations allow students to construct their own mental images that stick with them.

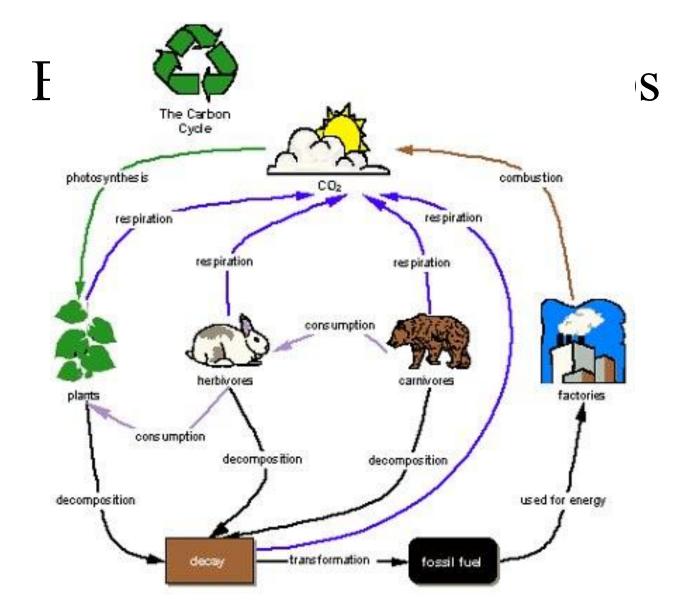


Concept Maps

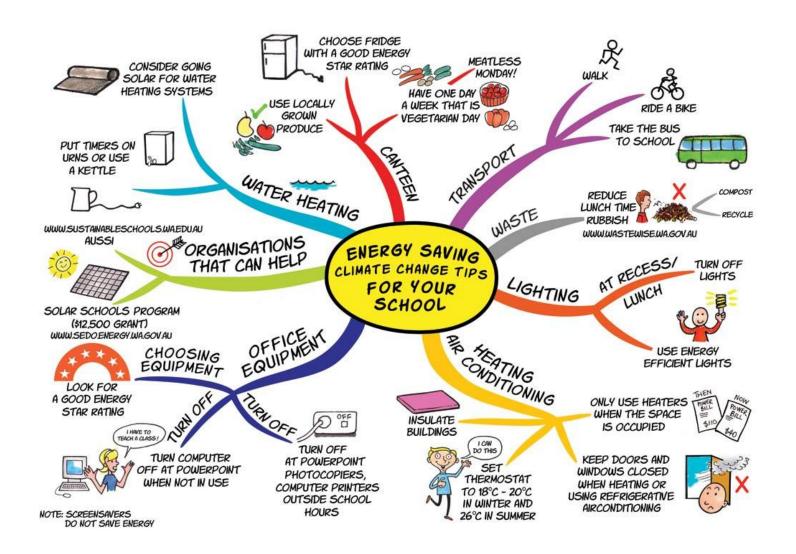
Concept mapping Concept mapping is a technique for visualizing Concept mapping is a technique for visualizing the relationships among different concepts. A concept map is a diagram showing the relationships among concepts.

Use Graphic Organizers/ Concepts Maps For:

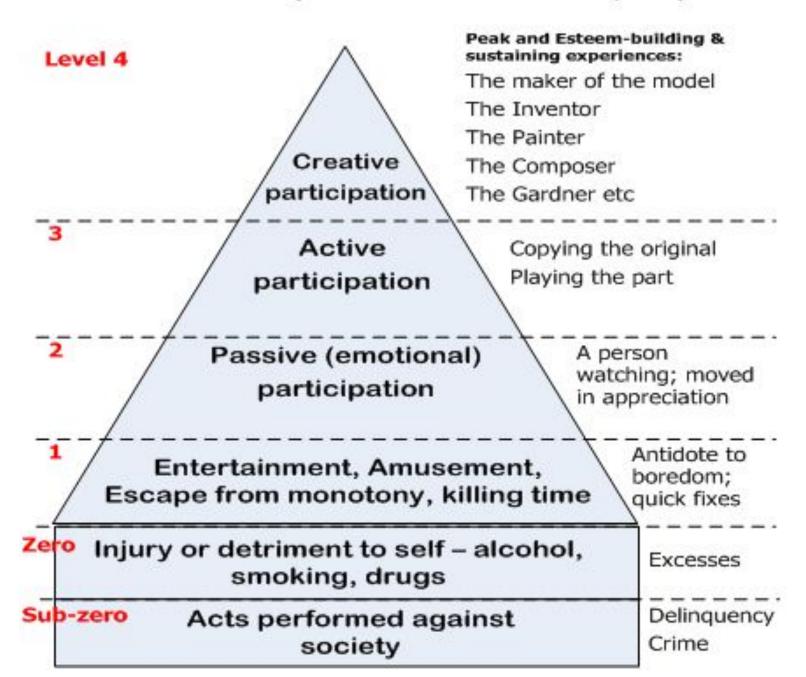
Organizing	Brainstorming
Prewriting	Concept mapping
Planning	Outlining
Diagramming	Webbing
Project development	Administrative tasks
Charting	



Another example. Look familiar?

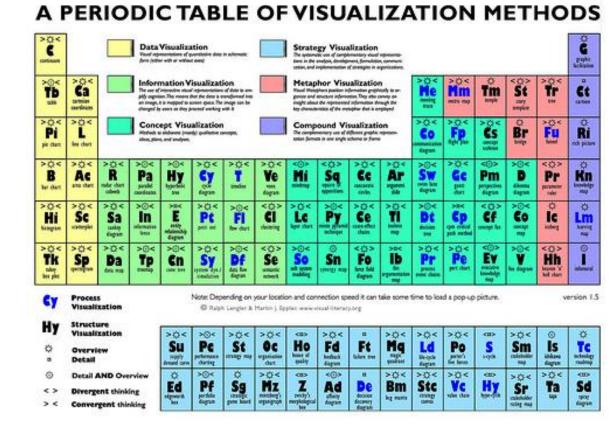


Nash's Concept of use of Leisure Time (1960)

