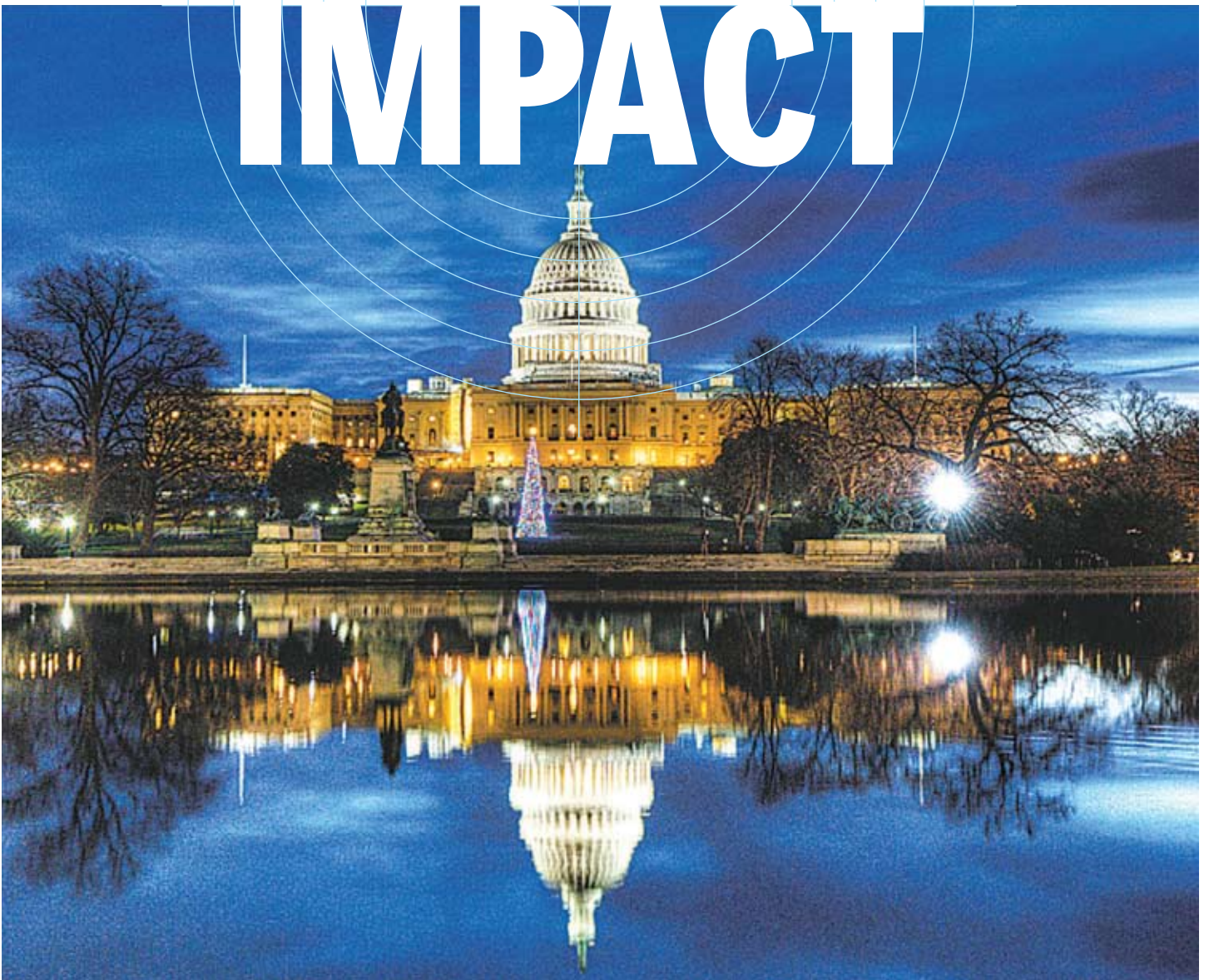


# VISUAL IMPACT



## INSIDE

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Everything

## An Integrated Curriculum For The Washington Post Newspaper In Education Program

## A Word About Visual Impact

The first halftone, what we call a photograph, was published in *The Washington Post* on January 10, 1891. According to Chalmers Roberts, ten years later, President Theodore Roosevelt became the “first president to appear in halftone; in 1905 came the first ‘action’ photograph, a view of a group of strikers moving along a Chicago street.”

Each day *The Washington Post* publishes a wide variety of images. They are posed portraits of individuals and groups. They are candid shots that capture events as they take place and people in action. They cover the mundane and historic, natural and manmade subjects, the young and old. They are from readers’ backyards, national places and international scenes.

We focus on these images and ways you can use them in your classroom and around the family table. Photographs stimulate discussion of local, national and international current events. They prod conversations about personal, ethical and legal decisions. They illuminate the human condition.

Photography can be a tool for verbal literacy development as well as aesthetic and technical visual literacy instruction. Activities included in this guide move from preparing a photograph and caption to creating a photo gallery with a narrative to writing a photo essay. Examples from the pages of *The Post* illustrate each of these approaches.

Word Study looks at “photograph” and “image.” A 12-year-old earns through a photography-based business, a Smithsonian scientist gets images through CT scans, and individuals remove their tattoos. Writers, photographers and a meteorologist look at the winter solstice.

A reminder to Post INSIDE program teachers: If you plan to use articles in this guide in the e-Replica format more than three months after their publication date, remember to bookmark them.



### ABOUT THE COVER PHOTOGRAPH

*Washington Post* photographer Bill O’Leary captured the U. S. Capitol in a high dynamic range (HDR) composite image.

**Lessons:** Photography can be a cross-disciplinary tool for verbal literacy development, aesthetic and technical visual literacy instruction, and a study of the human condition. Photographs stimulate discussion and composition in English, Health, journalism, science, art, history and government classes.

**Level:** Low to High

**Subjects:** Art, English, Journalism, Photography, Reading

**Related Activity:** Business, Career Education, Geography, History, Government, Mathematics, Music

### NIE Online Guide

**Editor** — Carol Lange

**Art Editor** — Carol Porter

**Contributing to this guide:** Jahi Chikwendiu told the story behind three of his photographs. *Post* photo editors Michel duCille and Bonnie Jo Mount gave their full support and technical knowledge to the photo essay content.

### Available Online

All Washington Post NIE guides may be downloaded at [www.washpost.com/nie](http://www.washpost.com/nie).

## An Integrated Curriculum For The Washington Post Newspaper In Education Program

## Visual Impact

The Washington Post *has come a long way since 1891 when the first halftone, the picture of a man, was published. Today's readers expect photographs — and they get some outstanding images that tell a story and enhance understanding. Use Post photographs across the disciplines. Read on for ideas and materials ready to share with your students.*

### Expand Vocabulary

*English, Art*

The “WORD STUDY: Imagine Writing With Light” introduces the etymology of photo, graph and image. Students are asked to find the etymology and define ten additional words with the root “graph” and prefix “photo.” Learning the meaning of root words is valuable for vocabulary development and defining new words.

### Learn and Earn

*Art, Business, Career Education, Journalism*

Give students “The Business of Hanimals,” a worksheet to accompany “Photo opportunity.” This January 2, 2012, KidsPost article covers the 12-year-old, creative owner of Hanimals. Teachers will notice that the questions are divided into two sections: pre-reading and after reading.

Teachers might discuss the answers to the pre-reading questions with students before students complete questions 4-12. Also, teachers might define “profit,” “spreadsheet,” and “socially responsible” before students read the article and answer the questions. Answers are found at the end of these suggested activities. For question 12, teachers should encourage students to evaluate how interests can lead to careers. Share examples.

### Capture the Week's Best

*Art, English, Journalism, Science, Social Studies, History, Government*

Use the e-Replica edition's “View a gallery of all pictures and advertising” feature to locate all photographs that appear in that issue. Give students “Search | Evaluate the Photographs of the Day.” Students are selecting their nominees for best picture. Be sure they note its caption, header when applicable, and photo credit line. Students could create a folder of images in which to save their selected “Photo of the Week.” How this is done will vary according to your school's technology.

Students are asked to write about the content, qualities and photographic elements that make this the best photograph of the week. Is the lasting influence of the event or the photo's visual impact the primary factor in their selection process?

The next step would be to encourage students to take their own pictures. Students would select their best pictures and their classmates would offer suggestions and evaluations. Teachers may have different categories in which to place their nominees, such as best use of lighting, line, texture; best landscape, portrait and candid; and outstanding sports, classroom and club picture.

Science teachers could modify this activity by asking students to collect science-, nature-, environment- and weather-related photographs. Be sure to include the date of publication



## Great Digital Photography: Learn From the Pros



One of *The Washington Post's* series of online workshops, Great Digital Photography presents both technical and aesthetic aspects of photography. Michel duCille and Bonnie Jo Mount provide lessons, examples and activities to practice your new photographic skills.

The course is divided into eight sections:

1. Operating a Digital Camera
2. Composition
3. Looking at Light
4. Portraiture
5. Pictorials
6. Candid
7. Sports Photography
8. Photo Essays

For more information, visit [postmasterclass.com](http://postmasterclass.com).

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## An Integrated Curriculum For The Washington Post Newspaper In Education Program

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of the event pictured, photographer and caption. These images could be collected and categorized by students each month. Near the end of the school year, the photographs could serve as stimulus to recall the science stories of the year or to update the stories behind the images through current events, research or policy changes.

