

MAPS & APPS FOR COMMON CORE



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ABSTRACT

Harness the powers in GIS to spark engaging critical thinking while tackling the challenges of integrating Common Core standards into core curricular content. Come explore how GIS can be used to enhance the Common Core Reading and Math standards. We will share maps, apps, activities and practical solutions for getting started with GIS and teaching with the standards in mind. Common Core can be easier with a little GIS on board!

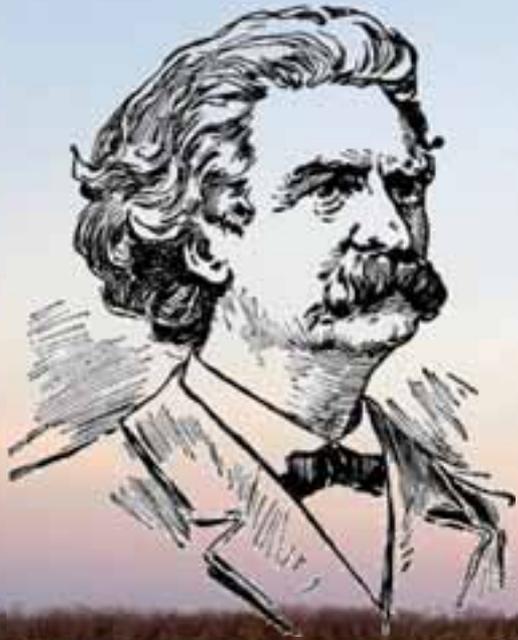


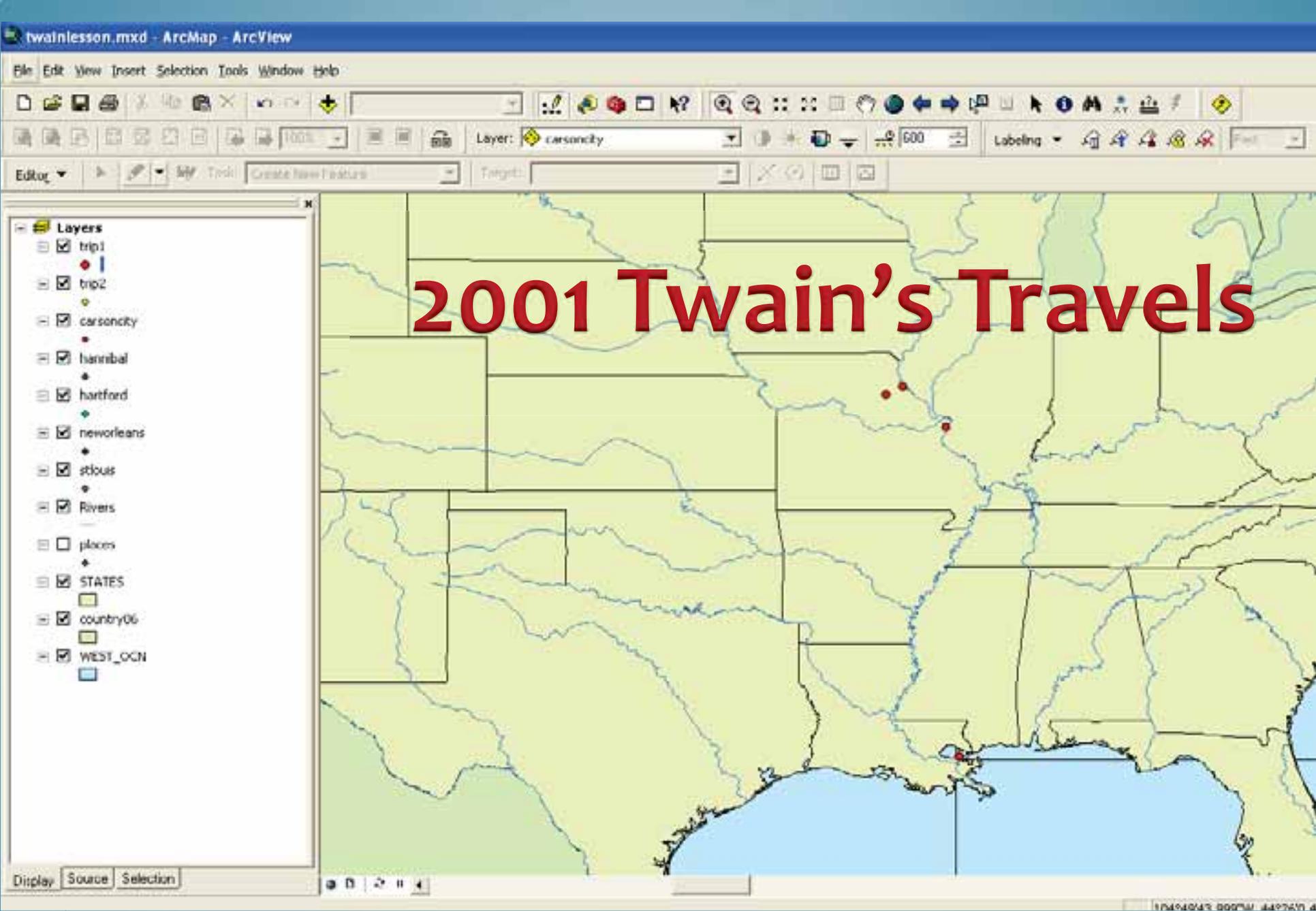
A green rectangular road sign with rounded corners and a white border, mounted on two wooden posts. The sign features the text "The Beginning" in a large, white, sans-serif font. The background is a bright blue sky with scattered white clouds.