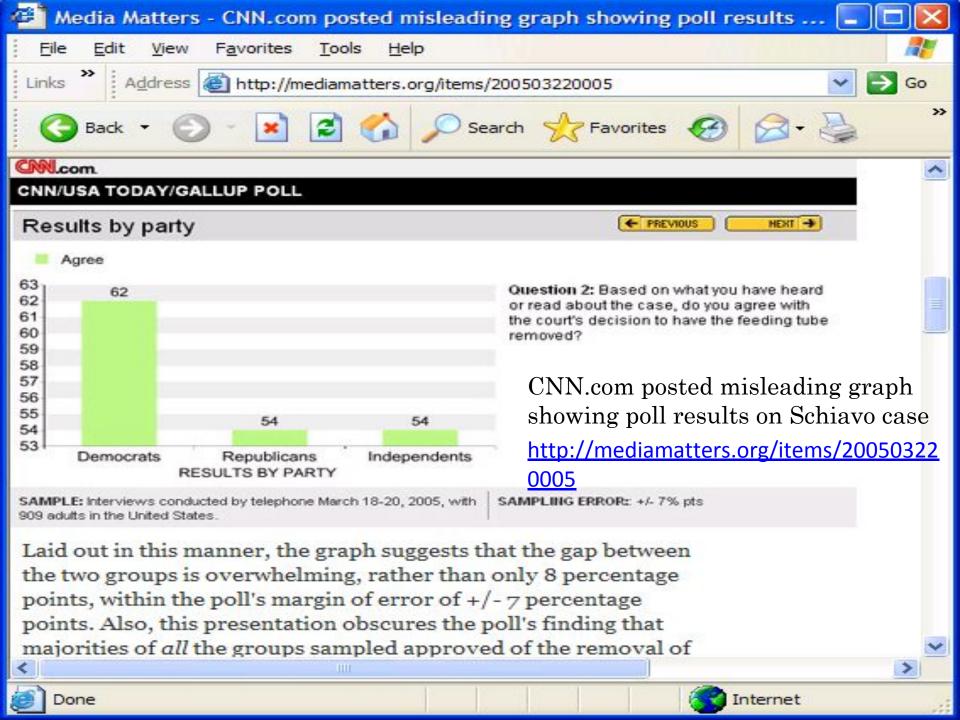


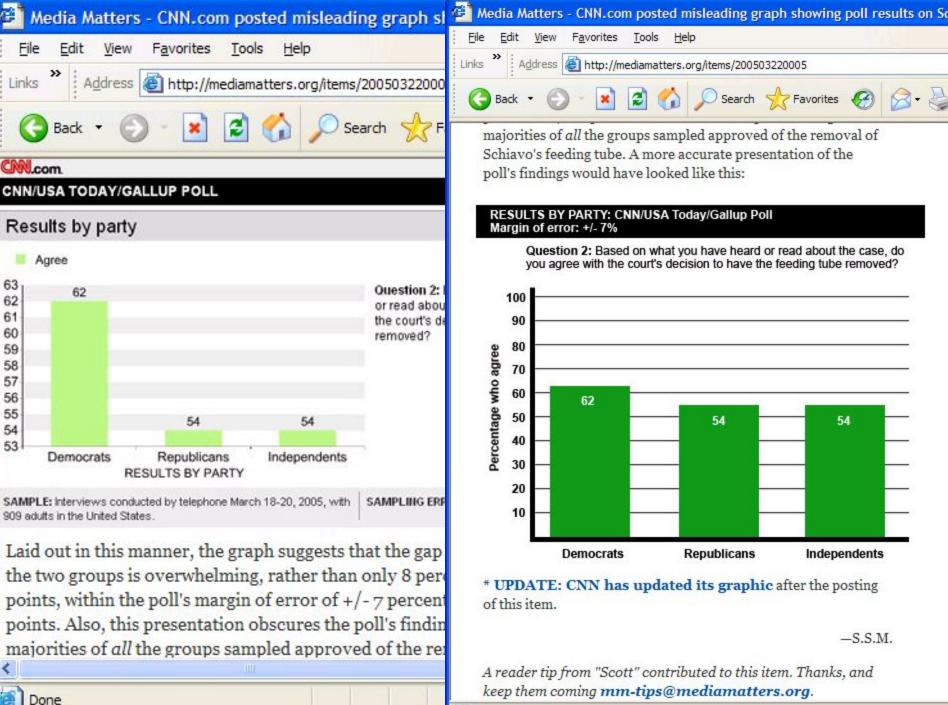
Examples of Information Visualizations

- Pie chart
- Timeline
- Gantt Chart
- Metaphoric,
 e.g. iceberg
- Cartoon
- Org chart

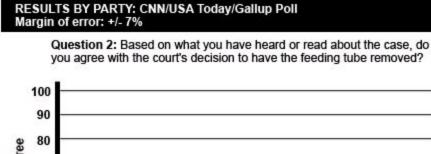


http://www.visual-literacy.org/periodic table/periodic table.html





majorities of all the groups sampled approved of the removal of Schiavo's feeding tube. A more accurate presentation of the



Independents * UPDATE: CNN has updated its graphic after the posting

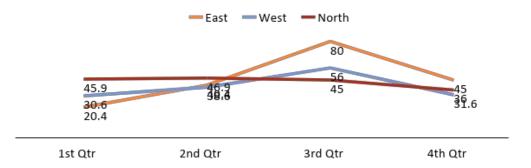
-S.S.M.

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A reader tip from "Scott" contributed to this item. Thanks, and keep them coming mm-tips@mediamatters.org.

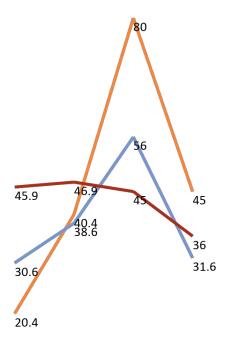
Which graphic shows Population Growth in 3rd Qtr on the EAST?

Population Growth in the East



Population Growth in the East





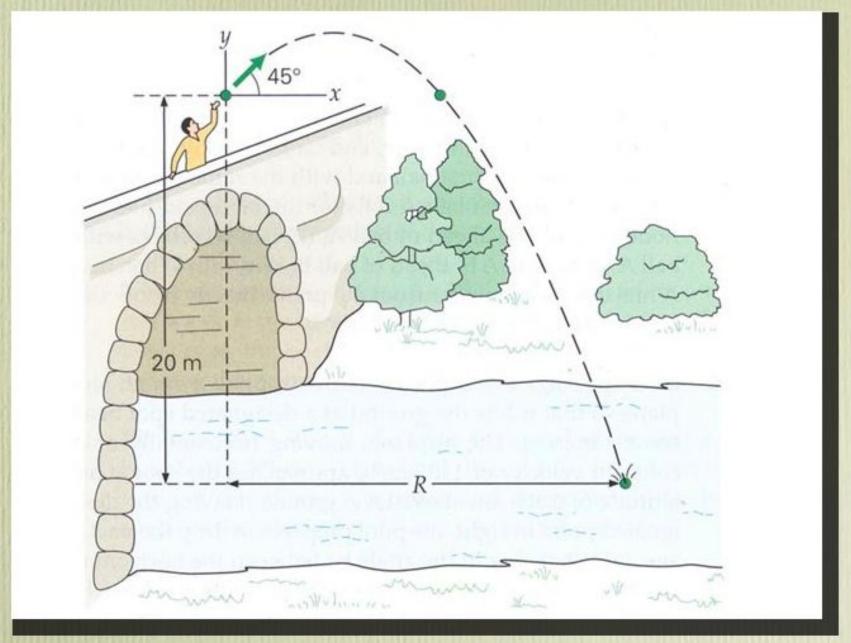
Simple is usually* better.