Social studies, history and government teachers could modify this assignment to collect the photograph of the story of the day. Students in the class could each be assigned a day of the month to read the print or e-Replica edition of *The Post*, select the photograph and summarize the day's top story for a brief current-event presentation. At the end of each month, the class could discuss the stories, using the photographs to remind them of the people and events. The class could vote on the top five or ten events of the month. Likewise, an end-of-school-year activity would be for each student to select the top five stories of the year or to project which of the top stories of the months will continue to have impact over the summer. Photographs could be used to recall the events of the year.

### Use Post Photographs

*Art, English, Photography, Science, Social Studies*

Each day *The Washington Post* has a wide variety of images. They are posed portraits of individuals and groups. They are candid shots that capture events as they take place and people in action. They cover the mundane and historic, natural and manmade subjects, the young and old. They are from readers' backyards, national places and international scenes.

Use the photographs to inspire discussion and composition. They can stimulate journal entries, poetry and essays. They can spawn research.

### Listen to Jahi

*Art, Photography, English*

Jahi Chikwendiu (jah-HEE chik-WEN-du) has been a *Post* photographer since 2001. In "One Photographer's Story," he tells how he got three of his photographs. He shares his approach and experience to instruct and give an insider's perspective.

### Caption That Photo

*Art, Photography, English, Reading*

Writing a meaningful caption to accompany a photograph is an activity for the youngest to oldest student. It is a tool to develop verbal as well as visual literacy. Students who may be behind in their literacy can work on this skill by reading the captions in each day's newspaper and writing captions for their own photographs.

As Courtland Milloy reported on January 11, "Failure to read proficiently was linked to higher school dropout rates and a dramatic decrease in earning potential." Use caption writing as one of your approaches to improving students' literacy. Give students "Picture the Story" for guidelines.

Photographs in *The Post* can be used for this activity or students could be encouraged to take their own photographs. Teachers may give themes for the photographs.

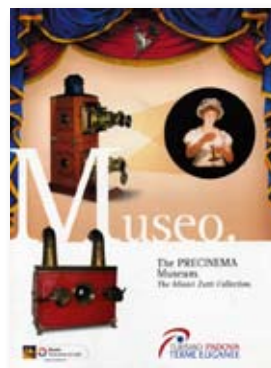
Give students "Capture the Second," a handout that defines eight elements of photographic composition. This file is found in the September 7, 2010, guide entitled

## Before Cinema

[www.minicizotti.it](http://www.minicizotti.it)

### Museo del Precinema

Online museum, exhibitions and tours of the Minici Zotti Collection of magic lantern



images. Housed in a 15th Century building in Padua's Prato della Valle, this wonderful exhibit has hands-on and interactive examples of the images, technology and imagination that lead to today's movies.

[www.youtube.com/watch?v=RuJ\\_Jd6Qgyo](http://www.youtube.com/watch?v=RuJ_Jd6Qgyo)

### Camera Obscura

From the BBC's Genius of Photography special

[www.geh.org/precin.html](http://www.geh.org/precin.html)

### George Eastman House Pre-Cinema

Links to examples of magic lantern shows

[www.earlycinema.com/pioneers/lumiere\\_bio.html](http://www.earlycinema.com/pioneers/lumiere_bio.html)

### Lumière Brothers

Short bios of early cinema pioneers; review the entire website for individuals (including Maries Georges Jean Méliès) and technology

[www.magiclanternsociety.org/](http://www.magiclanternsociety.org/)

### Magic Lantern Society

Check the links found on this site for international and national resources.

<http://photo2.si.edu/cinema/cinema.html>

### Magic Lanterns, Magic Mirrors

Smithsonian online exhibit of the centennial salute to cinema.

[www.pbs.org/wgbh/amex/eastman/filmmore/index.html](http://www.pbs.org/wgbh/amex/eastman/filmmore/index.html)

### The Wizard of Photography

PBS video, timeline, gallery, people and events, and teacher's guide

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*More Than Today's News* ([www.washingtonpost.com/nie](http://www.washingtonpost.com/nie)).

### Tell a Visual Story

Photograph galleries are increasingly used online to tell the story of an event or activity. While space is limited in print, many more images may be used online.

The technology used to create the photo gallery will vary by school. Teachers will have to determine the software to use.

Creating photo galleries first requires images to tell the story. A variety of assignments may be given: one day in the life of your school, behind the scenes in clubs and organizations, how to ..., and capturing specific emotions. Students will select their photographs to submit and write captions for them. After all the submissions are reviewed and organized, they will be posted.

"Animal views," "The Day in Photos," and most of the galleries in *The Post's* Sports and other online sections can be used to illustrate this type of gallery. Go to the section, scroll down and select from the photo galleries.

The next step would be to assign students a six- to twelve-photograph gallery that covers a story through the narrative and photo combination. The galleries that accompany "A singular solstice" and "Rethinking the ink" illustrate this approach.

### Picture the Photo Essay

Michel duCille shares an outline of the Photo Essay section of the *Great Digital Photography* MasterClass. "The Photo Essay: Making the photo essay easy" presents the type of photo essay in which the images visually communicate the idea.

The photographs in "A Singular Solstice" and "Photography in The Post" are examples of a thematic photo essay.

### Write a Photo Essay

Give students "Write a Photo Essay." This offers guidelines for text and photographs working together to present a theme.

### Cover an Event

*Art, Photography, Science*

Read "A singular solstice" by Joel Achenbach. The feature writer uses description, scientific terminology and personal opinion. Ask students to find examples of each. Additional questions might include:

- Do a close reading of the fourth paragraph. What comparison and contrast does Achenbach develop? In what ways does description enhance the contrast?
- Is the extended metaphor of a "giant clock" effective? Explain your answer.
- What is the effect of the scientific information found in the second half of the feature?

In his Achenblog, the writer provides his summary of the photo essay and evaluation of his own narrative:

"Check out this gorgeous photo gallery of the winter solstice that my colleagues have put together. There are 77 images, most produced by the *Post* staff, including some from photographers far afield. They've done something very difficult in any single image but effective in composite: Captured the light, the way the world really looks, at the darkest corner of the Northern Hemisphere's calendar. (Whenever I look at what the professionals can

## Photography Collections

<http://photography.nationalgeographic.com/photography/image-collection/>

### Image Collection

National Geographic Magazine collection: click on a category and more images emerge. Incredible work found in "Photo of the Day" and helpful hints in "Photo Tips" are beautifully illustrated.

<http://bop.nppa.org/>

### National Press Photographers Association

Search for Best of Photojournalism contests and winners; the December 2011 *News Photographer* magazine features the Best of Photojournalism portfolios

[www.nga.gov/collection/gallery/photo.shtm](http://www.nga.gov/collection/gallery/photo.shtm)

### Photograph Collection

National Gallery of Art Stieglitz photography donation background and beginning of the NGA photo collection.

[www.nga.gov/kids/zone/index.htm#photoop](http://www.nga.gov/kids/zone/index.htm#photoop)

### Photo Op

NGA Kids Art Zone online, interactive photography project; make your own virtual photographs and edit them

[www.pulitzer.org/bycat/Breaking-News-Photography](http://www.pulitzer.org/bycat/Breaking-News-Photography)

### Breaking News Photography

"More details" include bios and photo portfolio of winners. View other Pulitzer photography categories, Feature and Spot News, for portfolios of winners.

[www.washingtonpost.com/multimedia](http://www.washingtonpost.com/multimedia)

### Washington Post Multimedia

Galleries of news coverage in images, includes "Best of The Post | 2010" and "Day in Photos"; view by category (Editor's Choice, Entertainment, Local, National, Politics, Sports and World)

[www.photographymuseum.com/](http://www.photographymuseum.com/)

### American Museum of Photography

Online exhibits of current and past photography work

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do, I'm reminded that with a camera I merely take snapshots.)

I wrote the story to accompany the pictures, and now I wish I had stepped up the lyricism a notch to keep pace with the visual side of the package."

The photo essay can be a component of using photography to develop composition skills. Students will study captions and write captions; they will create photo galleries with informative captions and then a narrative. The third step is to prepare a photo essay.

See "Picture the Photo Essay" and Write a Photo Essay."

### Read a Graphic

*Geography, Mathematics, Science*

"Winter solstice — and other interesting sun facts — explained" is a product of the Capital Weather Gang. It is helpful to remind students that natural phenomenon can be viewed from many perspectives and presented in various forms. The photo essay, photo gallery and this narrative and graphic are examples.

What does "Winter solstice" provide that the others do not? Who would find this information helpful and interesting?

### Cover an Issue, People, Circumstances

*Art, Business, Journalism, Music, Photography*

An adaptation of Bruce Springsteen's introduction to *Someplace Like America: Tales From the New Great Depression* was published in the December 20, 2011, Style section. The book by Columbia journalism professor Dale Maharidge and *Post* photographer Michael Williamson provides a portrait of contemporary American economy and its impact on industry and its workers.

"American Dreams, Devastated," composed of Bruce Springsteen's essay and photographs by Williamson, could be used as an example of a photo essay. Since an essay presents an idea, discuss with students the ideas and attitudes presented by Springsteen. What is his purpose in writing this piece?