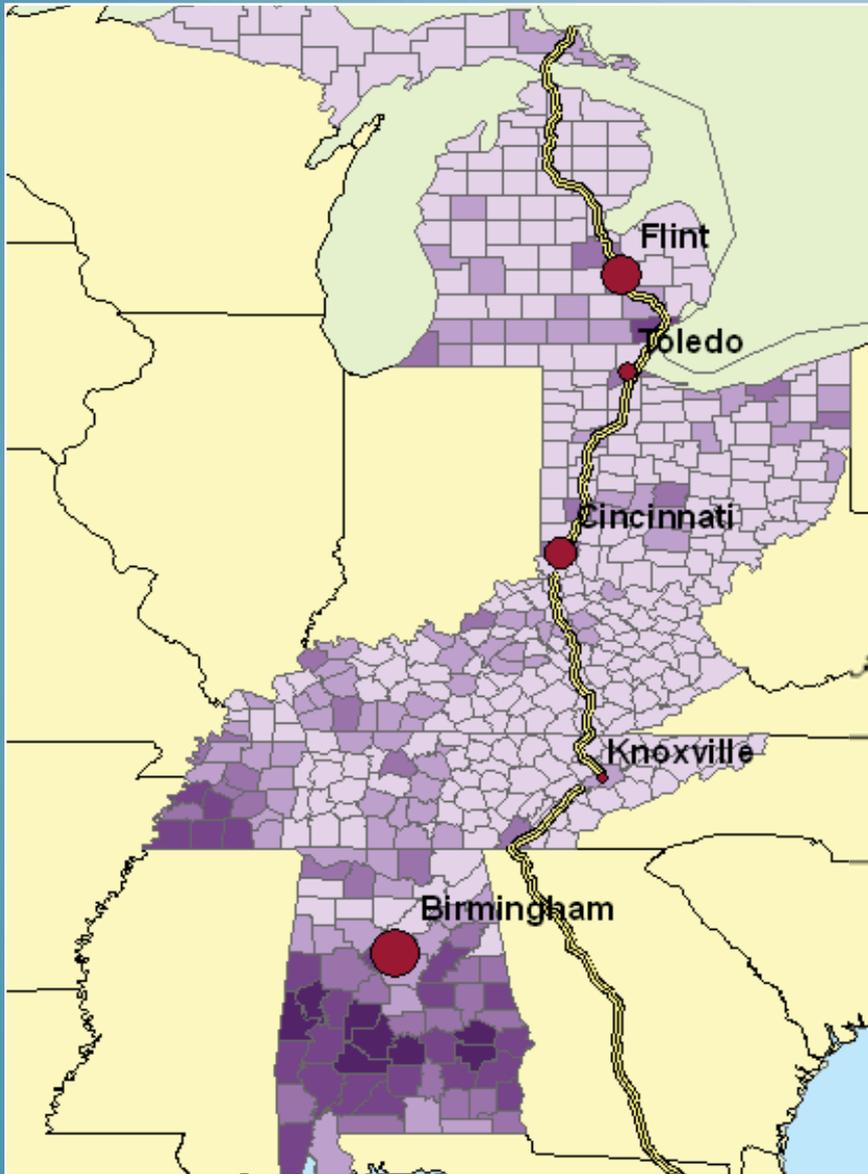
The Beginning

“The common eye sees only the outside of things, and judges by that, but the seeing eye pierces through and reads the heart and the soul, finding there capacities which the outside didn't indicate or promise, and which the other kind couldn't detect.”

~ Mark Twain







2008

The Watson's Go To Birmingham

Haiku's Make the Map



This is an opportunity for the global community to map and be creative! With this editable map, you can add a point to the map and compose a quick poem, haiku. Remember a haiku is 17 syllables, 5 on the first line, 7 on the second line and 5 on the third line.

Instructions:
Zoom to your favorite spot, click the Edit icon, click the New icon, place the icon on the map and type away!
Let's have some fun!

<http://bit.ly/12I0PW1>

2013 Interactive Writing



Photo by Amy Gillam

Are you a poet?

MAPS & APPS



WWW.BARBAREEDUKE.COM/CCGIS



Using GIS to Teach Common Core

By Barbaree Duke

My web maps created using ArcGIS Online.



Common Core Reading Index



Reading Activities



Esi's Story Maps



Common Core Math Index



Math Activities



Common Core Standards



More Standards-Based Curriculum



Fun Stuff!



Meet the GGGeo Team

Use Story Maps to Inform and Inspire Your Audience

Story maps combine interactive maps and multimedia content into elegant user experiences. They make it easy for you to harness the power of GIS to tell your stories.

CLEAR CONNECTION BETWEEN
GIS & READING, WRITING
AND THINKING
IT'S IMPORTANT TO
TELL A GOOD STORY!