The power of visualizations comes from their ability to clarify relationships rather than from reproducing exactly the natural world. Thus, a design which emphasizes the desired relationships or information is likely to be more successful than one that makes every effort to be realistic. Students can become confused when elements of a diagram closely resemble the actual entity they represent in the real world

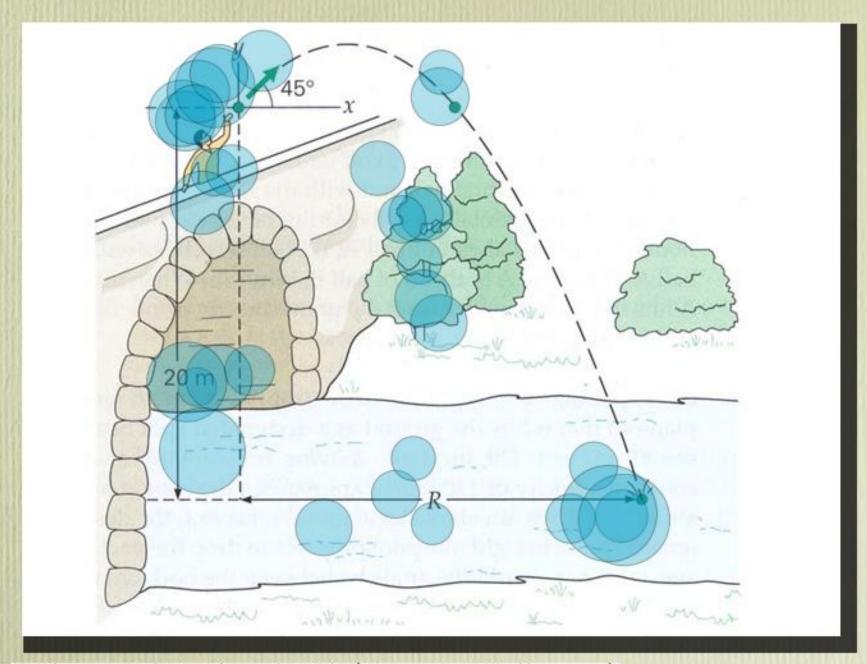


(Uttal et al., 2006).

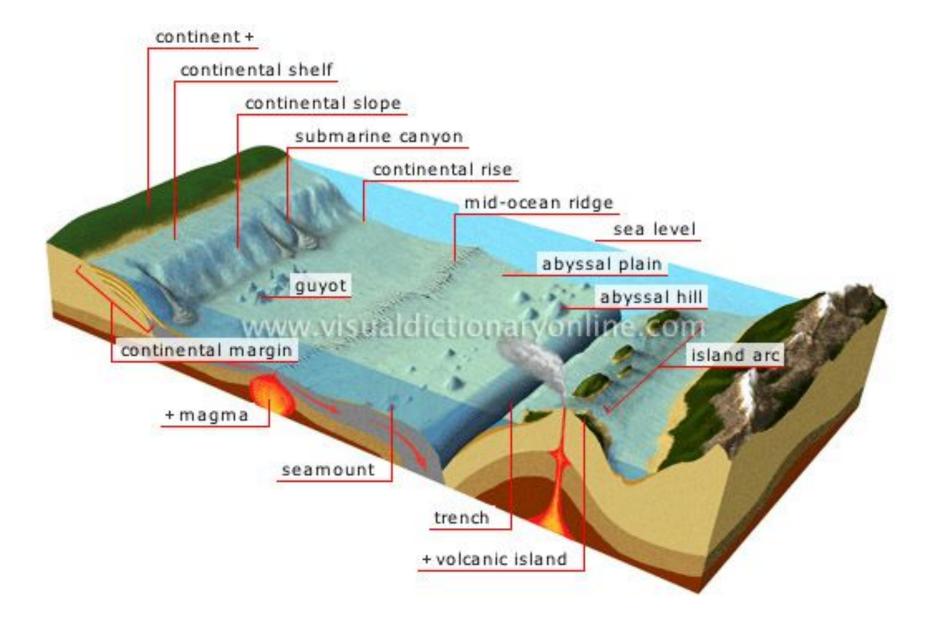
*Over-simplification can create misconceptions *Realism is helpful is some cases

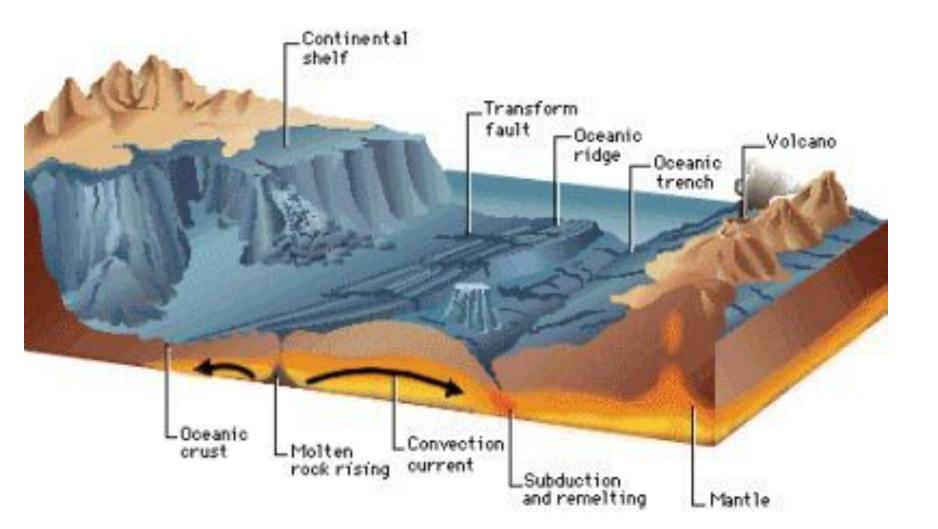


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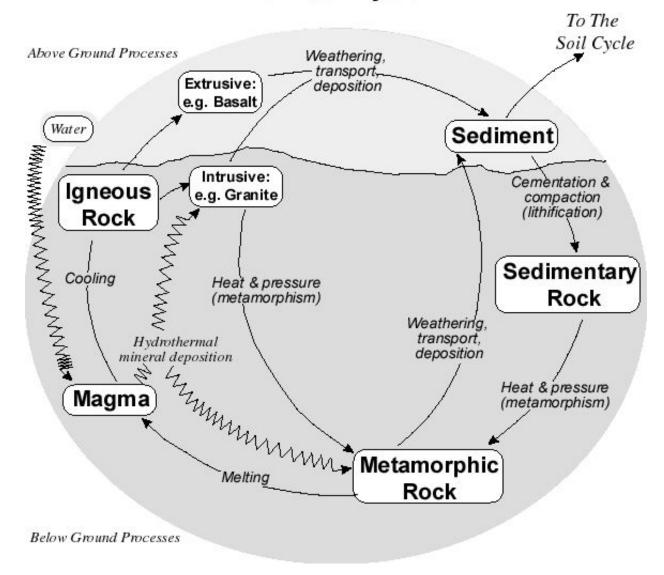