In addition, discussion could include:

- What ideas are communicated in the photographs of Williamson?
- What is the impact of black and white photographs?
- Select one photograph to discuss how the details, lighting and action combine to tell a story.
- Compare and contrast the photographs of Ken Platt Jr. and his son.

If teachers focus only on the outtakes, Springsteen's quotations that accompany Williamson's photographs, and the photographs, they have an example of the material that could become an online photo gallery with narration.

### Get Inspired

*Art, Music, Photography*

Bruce Springsteen acknowledges the inspiration for two of his songs came from a previous collaboration of Maharidge and Williamson, *Journey to Nowhere*. Listen to "Youngstown" and "The New Timer."

Discuss the mood, tone and storytelling quality of Springsteen's songs. In what way do Williamson's photographs capture a similar tone and mood? What stanza(s) of Springsteen's songs could be illustrated with one of the photographs?

Select a photograph from *The Washington Post* or take your own

## Read About It



Maharidge, Dale and Michael S. Williamson  
*Someplace Like America: Tales from the New Great Depression*

Maharidge, Dale and Michael S. Williamson  
*And Their*

*Children After Them: The Legacy of Let Us Praise Famous Men: James Agee, Walker Evans, and the Rise and Fall of Cotton in the South*  
Seven Stories Press, 2008

Agee, James and Walker Evans  
*Let Us Now Praise Famous Men*  
Mariner Books, 2001

Begun as a *Fortune* magazine assignment in 1936, writer and photographer focused on the lives of sharecroppers in the American South through three families. Originally published in 1941, it is considered a classic.

Maharidge, Dale and Michael S. Williamson  
*Journey to Nowhere: The Saga of the New Underclass*  
Hyperion Books, 1996  
Inspired Springsteen's "Youngstown" and "The New Timer"

Steinbeck, John  
*The Grapes of Wrath and Other Writings 1936-1941*  
Library of America, 1996  
Fiction and non-fiction works include his investigative reporting, "The Harvest Gypsies."

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photograph. Use it as an inspiration to write an essay, poem, lyrics or commentary.

### Rethink the Ink

#### *Art, Health, Journalism*

Writer Emily Wax in “Rethinking the ink” introduces people who have tattoos and reveals their reasons for removing them. Before giving students the article, ask them to write a journal entry on the topic: Why I would/would not get a tattoo. With younger students, teachers might read *The Sneetches* as a pre-reading activity.

Make two columns on the board: Would Get a Tattoo and Would Not Get a Tattoo. Ask students to give reasons for both. Read the article and discuss. Questions may include:

- Which individuals represent the reasons students have listed on the board?
- What additional reasons have been given for getting a tattoo and removing one?
- Who gets a tattoo?
- What do Ken Saler and Christian Slavin add to the story? [They localize the story, add anecdotes and represent individuals who have found a career in tattoo removal.]
- What might it cost to get a tattoo? To have one removed?
- The article ends with a personal story — Wayne Stokes. Why is his a compelling and representative story?
- What details has Wax provided for readers to picture the people included in her article?

See “Think of Ink in Multi-Media” below for additional resources to use with this article.

### Think of Ink in Multi-Media

#### *Art, Broadcast, Business, Health, Journalism, Media Arts*

The print article becomes a multimedia package online. Informational graphics, photo gallery and video provide different dimensions to the tattoo topic.

“Thinking of inking?” is a five-part informational graphic. Different types of tattoo from the oldest to the most recent, how-to ink and remove ink, and placement of the tattoo are explained. It is found at [www.washingtonpost.com/wp-srv/special/health/guide-to-tattoos/](http://www.washingtonpost.com/wp-srv/special/health/guide-to-tattoos/).

“Rethinking the ink” video takes viewers into a laser tattoo removal business. As the owner works on customers, he explains the process. When the owner lost a previous job, he went to school to learn a new career. The video also serves as an example for broadcast students: explanatory journalism, interviewing and voiceovers, and videography.

Compare Wax’s descriptions with the people who appear in the video.

The video may be found at [www.washingtonpost.com/lifestyle/style/rethinking-the-ink-laser-tattoo-removal-gains-popularity/2011/12/08/gIQAvAQ9nO\\_story.html](http://www.washingtonpost.com/lifestyle/style/rethinking-the-ink-laser-tattoo-removal-gains-popularity/2011/12/08/gIQAvAQ9nO_story.html).

A photo gallery also accompanies this article. It can be used as an example for students who will be preparing their own photo galleries. Visit [www.washingtonpost.com/lifestyle/style/the-tattoo-erasers/2011/12/08/gIQUrxGoO\\_gallery.html#photo=1](http://www.washingtonpost.com/lifestyle/style/the-tattoo-erasers/2011/12/08/gIQUrxGoO_gallery.html#photo=1).

Compare and contrast the video, article, and photo gallery and its captions. Which provides the most information?

### Get a Closer Look

#### *Health, Science, Career Education*

What do students know about the use of a medical CT scanner? Have

## Past Post Guides

### Facing Altered Lives and Futures

*As Americans face high unemployment, activities include coping with recession, using economic indicators, and telling the story through Michael Williamson’s photography.*

January 10, 2010

### INSIDE Journalism: ‘Good Picture’

*The news photograph, qualities of a “good picture” and the ethics of digital manipulation as well as “Meet the Photo Editor,” and “How to Write a Cutline.”*

December 19, 2002

### More Than Today’s News

*“Capture the Second” presents eight elements essential to the composition of a photograph. Illustrated with the work of Michael S. Williamson.*

September 7, 2010

### Sports: In Word and Images

*Use the Sports section to study the work of Post reporters as models for students to write and to compare ledes, sports news and columns, to prepare charts and graphs using the scores and other data, and to read maps. Post photographer Jonathan Newton’s pointers are illustrated with his photos of high school and professional athletes.*

December 5, 2007

### The Sunday Washington Post

*Reading the Sunday Washington Post expands horizons, informs and provides educators with material to use in every classroom. Activities in this guide include the ethics of decisions made in selecting photographs for publication and photojournalists documenting the earthquake in Haiti.*

February 2010

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they or someone they know had a scan? Teachers might be able to get an old scan to show the class what one looks like.

“The inside of everything,” by Brian Vastag, is a Health & Science section story. Vastag tells about a Smithsonian scientist’s use of the CT scanner. Vocabulary that may be discussed before reading include “autopsy,” “forensic anthropologist,”

“high-resolution,” “scan,” “three-dimensional image,” and “x-ray.”

Read the article and discuss Bruno Frohlich’s examination of non-traditional items.

- What do the examples of his studies add to the story?
- What are the benefits of scanning skulls? A turtle? A Stradivarius?
- In what ways do the scans provide more questions as well as answers?

## ANSWERS. *The Business of Hanimals*

1. Picture details include the cafeteria tables, the cards in front of a young girl and the stuffed animal on which she rests her chin. The stuffed animal may be the same one in the card to the left of it.
2. The girl’s name is Hannah Isenhardt. She is the creator of greeting cards that picture her stuffed animals. The use of “wildlife” in quotation marks refers to the setting shown in the cards.
3. Answers will vary; they should contain the idea of profit and saving polar bears.
4. Boulder, Colorado
5. Photography
6. Hanimal’s first products were greeting cards. She began the business when she was five years old.
7. Her father taught her technical aspects of photography. Her mother taught her the business side. Her brother profits from her use of his stuffed animals, holding props and folding cards.
8. Do the math. Since one third of total sales goes to Polar Bears International, she has sold more than \$3000 products. Note this is before expenses are deducted.
9. Income and expenses: cost of materials, printing and labor. It is assumed that the camera was a gift. Business classes might discuss accounting for the cost of trips to locations (now paid by her parents), website, memory cards and other incidentals.
10. Her website is very kid friendly. On *myhanimals.com* you learn more about Hannah, her choice of locations, the variety and cost of items for sale, bulk sales, and the involvement of her family.
11. Answers will vary. From her website, students learn that she donated from her sales from the beginning of her business.
12. Answers will vary.

## Jahi Chikwendiu

Jahi Chikwendiu’s work has been recognized by such organizations as White House News Photographers Association, National Press Photographers Association, Pictures of the Year International, World Press Photo, National Association of Black Journalists, Overseas Press Club, Harry Chapman Media Awards, Days Japan International Photojournalism Awards, Kentucky News Photographers Association, Atlanta Photojournalism Seminars, Northern- and Southern-Short Courses.

<http://jahichikwendiu.com/>

### Jahi Chikwendiu: Documentary Photographer

Jahi’s photo galleries preserve the stories of events, conditions, haunting disrespect and celebrations. They are photo essays to be viewed without words or as photographs with captions.

Viewers are taken inside a D.C. school and the relationship of a great-grandmother and child. They are taken to Darfur, Rwanda and the Eastern Congo. Witness bombs in Lebanon and Zamboanga, migrations in Sudan and election celebrations in the homeland of President Obama’s father.

<http://www.poynter.org/how-tos/newsgathering-storytelling/visual-voice/90017/documenting-darfur-a-photojournalists-perspective/>

### “Documenting Darfur: A Photojournalist’s Perspective”

Sit in on an interview with Jahi as he tells of his experience in Darfur.