Featured Story Maps



Zoo Babies



Moors, Oklahoma One Year
After the Tornado



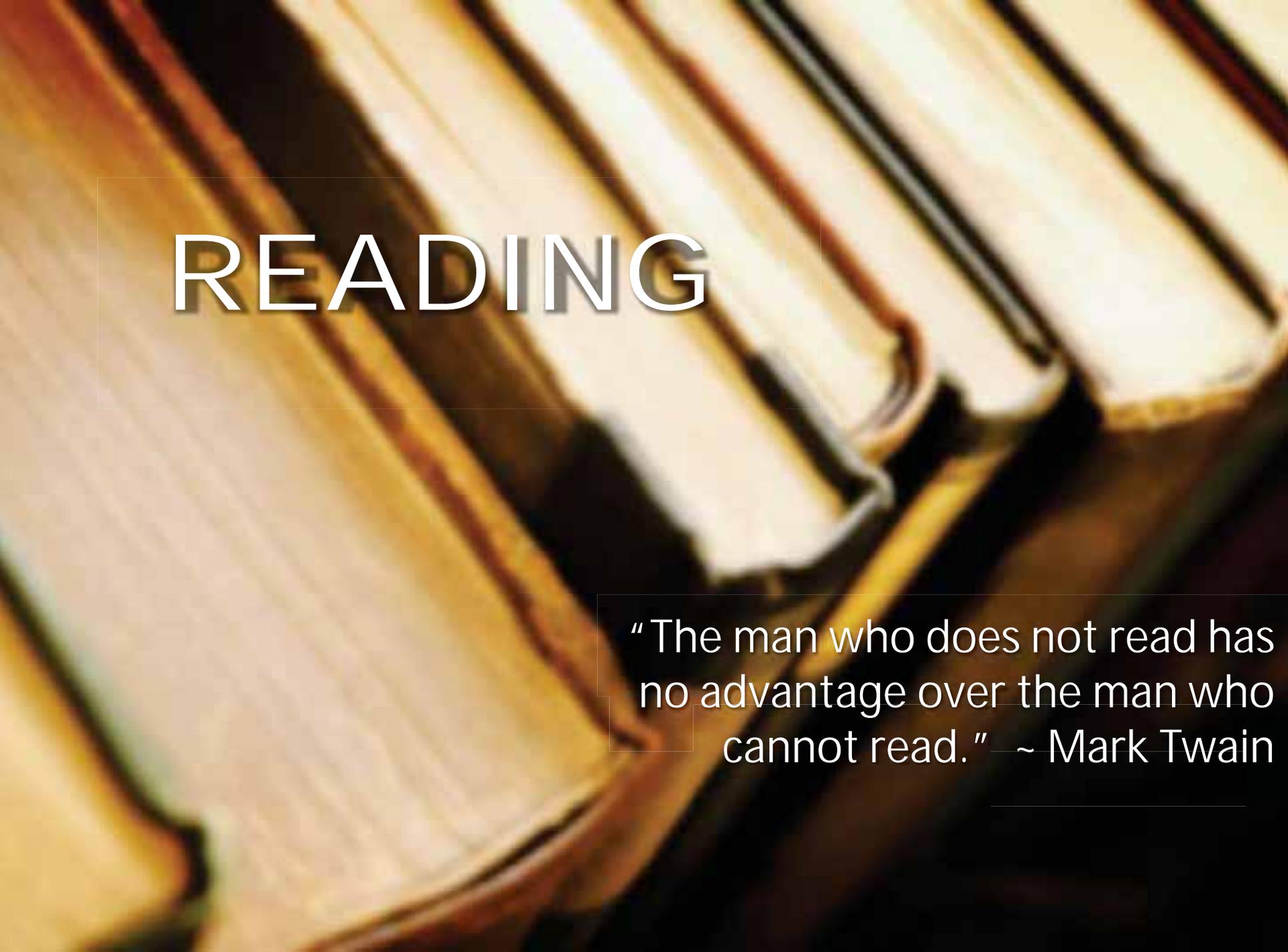
Twister Dashboard



A Year in the Life of a Flipping
River



Utilize the great resources already available - <http://storymaps.esri.com>
<http://storymaps.arcgis.com/en/collections/>



READING

“The man who does not read has no advantage over the man who cannot read.” ~ Mark Twain



USE THE GREAT READING MATERIALS IN STORY MAPS!

www.barbareeduke.com/commoncore

10 COMMON CORE BASE READING STANDARDS

1. Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

2. Determine central ideas or themes of a text and analyze their development; summarize the key supporting details and ideas.

3. Analyze how and why individuals, events, and ideas develop and interact over the course of a text.

4. Interpret words and phrases as they are used in a text, including determining technical, connotative, and figurative meanings, and analyze how specific word choices shape meaning or tone.

5. Analyze the structure of texts, including how specific sentences, paragraphs, and larger portions of the text (e.g., a section, chapter, scene, or stanza) relate to each other and the whole.

6. Assess how point of view or purpose shapes the content and style of a text.

7. Integrate and evaluate content presented in diverse media and formats, including visually and quantitatively, as well as in words.*

8. Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

9. Analyze how two or more texts address similar themes or topics in order to build knowledge or to compare the approaches the authors take.

range of reading and Level of text Complexity

10. Read and comprehend complex literary and informational texts independently and proficiently.

<http://www.corestandards.org/>

There's A Story Map for That!

GIS - The Essential Common Core Reading Tool

Share this resource  



MAP LEGEND ▼



Did you know that there are some excellent reading opportunities in Story Maps? This map serves as a table of contents for using Story Maps with Common Core Reading Standards. Reinventing the wheel isn't necessary with so many great maps and data sources that will help us teaching reading, writing and thinking with engaging content and little effort. *Click the Standard below to see the correlating Story Map pop-up on the map.* *Click this link to get the Coordinating Student Activities for*

-  **1** Read closely to determine what the text says...
-  **2** Determine central ideas or themes of a text and...
-  **3** Analyze how and why individuals, events, and...
-  **4** Interpret words and phrase as they are used in a text,...
-  **5** Analyze the structure of texts, including how...
-  **6** Assess how point of view c purpose shapes the...
-  **7** Integrate and evaluate