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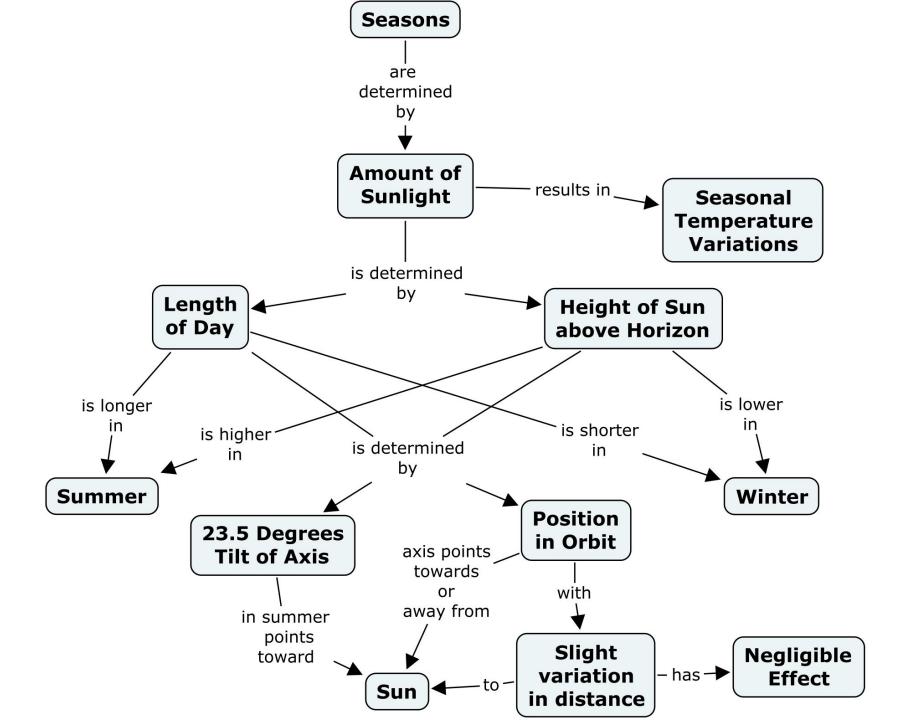




The Rock Cycle



- 1. What do you see illustrated in this diagram?
- 2. How much of what you see is a function of geoscience that you have learned?



K

Why Do We Have Seasons?

The four seasons are spring, winter, summer, and fall. Why do we have four seasons?

The earth moves around the sun. It takes one year for the earth to move all the way around the sun. The earth is slightly tilted. As it goes around the sun, sometimes it is close to the sun. Sometimes it is far away from the sun. This is what causes the seasons. When the earth is close to the sun, the sun shines longer and brighter. This is why the summer is hot. When the earth is far away from

the sun, the sun shines for less time. This is why the winter is cold. During the spring and fall, the earth is farther away from the sun than in the summertime but closer than in the wintertime. This is why the weather is mild.

We have four seasons because of the sun.

Write the four seasons.

a Symper

c. Winter

a. SPEMA

- 2. Why is the summer hot?
 - a. because the earth is close to the sun
 - b. because the sun shines longer
 - because the sun shines brighter
- (d.) All of these answers are correct.

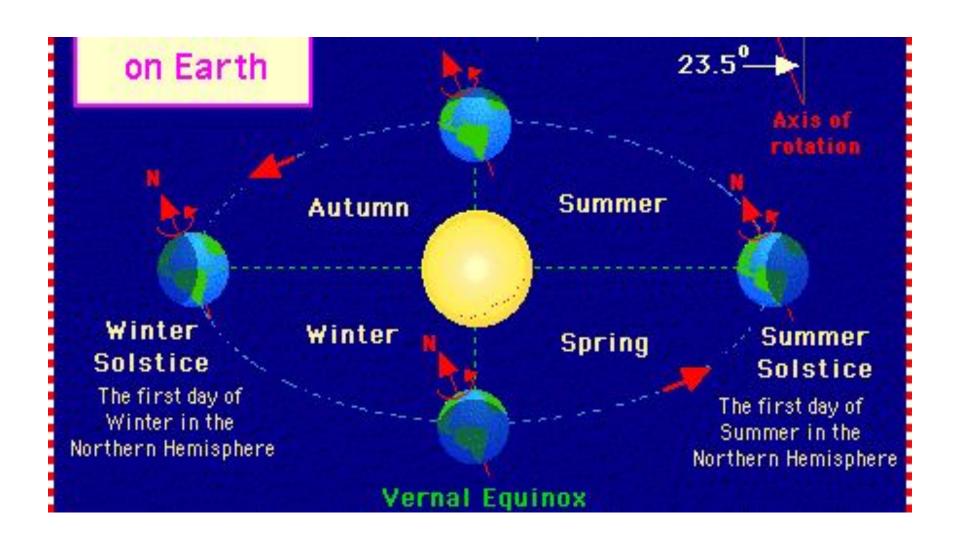
- 3. Why is the winter cold?
 - a. because there is snow
 - b. because the earth is far away from the sun
 - c. because the air is cold
- 4. Why do we have four seasons?

when the northern hemisphere faces the

and winter in sou

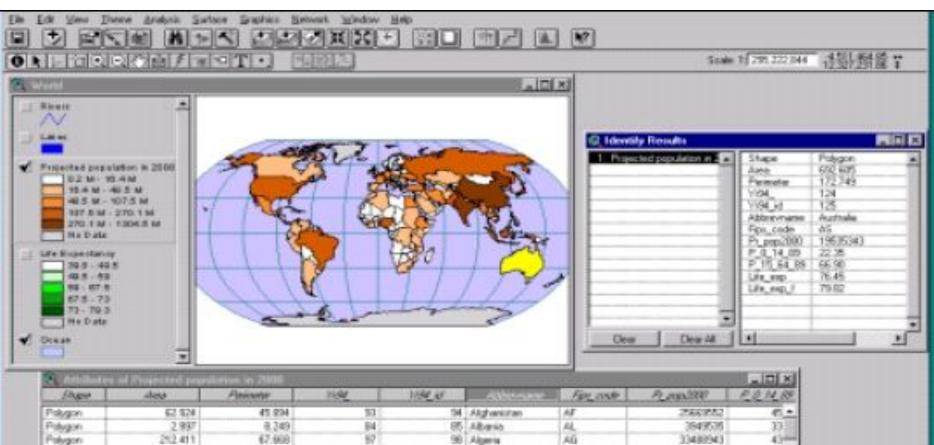
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How do seasons occur?