[www.washingtonpost.com/national/best-of-the-post-jahi-chikwendiu/2011/11/29/gIQA6ZU29O\\_gallery.html](http://www.washingtonpost.com/national/best-of-the-post-jahi-chikwendiu/2011/11/29/gIQA6ZU29O_gallery.html)

### Best of the Post: Jahi Chikwendiu

Thirteen selected photographs reflect the scope of Jahi’s subjects, captured emotions and technical depth.



An Integrated Curriculum For The Washington Post Newspaper In Education Program

# Photo opportunity

## *12-year-old's pictures earn money and help save polar bears*

**H**annah Isenhardt has gotten up close and personal with black bears, photographing several roaming around Yellowstone National Park.

She has captured images of moose exploring Wyoming's Grand Tetons and wolves nestled in the grass of the Flatirons of Colorado — all taken from just a few feet away.

Unlike what's found in the pages of *National Geographic*, the animals in Hannah's photos are plush toys that she carefully arranges against the backdrop of their natural habitats. And at 12 years old, she has found a way to use her passion for photographing the great outdoors to make money, one greeting card and calendar at a time.

"I made them into a Christmas present card for family and friends, but one time someone asked, 'Do you sell these cards?'" Hannah said recently. "I started making them for a winter fair that my school did each year."

In the five years since, the Colorado seventh-grader's hobby has turned into a business called Hanimals. Her collection captures images of 20 stuffed animals — an owl, an elk, a porcupine and a chickadee included — taken in some of the country's most famous national parks.

The photos are sold primarily as greeting cards and calendars and are available online at [myhanimals.com](http://myhanimals.com).

Hannah started off by selling the cards at stores near her Boulder, Colorado, home. "I just walked in [to the stores] and kind of asked them, 'Do you think you would sell my cards here?' And they told me yes," she said, noting that she



CLIFF GRASSMICK — ASSOCIATED PRESS

**Hannah Isenhardt's "wildlife" greeting cards star her own stuffed animals.**

is still learning to navigate professional relationships.

Hannah donates one-third of the money she receives from the sales of her cards to support research at Polar Bear International, an organization that does research to help save the animals. So far, her donations total more than \$1,000.

Hanimals is a family affair for the Isenharts.

Her father got Hannah interested in photography when she was 4, and he has taught her about shutter speed,

autofocus and lighting techniques. Her mother introduced her to cashier's checks and invoices, which Hannah uses to track the printing expenses that she has to pay every month. Even younger brother Jesse, 10, has found a way to get involved with his sister's photography business.

Hannah said she pays him to fold greeting cards and to use his stuffed animals in her photos. She has also paid him to act as a human prop.

— **Associated Press**  
January 2, 2012

# The Business of Hanimals

Before she was in the first grade Hannah Isenhardt began using a camera. In “Photo opportunity: 12-year-old’s pictures earn money and help save polar bears,” readers meet her and learn about the business she began.

Before reading the article, answer these questions:

1. Newspaper readers are drawn to the pictures that accompany an article. What information do you get from only the photograph?
2. Read the caption. What do you now know about the content of the photograph?
3. The headline and subhead also grab the reader’s attention. In addition, they often state the main idea of the article. In your own words summarize the basic idea of the article.

You are ready to meet Hannah and learn more about her business. After reading the article answer the following questions.

4. Where does Hannah Isenhardt live?
5. What early interest did Hannah turn into a business?
6. What business did Hannah begin? How many years has Hannah been in business?
7. In what ways are her family and location influences in her success?
8. Approximately how much money has Hannah received in sales?
9. From the information given in the article, what items are likely to appear on a spreadsheet of her business?
10. Visit *myhanimals.com* to learn more about Hannah and her business. In one to two paragraphs, tell what additional information you learn from her business website.
11. Is Hanimals a “socially responsible” business? Explain your answer.
12. What interests do you have that could be used to start a business or assist a business owner in your community?

An Integrated Curriculum For The Washington Post Newspaper In Education Program

## WordStudy

# Imagine Writing with Light

What if you had a magic pen that harnessed the sun's rays to produce visible ink? Or you had a brush that filtered the rainbow's colors at your command? What if you had coated paper that allowed you to produce images using light?

Actually two men — John Herschel and William Henry Fox Talbot — independent of each other in 1839 did invent a photographic process using sensitized paper. This paper was light sensitive.

Herschel was a gifted astronomer, mathematician and chemist. He coined the word “photograph” from photo- + -graph so he could write and talk about his discovery. Photo comes from the Greek word for “light” — *phôs*, which in the genitive is *photós*. Graph is derived from the Greek word for something drawn or written, one who draws or writes — *graphos*. So photography is writing with light. “Photograph” as a verb and “photography” were first found in a paper read before the Royal Society in England on March 14, 1839.

There were other suggestions for what to call this invention. Some of the ones found in written records are “photogene” and “heliograph.” Others preferred the more Anglo-Saxon sounding “sunprint.” Can you figure out the prefixes and roots that were used to create those words?

Oh, and about imagination. It shares the same root as “image.” We sometimes talk about the photographic image or photographs as images. The noun “image” goes all the way back to Latin: *imaginem* (nominative, *imago*) meant a “copy, statue, picture,” and figuratively “idea” or “appearance,” from the stem of *imitari* “to copy” or “imitate.” In the fourteenth century, the French were using *imager* when they were talking about sculpting, carving, painting and decorating.

If someone looks at a picture of you and says you are “the spitting image of your grandparent.” Just reply, “Imagine that.”

Nouns, verbs and adjectives have been formed from the Greek words *photós* and *graphos*. Photograph, photographer and photographic combine the two together. Other words have been formed from one or the other. Give the etymology and definition of each of the ten terms that are found below.

Other words that share the root “graph”

- Aerograph
- Barograph
- Lithograph
- Monograph
- Phonograph
- Telegraph

Other words that share the prefix and word “photo”

- Photobiology
- Photo finish
- Photographic memory
- Photo opportunity (photo op)



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Inside e-Replica

## Search | *Evaluate the Photographs of the Day*

Open the e-Replica edition of *The Washington Post*. Select the “View a gallery of all pictures and advertising” icon to view all photographs that appear in that issue.

Review the photographs and select one as your choice of best photograph of the issue. What criteria will you use to determine your choice? Below are some guidelines for the best photographs. After each one, tell how the photograph you have selected as the best of the day meets or does not meet the photographic element.

**Strong Composition** makes the elements and subject matter pleasing to the eye within the frame of the photograph

- Cropped to the essential image
- Employs the rule of thirds
- Uses lines and curves
- Captures textures

### **Use of Lighting Makes a Visual Impact**

- Direct lighting
- Diffused lighting
- Natural or available lighting

### **Tells a Story**

- Relates an event
- Captures action at a key moment
- Facial expression communicates emotion

In one to three sentences tell why you have selected this picture as the Photograph of the Day.

**Don't Forget.** Save this photograph as your teacher directs. Be sure to record the date the image was published, section of the newspaper, page, the photographer and caption.

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## >INSIDER<

### One Photographer's Story | *How Jahi Chikwendiu Got the Pictures*



**Robert Click faces troubled finances. As he talks with his wife, he considers the amount of their accumulated debt.**

### The Economy Gets Personal

For a story about people dealing with home foreclosures during the holiday season, I was assigned to document Robert Click and his family. The family has experienced financial trouble for the past few years; the home they purchased 11 years ago had been foreclosed upon just before Christmas of 2011 and was due to go up for auction on January 6, 2012.

In the process of this type of documentary work, it's good to get simple portraits of the characters. It's my preference to get candid portraits rather than posed ones as candid usually reveal something deeper about a personality than posed pictures, when people are usually more guarded. When I took the candid portrait of Robert Click, he was having a conversation with his wife about their troubled finances.

I had already spent several hours with the family and they had grown accustomed to my presence and comfortable with my being there. During the course of the couple's conversation,

I eased into a position almost between the couple but out of their line of sight of one another. With their children moving about the room, I didn't feel it would be awkward for me to slowly move myself into what I felt was a good spot to get a portrait of Robert.

Needing to get something candid and telling of Robert, I initially sat in position almost facing away from him but watching him to see how/if he reacted to me. I slowly turned to Robert as they continued their conversation, raised my camera, and snapped a few pictures as he wiped his face in frustration and just a few more frames as he reconnected his gaze with that of his wife.

Note: Before moving into a good position to get this portrait of Robert, I had already set my camera on the proper exposure. Knowing I would only take a few pictures from almost between Robert and his wife, I wanted to be sure the pictures were neither too dark nor too light. ■

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**Andy Ram, 9, of Rockville, Md., cools himself under a fountain at the The Water Mine Family Swimmin' Hole on July 21, 2011, in Reston, Va., where the heat index in the Washington, D.C., area was expected to exceed 110F.**

## One Cool Boy

When I was asked to make a front page “heat” picture that would make readers feel cool, I knew I wanted to do something artsy. During the week before, there had been a heat wave sweeping across the eastern part of the U.S., and I had seen dozens of pictures where people were using water to cool off. But every picture I remembered had water frozen (of course, not literally) by fast shutter speeds.

Even before leaving my house, I knew what kind of picture I wanted ... something with a slow enough shutter speed to show the movement/energy of water and something that allowed that movement to seem like brush strokes of a painting. I also had an idea of exactly where I would get that kind of artistic effect — from inside the mushroom fountain at the nearby water park.