<http://barbareeduke.com/commoncore/>



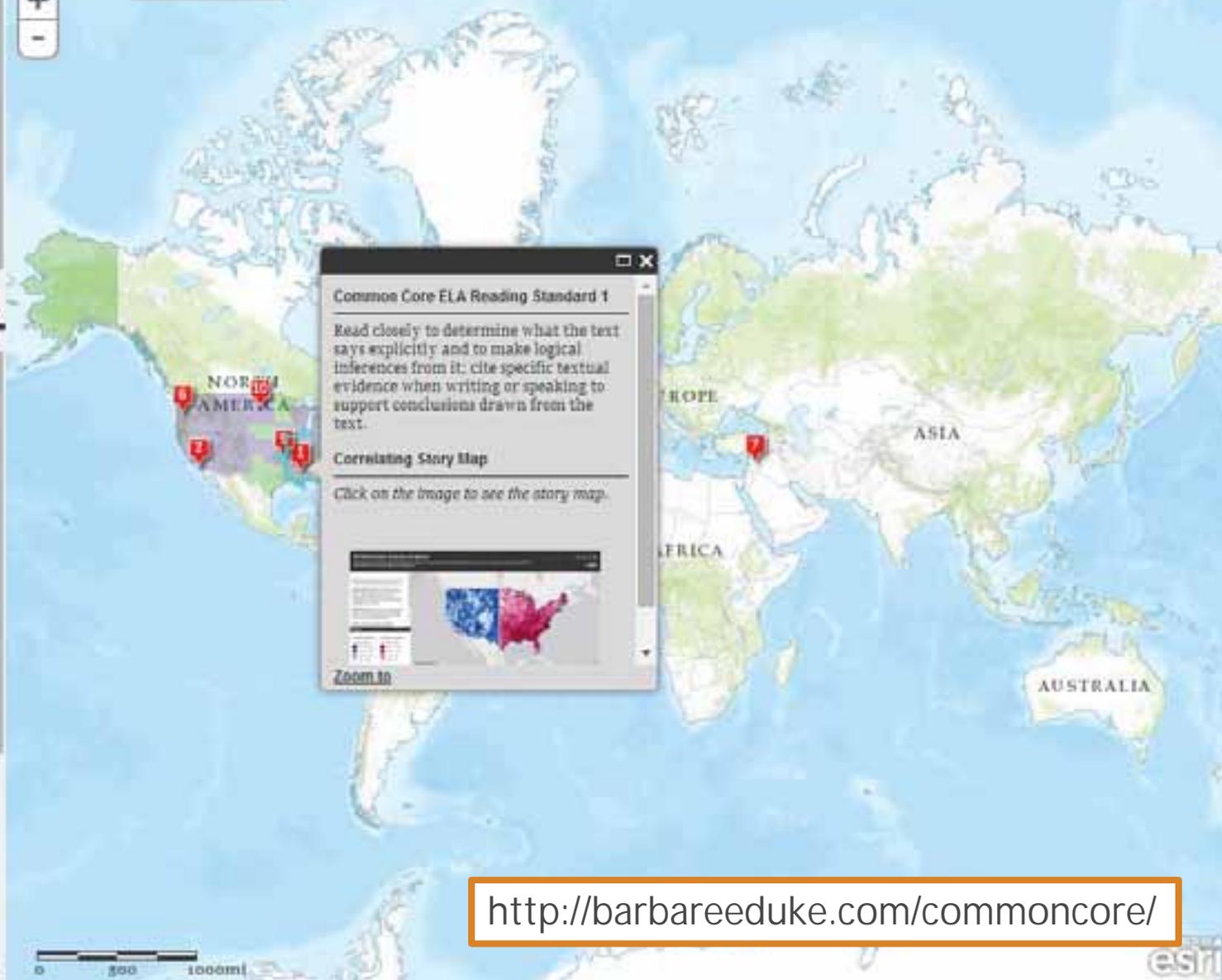
There's A Story Map for That!

GIS - The Essential Common Core Reading Tool

Share this resource  



MAP LEGEND ▼



Common Core ELA Reading Standard 1

Read closely to determine what the text says explicitly and to make logical inferences from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.

Correlating Story Map

Click on the image to see the story map.



Zoom to

Did you know that there are some excellent reading opportunities in Story Maps? This map serves as a table of contents for using Story Maps with Common Core Reading Standards. Reinventing the wheel isn't necessary with so many great maps and data sources that will help us teaching reading, writing and thinking with engaging content and little effort. Click the Standard below to see the correlating Story Map pop-up on the map. Click this link to get the Coordinating Student Activities for

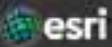
-   Read closely to determine what the text says...
-   Determine central ideas or themes of a text and...
-   Analyze how and why individuals, events, and...
-   Interpret words and phrases as they are used in a text...
-   Analyze the structure of texts, including how...
-   Assess how point of view or purpose shapes the...
-   Integrate and evaluate

<http://barbareeduke.com/commoncore/>



The linked burdens of obesity and diabetes

Fact 1: Close to a third of U.S. adults are obese. Fact 2: Almost 90% of people with newly-diagnosed type 2 diabetes are overweight. County maps reflect the close links between these key public health challenges.