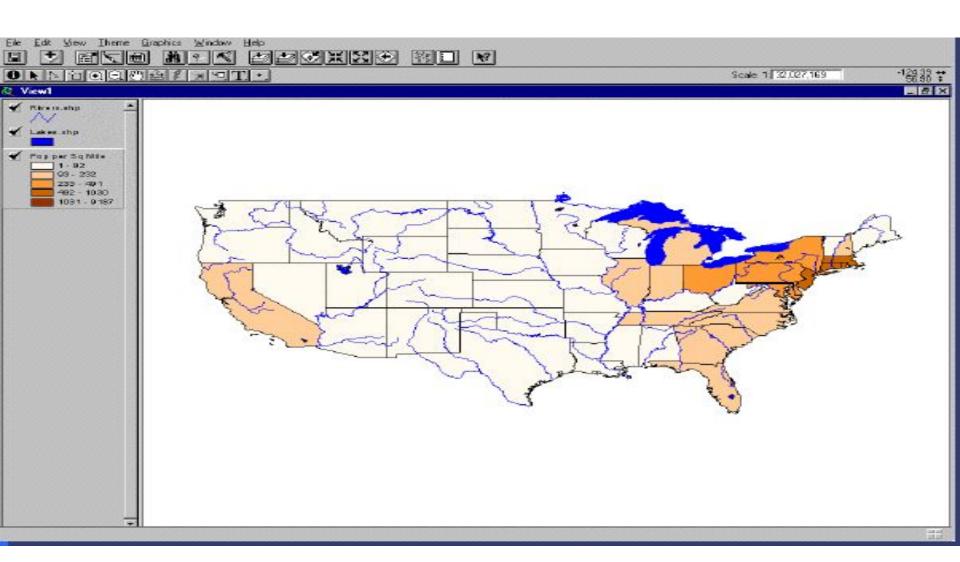
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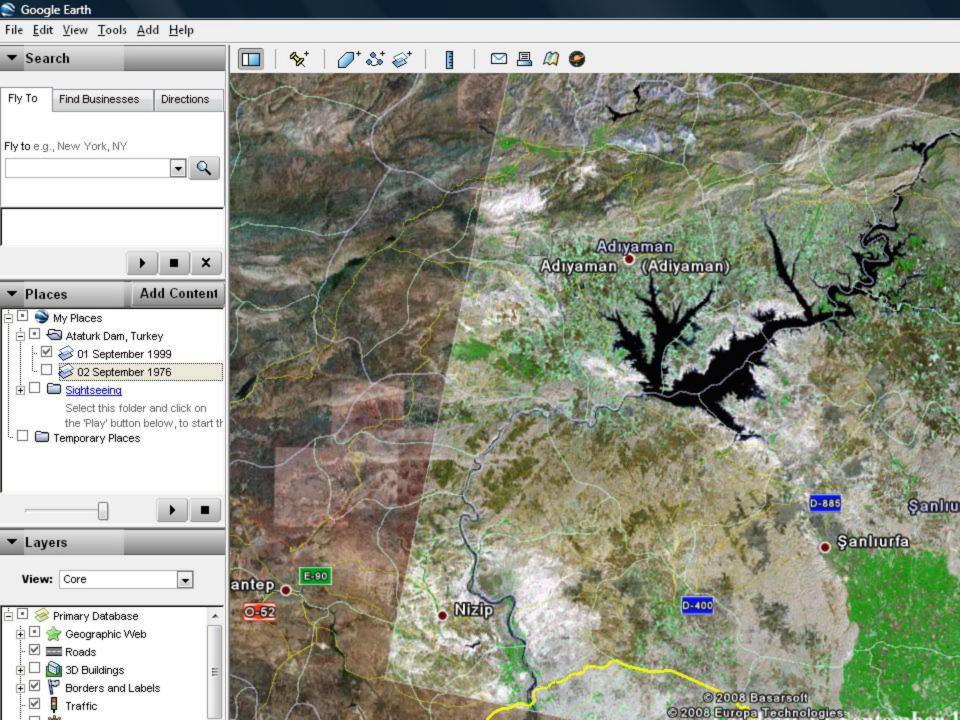
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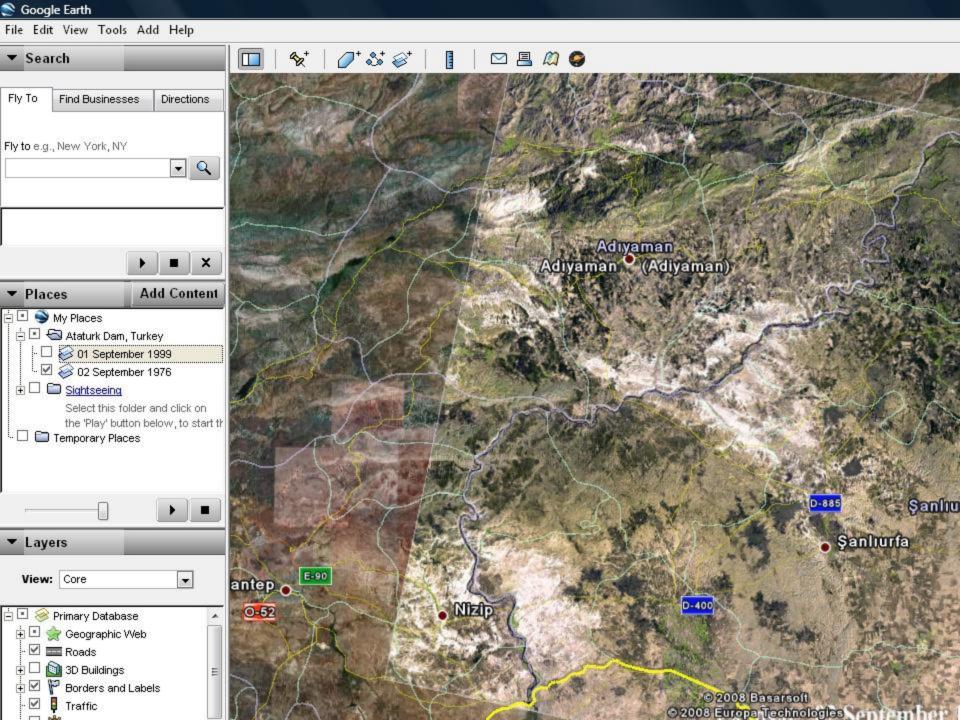


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Visualization "Worth a Thousand Words"









Take the quiz! Compare country size.