The mushroom fountain is basically a big, metal mushroom that sprays water directly down from the edges of the mushroom’s top, creating a cylinder of water around the mushroom’s stem. In addition to it being a perfect spot for water “painting,” I knew that under that mushroom fountain had to be the coolest place in the park without being completely submerged in water.

In preparation, I got two gallon-size ziplock bags with a hole in the corner of one of the bags only big enough to tightly squeeze the front of my lens to keep my camera dry. When I got to the park (and after a couple of

calls to the Fairfax County’s parks & rec office for permission to take pictures on their property), I took test shots from the water’s edge so I wouldn’t have to spend too much time taking test exposures under the watery conditions.

Leaving my cameras at water’s edge, I went inside the fountain and finger-framed a few shots to imagine what I might get before actually taking my cameras under the water. It looked good AND it was a cool respite from the blazing heat. For my return to inside the fountain, I tucked my plastic-wrapped camera (and a small, soft, lint-less towel for wiping the inevitable water spray from the lens) under my slumped-over torso, quickly stepped through the wall of fountain water, and made shots of people passing through the water wall.

I made a few good frames of kids passing through the falling water before finally getting the shot we eventually used on the front page of *The Washington Post*. All of the kids in the earliest shots were at the water park that day with summer camps and camp counselors, but none of their parents were there to give photo permissions. I finally got a good shot of this kid whose mother gave me permission to use his picture in the paper.

The ISO of the camera was set to the lowest possible setting, the aperture was set to f16, and the shutter speed was set to 100th of a second which is not really slow, but slow enough to streak the fast moving water, which was key in making the movement of the water take on a painterly effect. ■



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JAH CHIKWENDU — THE WASHINGTON POST

**This special photographic effect of seven composite images was achieved by time-lapse photography that chronicled the earth's rotation from sunrise to sunset. The photograph illustrates the importance of having knowledge of technology and life's repeating cycles.**

## Winter Solstice

When a fellow *Washington Post* photographer, Bonnie Jo Mount, suggested that our photo staff do a collective photo essay about winter solstice, I chose to focus on the sun's low path as it crossed the sky on this day with the fewest hours of sunlight in the northern hemisphere of the earth. I knew I wanted to get a multiple exposure shot that showed what would appear to be several suns arcing across the sky of a set scene.

To get a good photograph that illustrated the sun's low path, I would have to find a visually interesting scene looking due south to accentuate the sun's full arc. The technique would require me to put the camera on a sturdy tripod and take pictures at a set interval of time from sunrise until sunset.

The selection of a good scene was crucial because I wouldn't be able to move from that spot for as long as the sun was visible. It wouldn't have worked if I had changed the scene after the day had started. In the couple of days leading up to

solstice, I scouted several locations around the D.C./Virginia area — with an iPhone app called Sun Scout that shows the sun's path on any given day.

My first thought was to get shots of the sun passing low over the Washington Monument to make the scene absolutely relevant to D.C. readers. I checked out a spot overlooking the city from a distance, but I couldn't find a place from where I could see the full path of the sun from sunrise to sunset. Then, I thought to shoot closer to the monument, looking south from the grounds between the White House and the Washington Monument. Knowing I would have to be in a set place from sunrise to sunset and after remembering that U.S. Park Police and Secret Service are notorious for hassling photographers taking pictures on or around the National Mall, I searched for another scene.

I found a secondary location where the sun would pass over the water of Lake Fairfax in Reston, Va. When looking south from the north side of the lake, the sun would pass over the

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## WINTER SOLSTICE CONTINUED

water AND be reflected for the full day on the surface of the water. With thick clouds looming and heavy rain pouring the whole day before solstice and with the threat of the same type of weather on solstice day, I stayed up for much of the night watching the weather forecast.

I was completely delighted when the sky started to clear on solstice morning. Clouds blocking the sun would have completely ruined the shot. Just before sunrise and with a lawn chair and a good supply of trail mix and water, I found what would be my pre-determined sitting spot for the next nine hours, the length of time the sun would be visible.

With a wide-angle 14mm lens on my tripod-mounted camera, I pointed the camera in a direction where I figured the sun would be visible through the camera's viewfinder for the full course of the day. To show the changing position of the sun (actually, the changing position of the earth), I took pix every 15 minutes from sunrise to sunset with the camera mounted in the same exact spot.

After sunset, I downloaded my pictures onto my laptop computer and used Adobe Photoshop to put together a composite of seven pictures taken about an hour apart that

illustrated the sun's low path across the sky as well as its reflection on the lake.

Several strokes of luck went into what resulted in what I would consider the stunning final product. First, I could use my iPhone app to determine the sun's path in the sky, but I was only guessing that the sun's reflection would remain visible on the water's surface when the sun was at its peak. Secondly, I was lucky when a young Reston resident who was at the lake fishing on his 13th birthday just happened to walk through the scene when the sun was at about its high point. And he was walking with such a stride that the sun's reflection – barely visible to the camera at the edge of the lake – showed perfectly between his legs. It was in between my fifteen-minute interval shooting time and I was away from my tripod-mounted camera shooting other pix with a second camera when he walked through the scene, so I was lucky to see him in time to run back to my mounted camera to catch him walking through the scene. To top it all off, heavy clouds moved in and rain started dumping just after sunset. In some ways, the picture as a whole looks like a big abstract eye. After it was done, I certainly felt like something was watching over me.

It pays to be prepared, but I'll take a splash of luck, too. ■

Jahi Chikwendiu wanted to be practical, but in the end his passion for photojournalism won out. After earning his undergraduate degree in mathematics and a master's degree in math education from the University of Kentucky, Jahi was set to start a career as



a high school math instructor. In fact, he taught for a year, enjoying the everyday challenges of being an educator. But when the Lexington (Ky.) *Herald-Leader*, the local newspaper where he freelanced during that first teacher's summer off, called to offer him a full-time staff position, he couldn't say no.

Three months later Jahi was named 1998 Photographer of the Year by the Kentucky News Photographer's Association (KNPA). In another two years, he would join the staff of *The Washington Post*, where he's been a staff photographer since January of 2001.

Since joining *The Washington Post*, Chikwendiu has worked on a variety of stories that include a coming-of-age story about 9/11 Marines, the 2003 US-led invasion of Iraq, AIDS and poverty in Kenya, genocide in Darfur, night-commuting children in Northern Uganda, cluster bomb victims in South Lebanon, Sudanese refugees in Egypt, D.C. Public Schools' broken system, and Iraqi refugees who have fled the country since the 2003 invasion. Chikwendiu spent the first three months of 2009 in Africa covering the Barack Obama inauguration from the Kenyan home village of the U.S. president's father and other stories in the Democratic Republic of Congo, Rwanda, Kenya, and South Sudan.

After starting 2011 covering South Sudan's referendum (vote) to secede from the north of Sudan, Jahi spent the year covering stories such as the suspicion of Muslims since 9/11/2001, a small town in NJ welcoming home the body of a young soldier killed in war, and a D.C. transitional safe-house for young people who are LGBT (lesbian-gay-bisexual-transgender) along with other local D.C. and national stories.

# Picture the Story



JAHÍ CHIKWENDU — THE WASHINGTON POST

**Robert Click and his wife, Jenny, have lived in their Dale City home for 11 years. Hard times have led to foreclosure. They are moving to a Front Royal apartment that is half the size of the house.**

## November rain



RICKY CARIOTI — THE WASHINGTON POST

**Mike Wickizer of Woodland Park, Colo., with daughters Reagan, 12, left, and Amelia, 9, and wife Kathi, runs past a puddle on the Mall on Tuesday. The Wickizers were seeing the sights in the District on their vacation despite the driving rain.**

### The Photograph

Photographs are visual stories.

They may be candid, unposed, showing people as they interact or sit quietly.

They may be portraits — studies in personality and facial features, taken as people know they are being photographed, whether in a studio or in the subjects' natural surroundings.

They may be action — catching the activity as it takes place. They may capture athletes, club meetings, two people in lively conversation or one person texting a message.

### The Caption

The short explanation or description that accompanies a photograph, gives more information than is immediately known looking at the photograph. The visual impact does not need to be put into words. For example, “people running in the rain” can be seen in the image. Read the caption for the photograph on the right above. We now know who the people are and why they are out in the rain, determined to see the sights of D.C. on their holiday.

Captions tell who, what, where, when, how and why. Does the caption on the left, above, explain the expression seen on the subject's face?

### The Photograph and The Caption

Together the photograph and the caption tell the story. Sometimes all that is needed is the photograph and caption. Most often the photograph and caption plus the headline and article combine to tell a more complete story.

The “November rain” photograph and caption were placed in a box. They were not part of a news article package. The photograph of Robert Click accompanied a story about foreclosure. His story illustrated a fact: “Prince William bore the brunt of the first wave of foreclosures that hit the Washington region five years ago.”

*Write an informative caption for a photograph of your choice.*



# THE PHOTO ESSAY

Making the photo essay easy

**Photo essay defined:** A selection of images that relate to each other when combined in an organized way.

## The tradition of the photo essay

*Life* and *Look* magazines  
*National Geographic*  
Newspapers  
The personal Web audience

## Two types of photo essays:

- A collection of images tied together with a common theme.
- A story told with photos that have a narrative or a beginning, middle and end.