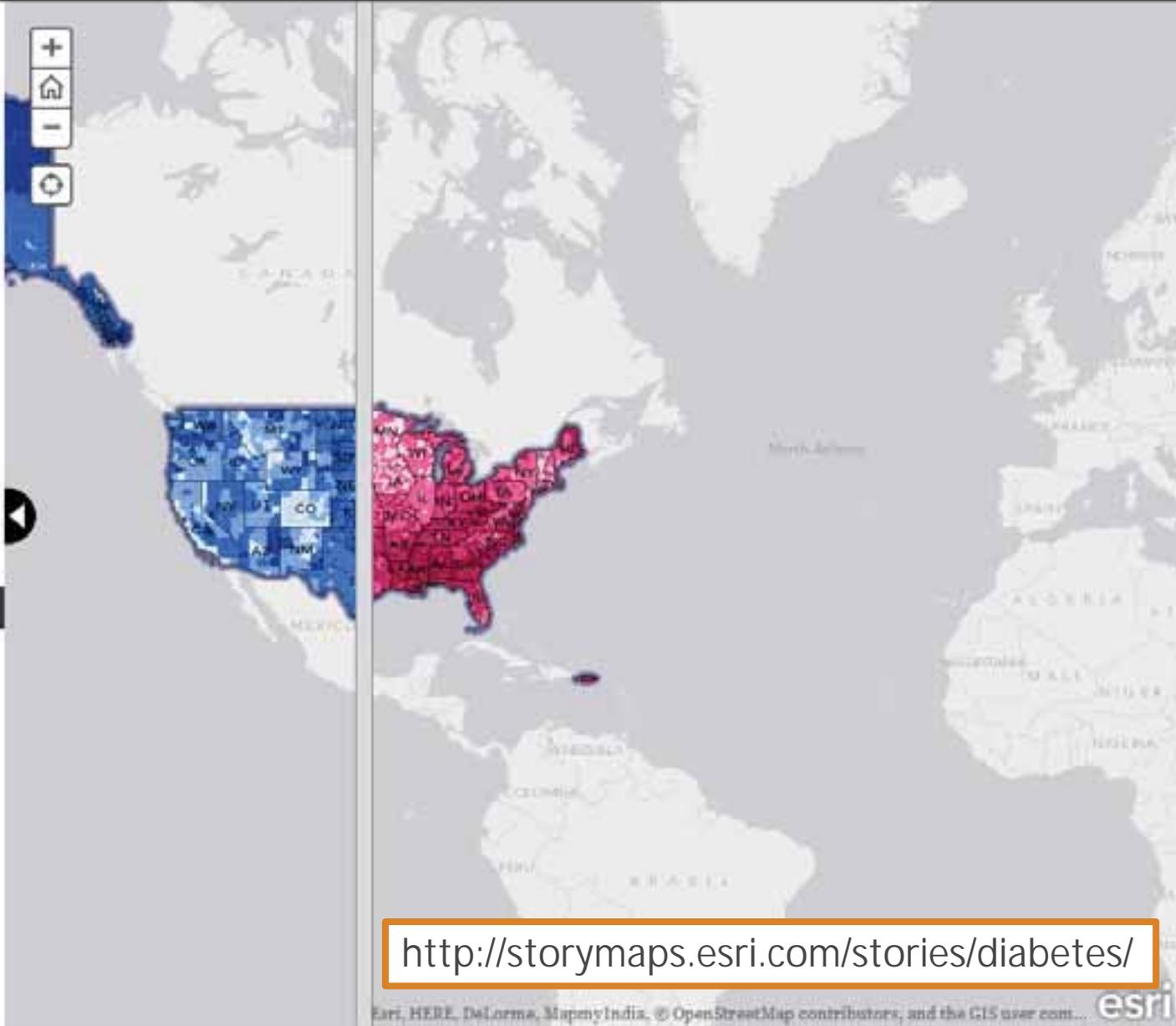
Click on a county and move the slider bar to compare obesity and diabetes statistics.

Adult obesity rates are mapped on the left. The term "obese" refers to high overall body weight that increases the risk of diabetes and other diseases. Even in areas with high rates of obesity, individual profiles and habits vary widely.

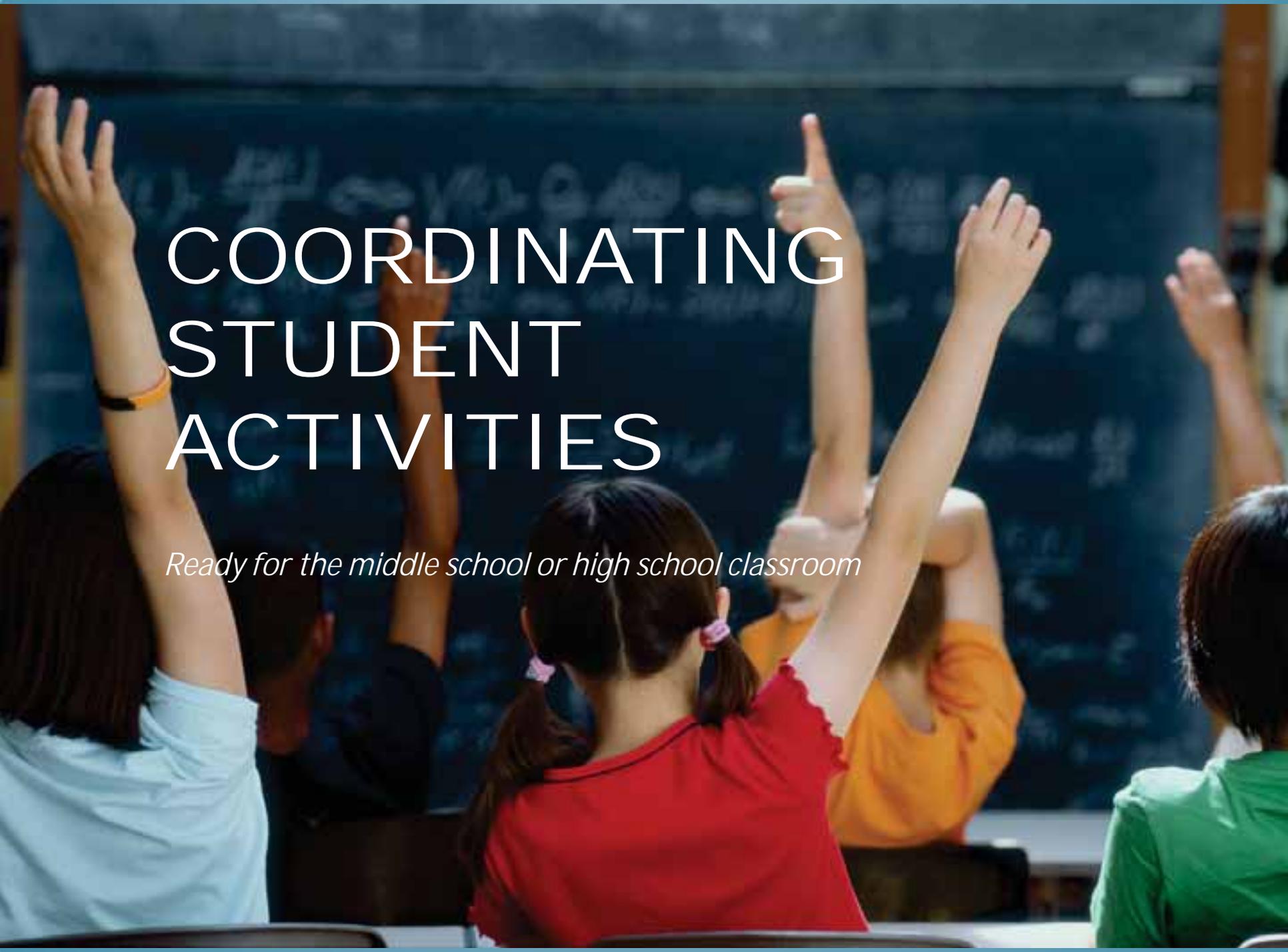
Diabetes rates are shown to the right of the slider. Public health workers use maps like these in their continuing efforts to manage and prevent diabetes and obesity.