Which of the images on both sides of this placemat are "area accurate?" How is the Hobo-Dyer projection below different from the one on the reverse side? Answers and details about all the images are at www.odt.org/hdp. To the right:

- (5) Van Sant's Geosphere,
- (6) Guelke's Toronto-centered projection,
- (7) the Oxford Globe, and







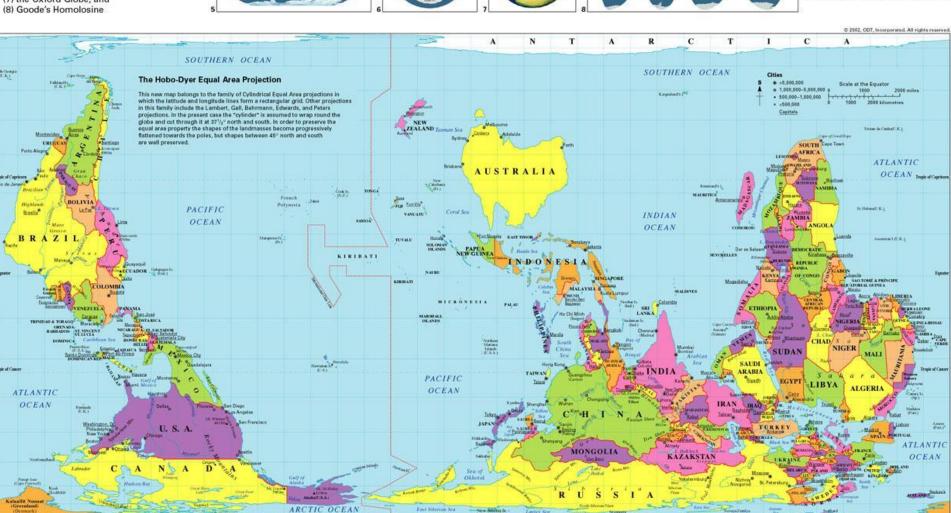


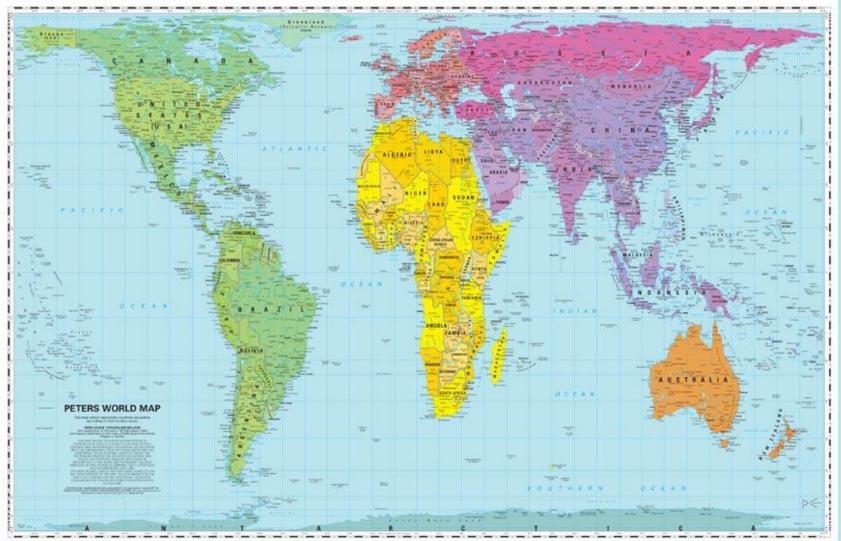
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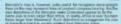
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THE PETERS WORLD MAP

Five thousand years of human hatory have brought us to the threshold of a new age. It is an age of science and technology, and an age of growing interdependence of all nations and peoples.

Such a moment in history demands that we look critically at our understanding of the world. This understanding is based, to a significant degree, on the work of map-makers of the age when Europe domainated and expolited the world. Surplainagly, some maps still reflect that bygone era.

This new map, the work of the German historian Armo Peters, provides a helpful corrective to the size distortions of these maps. While the Peters Map is superior in its portrayal of proportions and sizes, its importance goes far beyond quiestions of carriographic accuracy. Nothing less than our world view is an about.

MAP PROJECTION: Showing the

Canographers can "project" the round globe of the earth onto a flat surface in many ways. The Peters Projection belongs to the category of major that restains true proportionality (equal area). Each country's area (as well as the areas covered by water) can be directly compared.

All north-south and east-west lines on the Peters Map run at right angles thus preserving a characteristic that is present on the globe itself.

Other map projections emphasize different qualities. For example, Mercator's projection features lines of constant compass bearing for navigation.

The Peters sets forth all countries in their true size. Dr. Peters asserted that his projection thus treated all people fairly.

In this complex and interdependent world in which the nations now live, the peoples of the world deserve the most accurate possible portrayal of the actual sizes of their countries. The Peters risps actives that goal

OTHER PETERS NO PRINCIPALITY.

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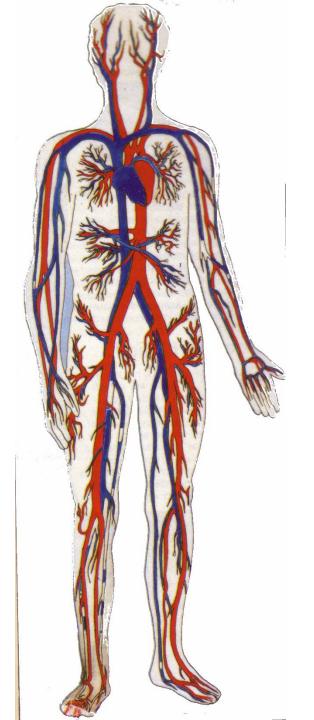
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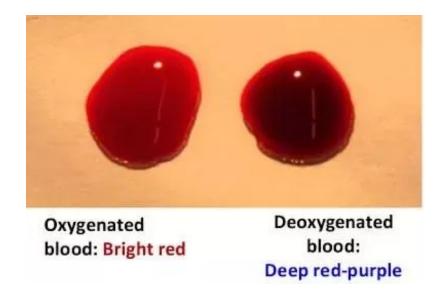
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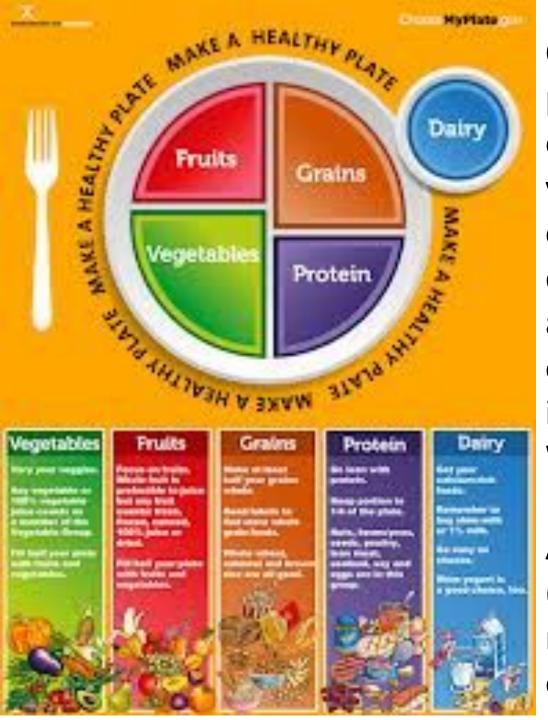
Call or onall (NIE for additional reporters or to find a local manus of Pyron Maps