## Deciding on a theme or storyline

Any subject can be a story.

What is your point of view?

What are you trying to communicate to the viewer?

Who is your audience?

What venues and resources are available to you?

What is your media? What outlet will you use to tell your story (Web, projected images, photographic prints, books, a display case)?

## What storytelling elements combine to create a photo essay?

Understanding the various types of images

- Informational – the images are based on a scene of a situation
- Graphically appealing scenes
- Emotional scenes
- Intimate scenes
- All of the above combined in one picture

## What photographic techniques help to create a photo essay presentation?

Photographers should consider the type of focal length and camera angles. Whether using stills or a video, the photo essay should contain a variety of shots:

- Wide shots
- Medium shots
- Tight shots
- Panoramic shot
- Detail shots

## How do I end the story?

## There are two types of photo essays: thematic and narrative

### Thematic photo essay

A thematic photo essay is a series of images with a common theme. The theme could be anything — rain or weather or a color or an attitude. For example, a series of photographs of different types of ice creams or a series of photos taken on a summer day in a city form a theme. In a thematic photo essay, the images work together as a whole, revealing the broader essence of a story.

### Narrative photo essay

A narrative photo essay has a linear storyline with a beginning, middle and end. Some images in the essay support the pacing of the story. A photo story gives you a sense of the subject's experience. For example, a photo story may first show a patient being admitted in a hospital, then show the various stages of the patient's recovery and finally show the patient being discharged from the hospital.

The narrative photo essay may also be the chronological day in the life of a school, community or global village.

# Photography in The Post

It Only Gets Brighter from Here



BILL O'LEARY — THE WASHINGTON POST

**The Capitol glows on the shortest night in the northern hemisphere.**

*Bill O'Leary's night photograph is from one of The Washington Post's photography staff's photo essays. Its theme — winter solstice in Maryland, Virginia and Washington, D.C.*

*The Capitol and its Christmas tree gleam amid first light Thursday as the sun rises after the longest night of the year; the winter solstice was marked at 12:30 a.m. This HDR (high dynamic range) composite image was created by software that combines several images of the same scene to enhance clarity and color saturation.*

# Write a Photo Essay

An essay is a composition built upon an idea. The writer has a concept to relate and to explain through careful word choice, anecdotes and well-chosen examples. A photographer may think of the photo essay as composed only of photographs. The images communicate an idea visually.

A photo essay may also be a combination of words and pictures. Since an essay is a composition built upon an idea, in this type of photo essay the photographs and text are equal partners in communicating the idea.

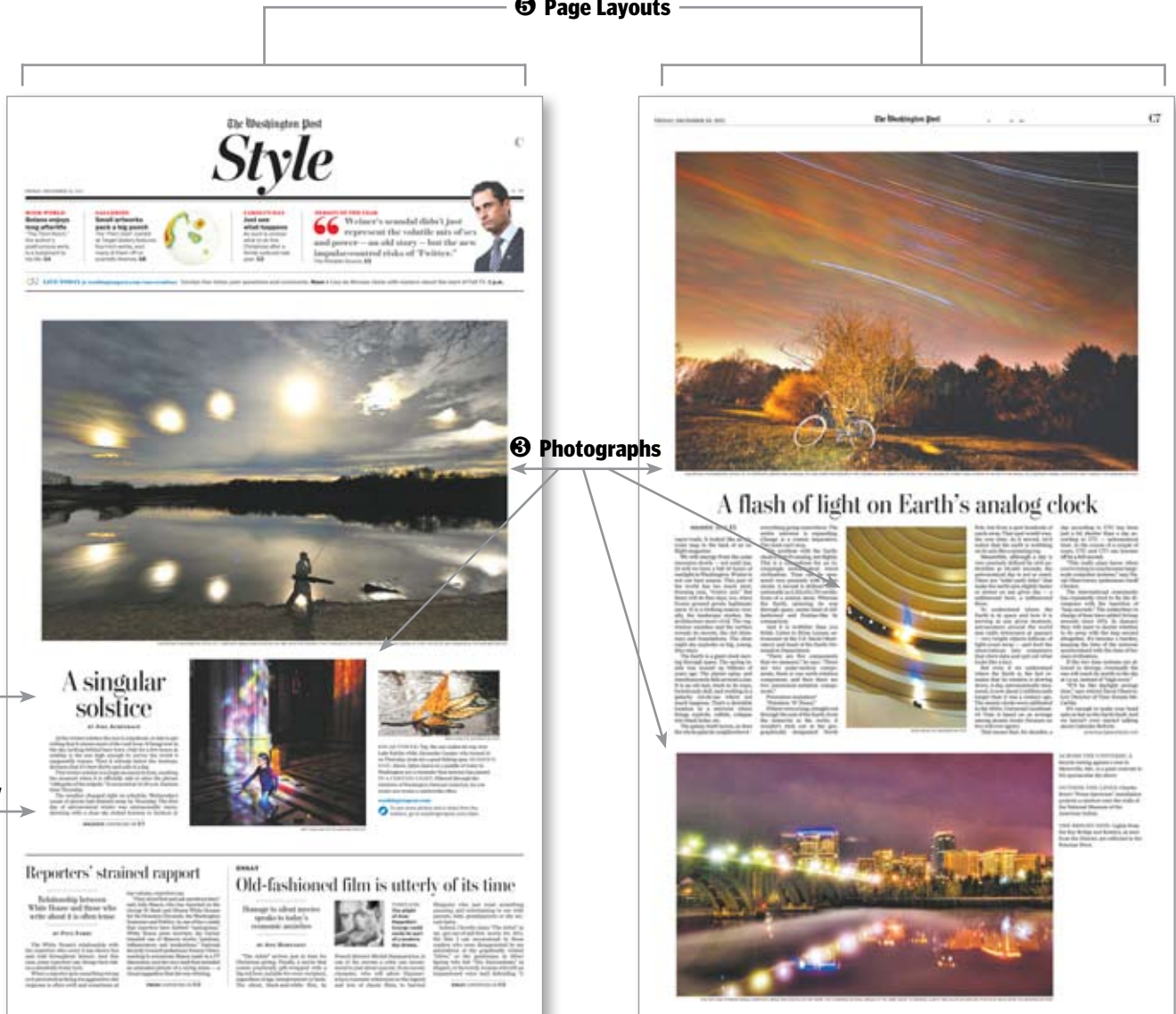
## Create a photo essay:

- 1 Decide on an Idea
- 2 Write a Draft of the Essay
- 3 Take Photographs to Communicate the Idea
- 4 Refine the Essay
- 5 Create a Layout that Combines Photographs and Essay in a Pleasing Composition

## 5 Page Layouts

- 1 Idea
- 2 Draft
- 4 Final Essay

## 3 Photographs





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# A singular solstice

## *A split second on Earth's analog clock*

BY JOEL ACHENBACH  
Washington Post Staff Writer

• Originally Published December 22, 2011

At the winter solstice the sun is a layabout, so late to get rolling that it misses most of the rush hour. It hangs low in the sky, lurking behind bare trees. Only for a few hours at midday is the sun high enough to survey the world it supposedly warms. Then it retreats

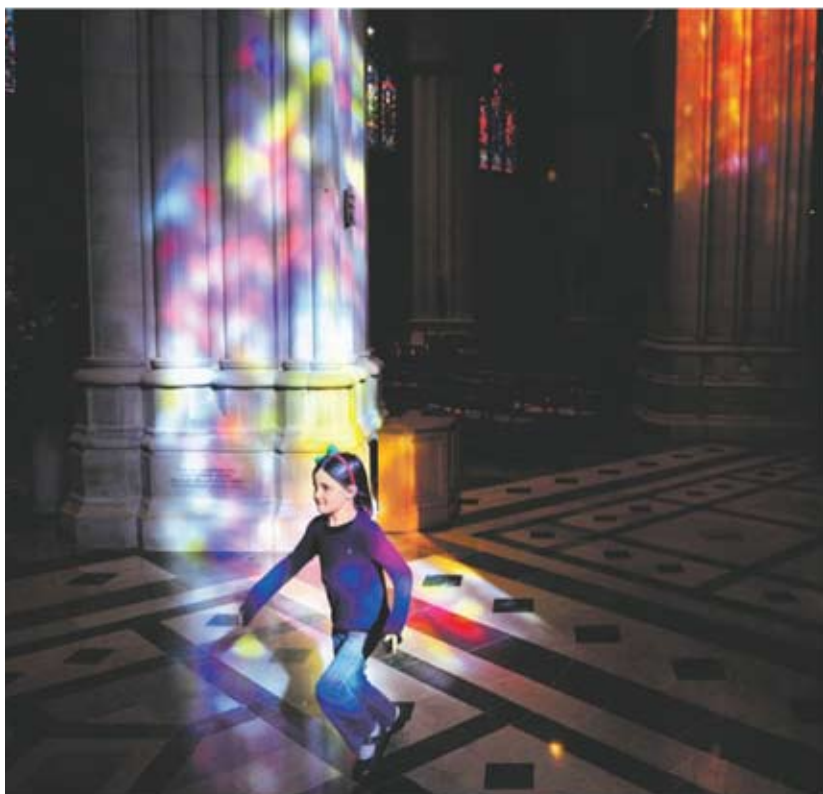
below the treetops, declares that it's beer-thirty and calls it a day.