Obesity rates are on the rise despite a **national goal** to reduce obesity prevalence to 15%. Twelve states had an obesity prevalence of 30% or more in 2010, up from nine states in 2009.

Sources: Centers for Disease Control and Prevention (CDC) obesity and diabetes data.



<http://storymaps.esri.com/stories/diabetes/>

A photograph of a classroom with several students in the foreground and middle ground. They are all seen from behind, with their arms raised high in the air. The students are wearing various colored shirts: light blue, red, orange, and green. In the background, a large chalkboard is visible, covered in faint, illegible chalk writing. The overall atmosphere is one of active participation and engagement.

COORDINATING STUDENT ACTIVITIES

Ready for the middle school or high school classroom

Activities for *There's a Story Map for That!*

There's a Story Map for That!
A Journey through Some ELA Common Core Standards and GIS Correlations

This map gives more-direct correlations for using Story Maps with Common Core Standards. Re-writing the wheel isn't necessary with so many great maps and data sources that will help in teaching reading, writing and thinking with little effort and engaging content for students.



The screenshot shows a world map with several red location pins. A sidebar on the left contains four activity cards, each with a small image and a title:

- Read closely to determine what the text says...
- Determine central ideas or themes of a text and...
- Analyze how and why individuals, events, and...
- Integrate words and phrases as they are used in a text...

Click the image above to return to the Common Core and GIS home map.

Student Activities

Click the Standard link below to view the correlating activity. (*.pdf)

[Standard 1: Inferences and Evidence](#)

[Standard 2: Central Ideas](#)

[Standard 3: Developing Ideas](#)

[Standard 4: Interpret and Analyze](#)

[Standard 5: Structure and Relationships](#)

[Standard 6: Point of View and Purpose](#)

[Standard 7: Integrate and Evaluate](#)

[Standard 8: Delineate and Evaluate](#)

[Standard 9: Compare Approaches](#)

[Standard 10: Read and Comprehend Independently](#)

<http://www.barbareeduke.com/commoncore/activities.htm>

Inferences and Evidence

Go to the Story Map at

<http://storymaps.esri.com/stories/diabetes/>.

Examine the maps. Read the text. Follow the links to read additional definitions and information. Answer all questions in complete sentences. Use the back of the paper if necessary.