> ODT, Incorporated 1-800-736-1293 www.odt.org

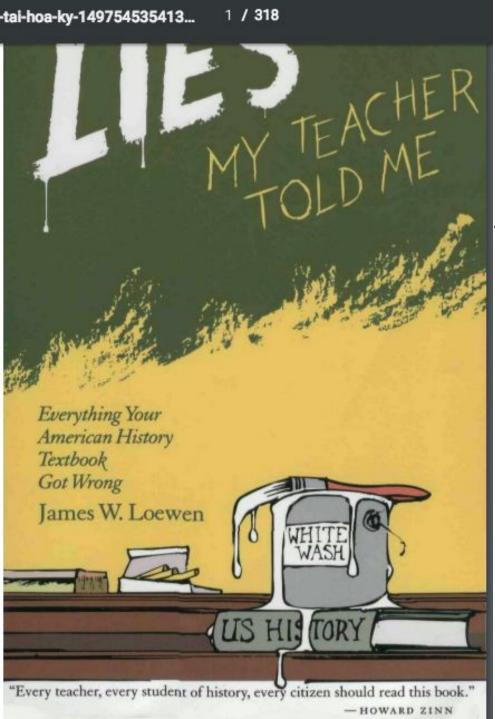


What color is blood without oxygen- (deoxygenated)?





One student drew a picture of a slice of pizza explaining grains, vegetables and dairy, all one slice. The others questioned, "how about a bowl?" "why only fork?", and "where is chopstick?" Why does US Department of Agriculture (USDA) introduce the models for healthy eating habits?



Lies my teacher told me JAMES W LOEWEN

•http://www.ier.edu.vn/upload/product/ /tai-lieu-tham-khao-dao-tao-giao-vien-lich-su-va-day-hoc-lich-su-tai-hoa-ky-14 9754535413.pdf

Every teacher, every student of history, every citizen should read this book.

Howard Zinn

Read these paragraphs. A word is missing in some sentences. To the right of each blank, there are four words. Circle the best word for the blank.



+

In 1955, a state law in Alabama said that black Americans could not sat in front of a bus. A black woman sat in the ______ of a bus in Alabama. The police took her to jail. King told black Americans that they should not ride on the buses. Many people listened to him. At last, the bus companies did not make black Americans sit in the back of the buses.

2.

a. front

b. back

c. side

d. window

King helped to change the lives of black Americans in the United States. In 1968, someone killed Martin Luther King, Jr. Today, his wife and other black Americans are trying to finish his work.

In 1955, a state law in Alabama said that black
Americans could not sat in front of a bus. A black
woman sat in the _______ of a bus in Alabama.
The police took her to jail. King told black Americans
that they should not ride on the buses. Many people
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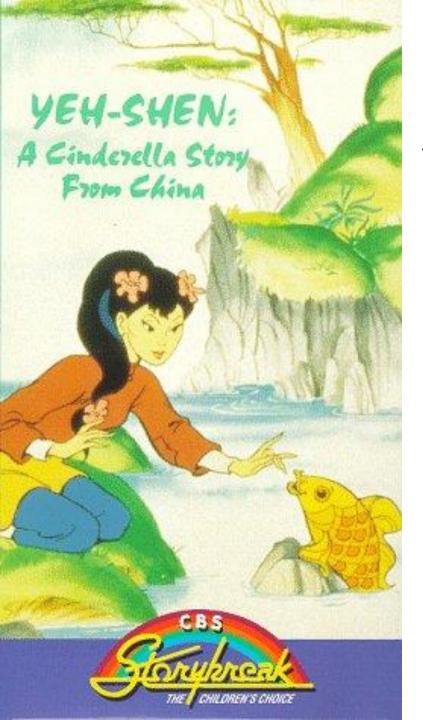




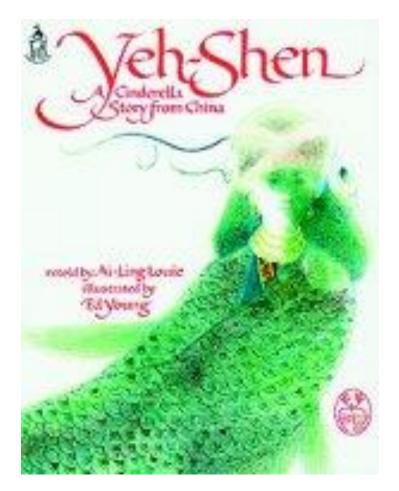
Rosa Parks Interview

http://teacher.scholas tic.com/ROSA/intervie w.htm





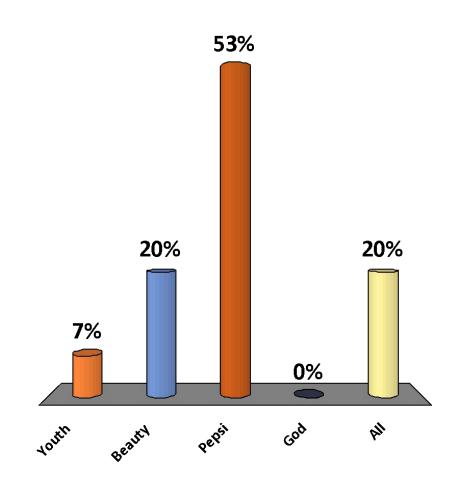
Yeh- Shen: *A Cinderella Story From China*