This winter solstice is a single moment in time, marking the moment when it is officially safe to utter the phrase "obliquity of the ecliptic." It occurred at 12:30 a.m. Eastern Thursday.

The weather changed right on schedule. Wednesday's ocean of gloom had drained away by Thursday. The first day of astronomical winter was unreasonably warm, dawning with a clear sky etched horizon to horizon in vapor trails. It looked like an air-route map in the back of an inflight magazine.

We will emerge from the solar recession rather slowly — not until Jan. 25 will we have a full 10 hours of sunlight in Washington. Winter is not our best season. This part of the world has too much sleet, freezing rain, "wintry mix." But there will be fine days, too, when frozen ground greets legitimate snow. It is a striking season visually, with the landscape starker, the architecture more vivid. The vegetation vanishes and the surface reveals its secrets, the old chimneys and foundations. The clear

CONTINUED ON PAGE 22



MATT MCCLAIN FOR THE WASHINGTON POST



NIKKI KHAN — THE WASHINGTON POST

**SEASON'S END:** Above, fallen leaves in a puddle of water in Washington are a reminder that autumn has passed.

**IN A CERTAIN LIGHT:** Filtered through the windows of Washington National Cathedral, the low winter sun creates a rainbow effect.



## An Integrated Curriculum For The Washington Post Newspaper In Education Program

CONTINUED FROM PAGE 21

night sky explodes in big, young, blue stars.

The Earth is a giant clock moving through space. The spring inside was wound up billions of years ago. The planet spins, and simultaneously falls around a star. It is an old star, stuck in its ways, fortuitously dull, and residing in a galactic cul-de-sac where not much happens. That's a desirable location in a universe where things explode, collide, collapse into black holes, etc.

The galaxy itself moves, as does the whole galactic neighborhood — everything going somewhere. The entire universe is expanding. Change is a cosmic imperative. The clock can't stop.

The problem with the Earth-clock is that it's analog, not digital. This is a conundrum for an increasingly technological, wired civilization. Time can be measured very precisely with atomic clocks. A second is defined internationally as 9,192,631,770 oscillations of a cesium atom. Whereas the Earth, spinning its way through space, seems kind of old-fashioned and Pontiac-like by comparison.

And it is wobblier than you think. Listen to Brian Luzum, astronomer at the U.S. Naval Observatory and head of the Earth Orientation Department.

"There are five components that we measure," he says. "There are two polar-motion components, there is one earth-rotation component, and then there are two precession-nutation components."

Precession mutation?

"Nutation. 'N.' Nancy."

If there were a long, straight rod through the axis of the Earth, from the Antarctic to the Arctic, it wouldn't stick out at the geographically designated North Pole, but from a spot hundreds of yards away. That spot would wander over time. As it moved, we'd notice that the earth is wobbling on its axis the way a spinning top wobbles.

Meanwhile, although a day is very



RICKY CARIOTTI — THE WASHINGTON POST

**ACROSS THE UNIVERSE: A bicycle resting against a tree in Myersville, Md., is a quiet contrast to the spectacular sky above.**

precisely defined by civil authorities as 86,400 seconds, the astronomical day is not so exact. There are "solid earth tides" that make the earth spin slightly faster or slower on any given day — a millisecond here, a millisecond there.

To understand where the Earth is in space and how it is moving at any given moment, astronomers around the world aim radio telescopes at quasars — very bright objects billions of light-years away — and feed the observations into computers that chew the data and spit out something that looks like a fact.

But even if we understand where the Earth is, the fact remains that its rotation is slowing down. A day, astronomically measured, is now about 2 milliseconds longer than it was a century ago. The atomic clocks were calibrated in the 1950s. Universal Coordinated Time is based on an average among atomic clocks (because no two will ever agree).

That means that, for decades, a day according to UTC has been just a bit shorter than a day according to UT1 — astronomical time. In the course of a couple of years, UTC and UT1 can

become off by a full second.

"This really plays havoc when you're trying to synchronize large-scale computer systems," says Naval Observatory spokesman Geoff Chester.

The international community has repeatedly tried to fix the divergence with the insertion of "leap seconds." The authorities in charge of time have added 24 leap seconds since 1972. In January they will meet to decide whether to do away with the leap second altogether. It's become a burden, keeping the time of the universe synchronized with the time of human civilization.

If the two time systems are allowed to diverge, eventually the sun will reach its zenith in the sky at 1 p.m. instead of "high noon."

"It'll be like daylight savings time," says retired Naval Observatory Director of Time Dennis McCarthy.

It's enough to make your head spin as fast as the Earth itself. And we haven't even started talking about Calendar Reform. ■

Posted at 10:03 AM ET, 12/21/2011

# Winter solstice – and other interesting sun facts – explained

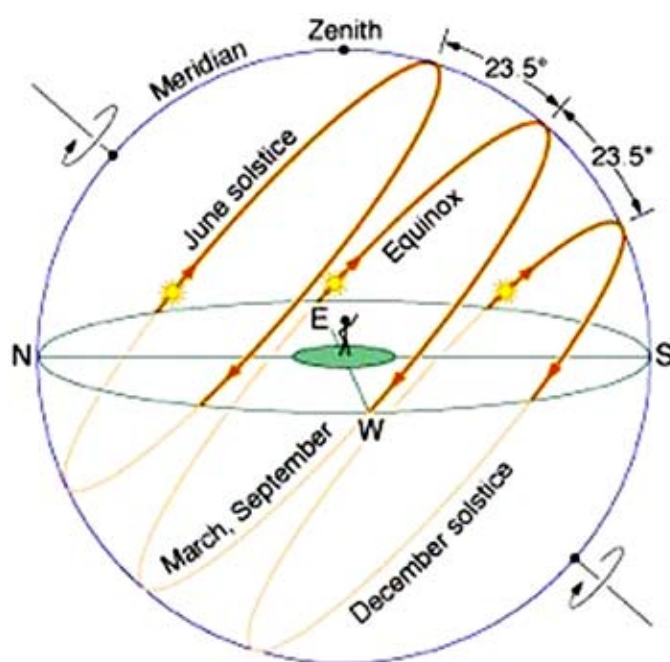
BY JUSTIN GRIESER  
*Washington Post Staff Writer*

If you've grown weary of short days and are looking forward to more sunlight, you won't have to wait much longer. Tomorrow is the winter solstice in the Northern Hemisphere, bringing us the shortest daylight period and longest night of the year. Going forward, the days will gradually lengthen as the sun climbs higher in the sky over the next six months.

In 2011 (this year), the winter solstice occurs at 12:30 a.m. EST on December 22. As the first day of astronomical winter\* in the Northern Hemisphere, the solstice marks the time at which the sun shines directly overhead at 23.5 degrees south latitude. With the North Pole tilted away from the sun, locations north of the equator see the sun take its lowest and shortest path across the southern sky.

For the Washington, D.C. area, this means:

- The sun is above the horizon for approximately 9 hours, 26 minutes
- Sunrise occurs at 7:24 a.m. and sunset at 4:50 p.m.
- The sun angle at solar noon (12:07 p.m.) reaches its minimum height of  $27.7^\circ$  above the horizon (compared with  $74.6^\circ$  above the horizon on June 21)
- The sun rises at its southeasternmost point and sets at its southwesternmost point along the horizon ( $120^\circ$  and  $240^\circ$  from due north, respectively) ■



**Compared with the summer solstice and equinoxes, the winter sun shines at a low angle and spends little time above the horizon.**