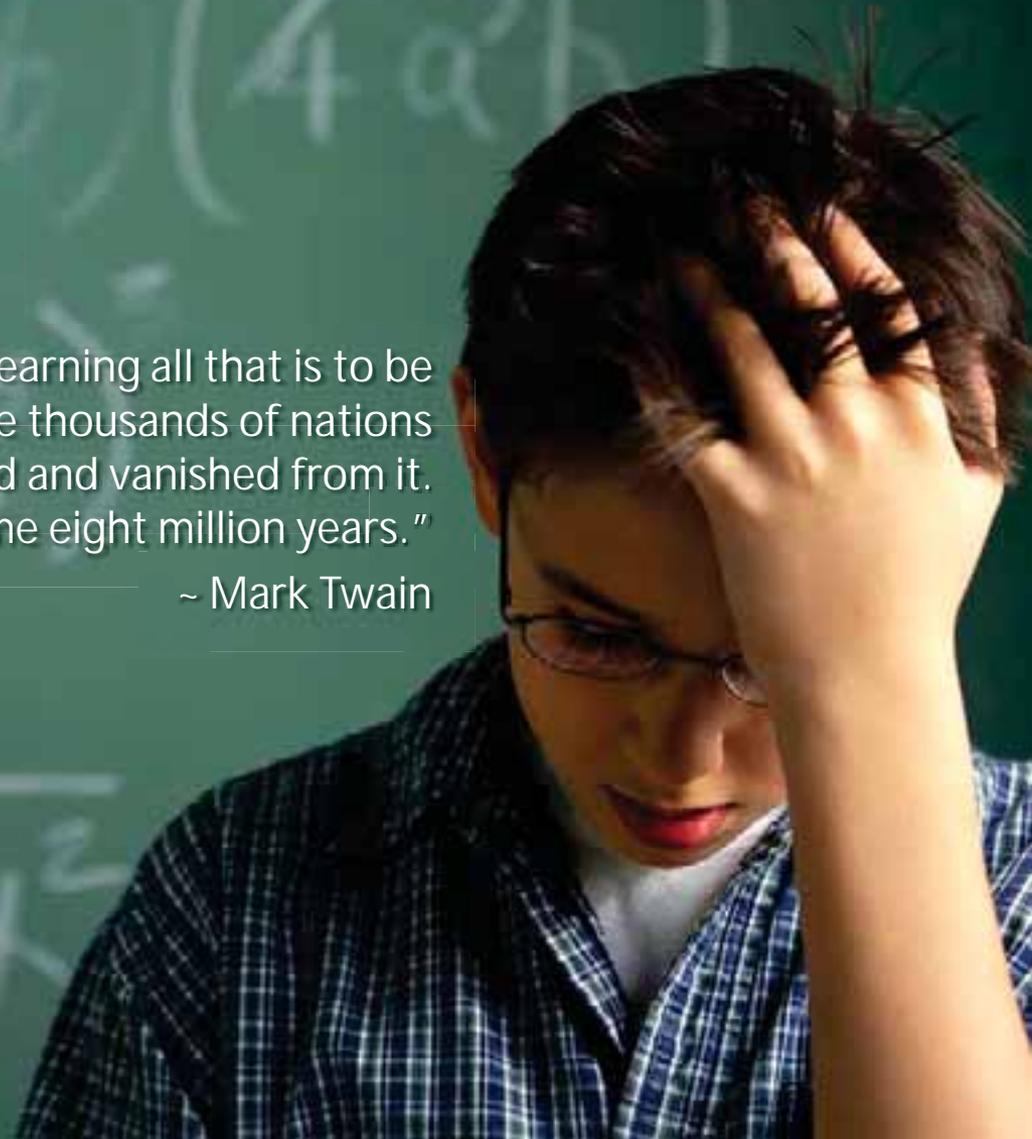


1. Describe obesity?
2. Describe diabetes?
3. What do you understand to be true from the text and the map? Explain how you determined that information.
4. What are the authors trying to say with this text and map examples?
5. How can you relate to this topic? Give evidence from real life, yours or others you know.

MATH

"We could use up two Eternities in learning all that is to be learned about our own world and the thousands of nations that have arisen and flourished and vanished from it. Mathematics alone would occupy me eight million years."

~ Mark Twain





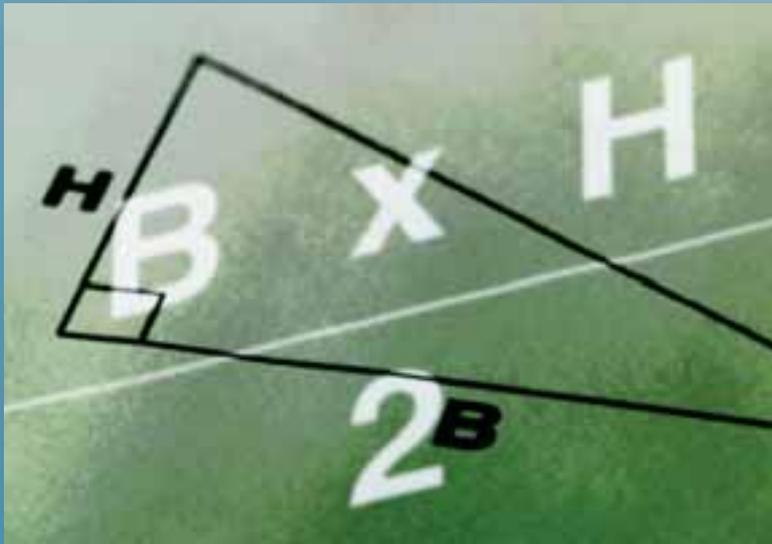
USE THE
MATERIALS IN
STORY MAPS TO
TEACH CC MATH
TOO!

www.barbareeduke.com/ccmath

COMMON CORE MATH STANDARDS

Elementary

- *Geometry*
- *Measurement*



Middle & High School

- *Modeling*
- *Statistics*

GIS for Common Core Math

Bring GIS and geography into your Common Core math instruction...your students will thank you.

Share this resource  



Click on the map item to access the activity's map.

Student activities are available at:
<http://www.barbareeduke.com/ccmath/math>

-  K (2) Students describe the physical world using...
-  3 (2) developing understanding of fractions.
-  1st (3) developing understanding of linear...
-  2nd (3) using standard unit of measure
-  4th (3) understanding that geometric figures can be...





COORDINATING STUDENT ACTIVITIES

Ready for the elementary, middle or high school classrooms

PRIMARY K-2

K (2) Describe their physical world using geometric ideas.

Name: _____
Date: _____

Places and Shapes - Do you see what I see?
Open the map: <http://bit.ly/1m4d0Y1>

Kansas is a (name the shape) _____ with a bite out of the corner.

Zoom in closer to see the counties. What shape are most of the counties?

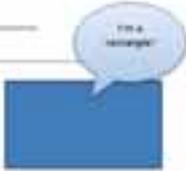
Zoom in closer so you can see the farms. Now what shapes do you see?

Search and find your city. Name the shapes in your part of the world.

1 (3) understanding linear measurement

Name: _____
Date: _____

Find that Shape!



Open the map: <http://bit.ly/1m4d0Y1>

Click on the map on the state shape to get the state name.

What states are in the shape of one rectangle?

What states are two rectangles stacked together?

What states are *mostly* a rectangle? (maybe some extra squiggly parts on some corners)

Are there any rectangle states that touch each other? if yes, name them?

ELEMENTARY

3-5

3 (2) Developing understanding of fractions

Name: _____ Date: _____

Count-fractional?

So that's not a real word, but we can use counties to understand something about distance and fractions.

Open the map: <http://www.azdeq.gov>. Use the map and the measure tool and your brain to answer these questions. (note: speed x time = distance)

1. If it takes 20 minutes to walk 1 mile, how many minutes will it take to walk across the widest part of Texas?
2. How many minutes to walk across your state?
3. What is 1/5 of that distance?
4. What is 1/5 of that distance?
5. Break down states into county fractional parts, in Delaware 1/3 or in TX 1/254. Pick 6 states and give their one county to total counties fraction.
State: _____ fraction: _____
State: _____ fraction: _____

5 (3) developing understanding of volume

Name: _____ Date: _____

How much water is that?