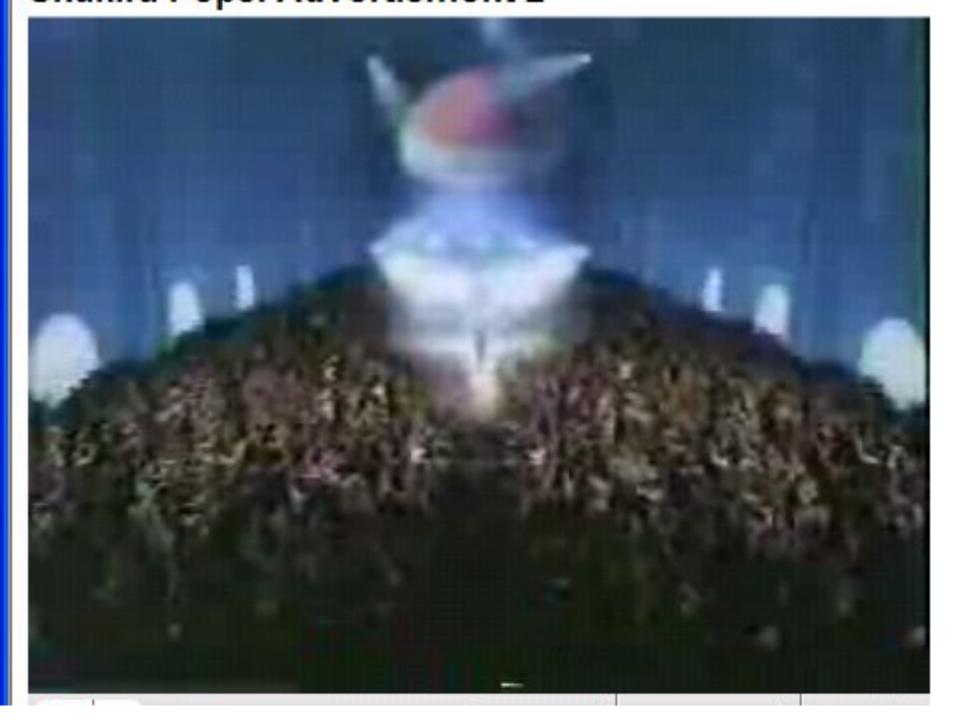


- See the link
 http://www.youtube.com/watch?v=HqK7f
 OA56bc&search=pepsi%20shakira
- watch and identify and respond
- what they sell?
- a) Pepsi b) God c) Beauty d) Youth e) all
- who is their target audience?
- a) you b) hispanic c) global d) young people

What are they selling

- 1. Youth
- 2. Beauty
- 3. Pepsi
- 4. God
- 5. All







Shakira Pepsi Advertisment 2



"Of course it's true — I saw it on TV." "Advertising doesn't make me buy anything!"

"I can find all the answers on the web."

"I want to be just like her—the girl in the magazine."





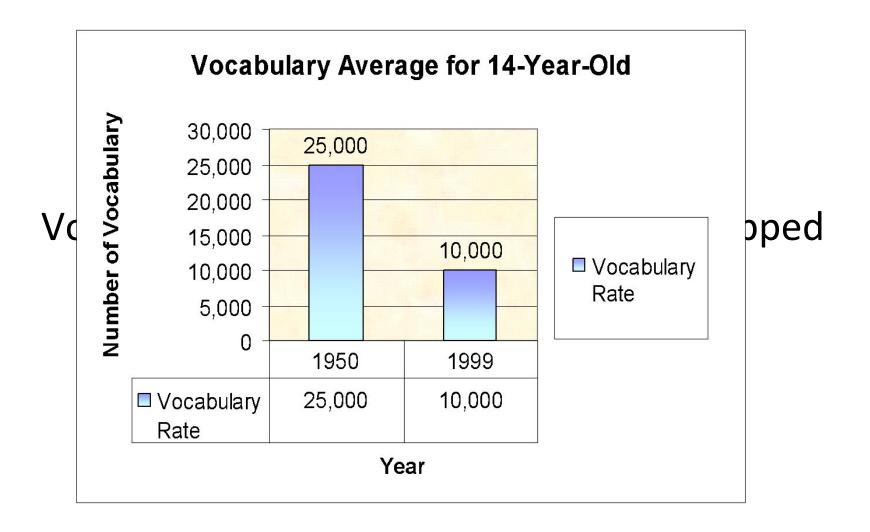


OK (okay) vs. OK (zero kilobyte)



This sign might mean

- "OK" in the United States
- "money" in Japan
- "sex" in Mexico
- "homosexual" in Ethiopia
- an obscenity in Brazil
- "Zero" in Southern France



"Numbers." Time Magazine 155, no 6 (Feb 14, 2000); 25

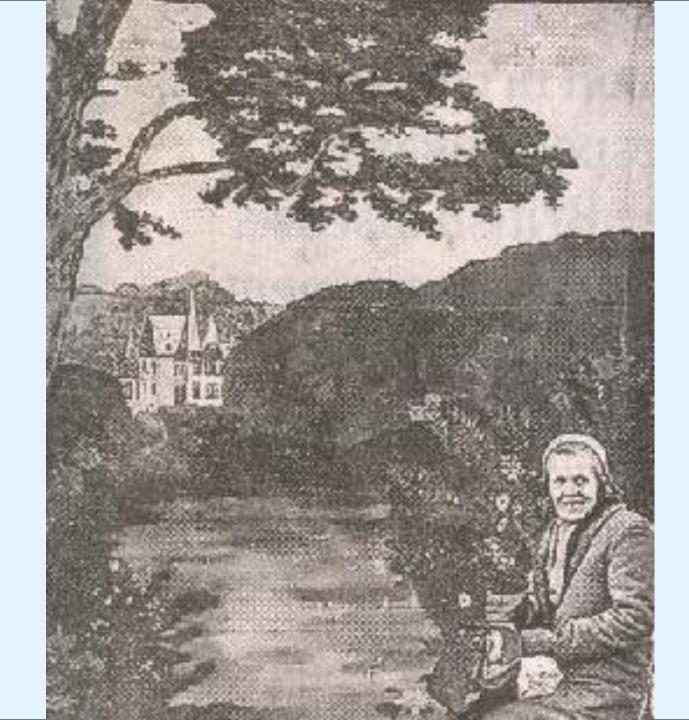
What this results tell us?

BLAME somebody or something

- No parent involvement?
- Too much TV/ New media
- No enough reading

Or question the data?

- Who did the research?
- Who sponsored it?
- Who were the participants?





Activity!

Draw a picture of a scientist and describe the image.

- Is your scientist wearing a white coat? Yes No. Describe.
- Is your scientist inside or outside? Describe the location and background.
- Is your scientist wearing an eye glass? Yes No
- What is the gender?
- What ethnicity, background, country your scientist is from?
- What kind of research does this scientists do?
- Describe hair style, outfit, etc. the scientist is wearing.
- Give a voice, name and adjective to your scientist picture.

What am I?



I am a scientist



I am a scientist.

I can ask questions.

I can explore.

can measure.

I can learn.

BEFORE

AFTER





I think of a scientist as very dedicated to his work. He is kind of crazy, talking always quickly. He constantly is getting new ideas. He is always asking questions and can be annoying. He listens to others' interested in dancing, pottery, ideas and questions them.

I know scientists are just normal people with a not so normal job. . . . Scientists lead a normal life outside of being a scientist. They are jogging and even racquetball. Being a It is no longer enough to simply read and write. Students must also become literate in the understanding of visual images. Our children must learn how to spot a stereotype, isolate a social cliché and distinguish facts from propaganda, analysis from banter, important news from coverage. Ernest Boyer

A democratic civilization will save itself only if it makes the language of the image into a stimulus for critical reflection, not an invitation to hypnosis.

Umberto Eco (1979)

Melda N. Yildiz Melda. Yildiz@Fulbrightmail.org

תודה Dankie Gracias Спасибо Köszönjük Terima kasih Grazie Dziękujemy Dėkojame Ďakujeme Vielen Dank Paldies Kiitos Täname teid 谢谢 感謝您 Obrigado Teşekkür Ederiz 감사합니다 Σας Ευχαριστούμ

Bedankt Děkujeme vám ありがとうございます Tack