Open the map: <http://www.azdeq.gov>

Use the map to answer these questions about volume. ($V = L \times W \times H$)

1. If Colorado were a very large swimming pool that was 10 feet deep, what would be the volume of that pool? Show your work.
2. If Wyoming decided to make their state into a swimming pool that was 11 feet deep, what would the volume be? Show your work.
3. Find the volume of oddly shaped state sized "swimming pool" that will be 6 feet deep. State: _____
Show your work.

MIDDLE
SCHOOL
6-8

7 (2) drawing inferences about populations
based on samples

Name: _____ Date: _____

Shutting Down

The Federal Government shut down temporarily in 2013. Let's look at some of the statistics associated with some cities around the United States.

Open the map <http://wikimapia.org/3146467/United-States/Shutdown>. Use the map, the information and your brain to answer these questions. (You might like to use your calculator too.)

1. There are 10 areas to investigate on this map. Find the city that would have the least amount of employees affected by the shutdown.
2. Find the unemployment rate. Find the population of the area. How many people are unemployed? Fill in all the blank fields on the chart below.

	City	Population	Unemployment %	Total unemployed
1	Washington, DC			
2			5.5	47,760
3		1,600,565		
4				
5	Houston, TX		5.5	
6				
7				
8				
9		906,022		
10				

3. What can you learn about unemployed people from this map?
4. What does the percentage of total wages for federal employees statistic mean?
5. Which city would you pick to live in and why?



Show me the ...

maps, apps and activities!

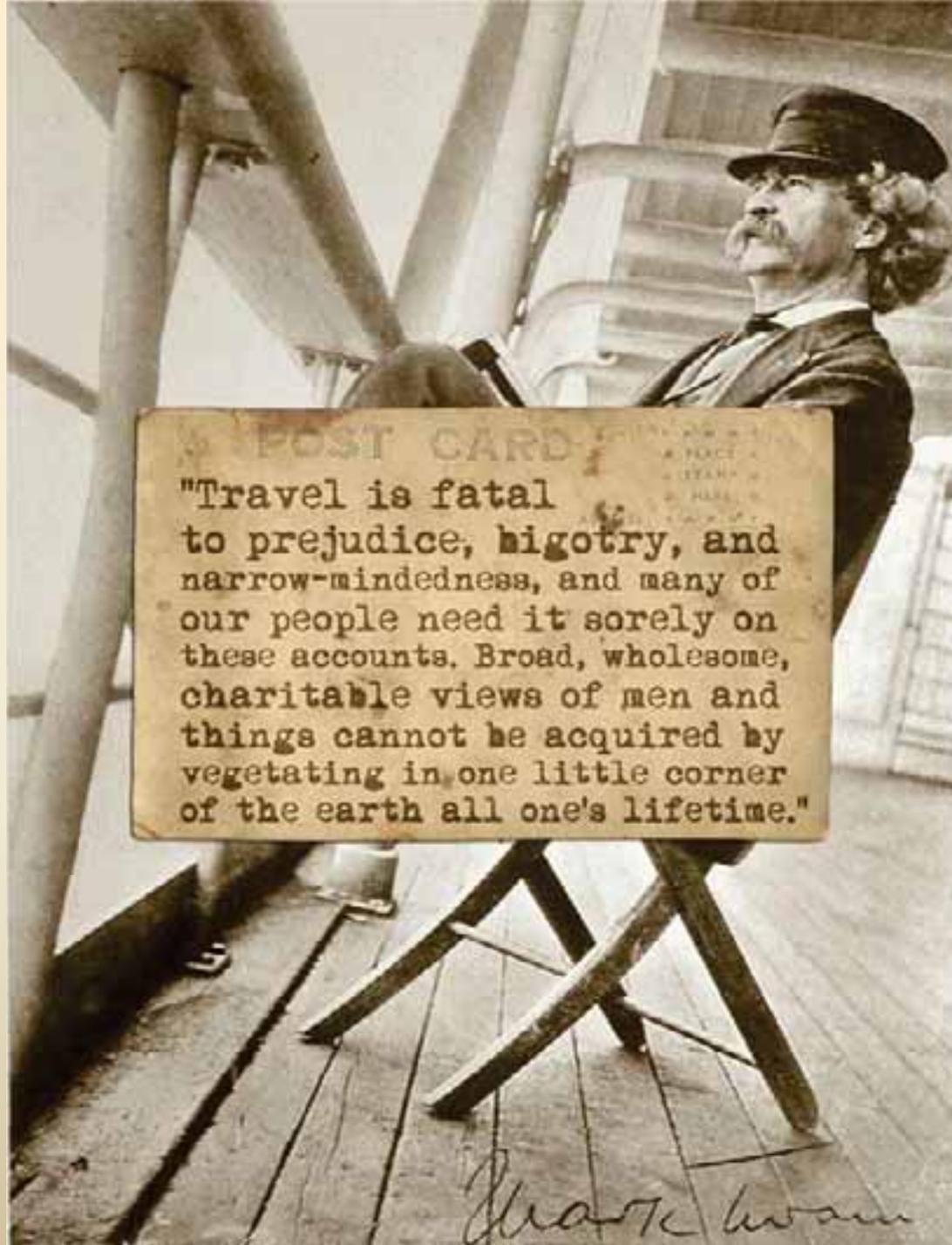
Home: www.barbareeduke.com/ccgis

Reading: www.barbareeduke.com/commoncore

Math: www.barbareeduke.com/ccmath



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Mark Twain