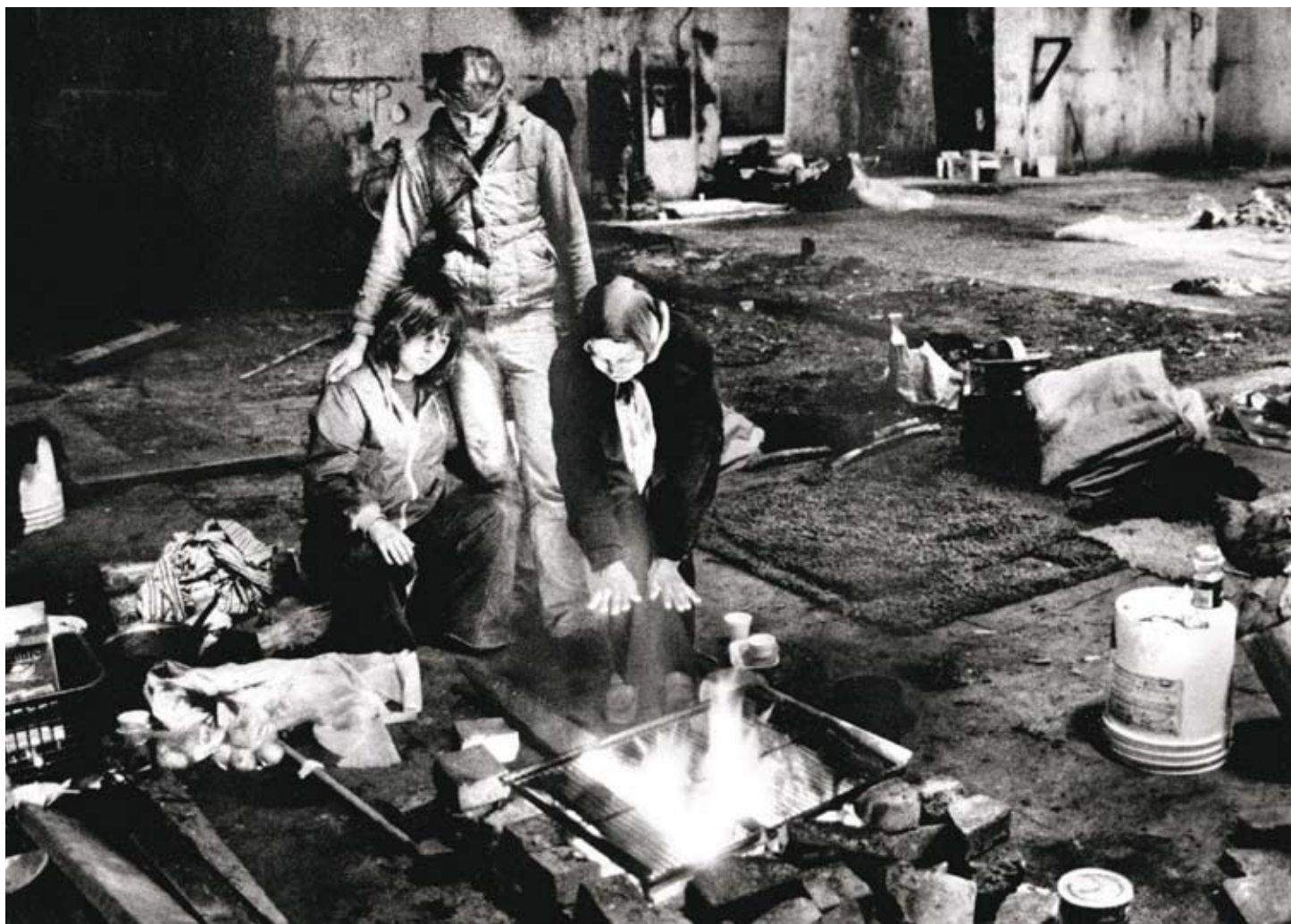
— Daniel V. Schroeder  
 Weber State University

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# AMERICAN DREAMS, DEVASTATED

*Someplace Like America: Tales From the New Great Depression, the latest collaboration from Columbia journalism professor Dale Maharidge and Post photographer Michael S. Williamson, tells the story of American industry and its workers — a story the two began to document more than 30 years ago and published in the mid-'80s in Journey to Nowhere. That work inspired Bruce Springsteen to compose the lyrics to "Youngstown" and "The New Timer."*

*The Boss agreed to write the introduction to Someplace Like America. His words are adapted for publication here, along with some of Williamson's pictures.*



Marie, far right, and a young couple huddle in an abandoned power plant in Sacramento in 1982.

Of the work by Columbia journalism professor Dale Maharidge and *Post* photographer Michael S. Williamson, **Springsteen says**, “They invite us into these stories to understand and allow us to experience the hard times and the commonality of experience that can still be found just beneath the surface of the modern news environment.”



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Right, Ken Platt Jr. with son Ken, in front of the abandoned “Jenny” Blast Furnace in 1984. Above, Platt with a grown Ken. Bruce Springsteen wrote about this furnace in his song, “Youngstown.”



Of the work by Columbia journalism professor Dale Maharidge and *Post* photographer Michael S. Williamson, **Springsteen says**, “People who all their lives had played by the rules, done the right thing and had come up empty, men and women whose work and sacrifice had built this country, who’d given their sons to its wars and then whose lives were marginalized or discarded.”

BY BRUCE SPRINGSTEEN  
PHOTOS BY MICHAEL S. WILLIAMSON

I had completed most of the *Tom Joad* record when one night, some 15 years ago, unable to sleep, I pulled a book down off my living room shelf. I read it in one sitting, and I lay awake that night disturbed by its power and frightened by its implications. In the next week, I wrote “Youngstown” and “The New Timer.”

That book — *Journey to Nowhere*, by Dale Maharidge and Michael S. Williamson — put real lives, names and faces on statistics we’d all been hearing about throughout the ’80s. People who all their lives had played by the rules, done the right thing and had come up empty, men and women whose work and sacrifice had built this country, who’d given their sons to its wars and then whose lives were marginalized or discarded. I lay awake that night thinking: What if the craft I’d learned was suddenly deemed obsolete, no longer needed?

What would I do to take care of my family? What wouldn’t I do?

Without getting on a soapbox, these are the questions Maharidge and Williamson posed with their words and pictures. Men and women struggling to take care of their own in the most impossible conditions and still moving on, surviving.

As we tuck our children into bed at night, this is an America many of us fail to see, but it is a part of the country we live in, an increasing part. I believe a place and a people are judged not just by their accomplishments, but also by their compassion and sense of justice. In the future, that’s the frontier where we will all be tested.

How well we do will be the America we leave behind for our children and grandchildren.

Now, their new book, *Someplace Like America*, takes the measure of the tidal wave 30 years and more in coming, a wave that *Journey* first saw rolling, dark and angry, on the horizon line. It is the story of the deconstruction of the American dream, piece by piece, literally steel beam by steel beam,

CONTINUED



## An Integrated Curriculum For The Washington Post Newspaper In Education Program



**In 2009, a girl had been searching for diamonds with her parents in Crater of Diamonds State Park Arkansas.**

**Springsteen says,** *“They present these men, women and children in their full humanity.”*



**A resident of Bayview, an impoverished Eastern Shore town of fifth-generation descendants of freed slaves, prays in 1998.**

**Springsteen says,** *“And yet it is not a story of defeat. It also details the family ties, inner strength, faith and too-tough-to-die resilience that carry our people forward when all is aligned against them.”*

broken up and shipped out south, east and points unknown, told in the voices of those who’ve lived it. Here is the cost, in blood, treasure and spirit, that the post-industrialization of the United States has levied on its most loyal and forgotten citizens, the men and women who built the buildings we live in, laid the highways we drive on, made things and asked for nothing in return but a good day’s work and a decent living.

It tells of the political failure of our representatives to stem this tide (when not outright abetting it), of their failure to steer our economy in a direction that might serve the majority of hard-working American citizens and of their allowing of an entire social system to be hijacked into the service of the elite. The stories allow you to feel the pounding destruction of purpose, identity and meaning in American life, sucked out by a plutocracy determined to eke out its last drops of tribute, no matter what the human cost. And yet it is not a story of defeat. It also details the family ties, inner strength, faith and too-tough-to-die resilience that carry our people forward when all is aligned against them.

When you read about workers today, they are discussed mainly in terms of statistics (the unemployed),

trade (the need to eliminate and offshore their jobs in the name of increased profit) and unions (usually depicted as a purely negative drag on the economy). In reality, the lives of American workers, as well as those of the unemployed and the homeless, make up a critically important cornerstone of our country’s story, past and present, and in that story, there is great honor.

Maharidge and Williamson have made the telling of that story their life’s work. They present these men, women and children in their full humanity. They give voice to their humor, frustration, rage, perseverance and love. They invite us into these stories to understand and allow us to

experience the hard times and the commonality of experience that can still be found just beneath the surface of the modern news environment. In giving us back that feeling of universal connectedness, they create room for some optimism that we may still find our way back to higher ground as a country and as a people. As the folks whose voices sing off the book’s pages will tell you, it’s the only way forward. ■



**Bruce Springsteen, above in Baltimore in 2009, was inspired by the work of Maharidge and Williamson to write “Youngstown” and “The New Timer.”**

— Originally Published December 20, 2011

An Integrated Curriculum For The Washington Post Newspaper In Education Program

# Rethinking the ink: Laser tattoo removal gains popularity

BY EMILY WAX

*Washington Post Staff Writer*

• Originally Published December 11, 2011

She arrives quietly, coming in from the rain after work. She lies down on her stomach atop a sleek, white reclining chair. She lifts her shirt and tugs down her jeans slightly.

It's enough to unveil a large pink flower tattoo with fat, webby green leaves, which she's here to have lasered off her lower back. She wants to become a mother someday, and she doesn't want her children to see this. The process could take up to 10 sessions, she says. She pauses. Then she starts crying.

"I was only 18. It was a homemade tattoo done at a party," says Lizeth Pleitez, 30, who quickly dries her eyes. Her voice is shaking. "I wasn't thinking about what it meant, you know? Little

did I know it meant something else — like people calling it a 'tramp stamp.' I'm a Pentecostal, and the body is a temple. And I felt really ashamed."

If tattoos are the marks of an era — declarations of love, of loss, of triumph, of youthful exuberance or youthful foolishness — then tattoo removals are about regret, confessions that those landmarks are in the past. They're about the realization that whatever you

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MATT MCCLAIN FOR THE WASHINGTON POST

**Ken Saler puts a bandage over Lizbeth Pleitez's lower back tattoo after finishing a removal treatment at his Advanced Laser Tattoo Removal office.**

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MATT MCCLAIN FOR THE WASHINGTON POST

**Ken Saler uses a Quanta Q-Plus laser on Wayne Stokes, 34, of Baltimore during a tattoo removal session. The business does nothing but tattoo removal.**

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believed in with such force that you wanted it eternally branded on your skin is now foreign to you.

According to the Pew Research Center, more than 40 percent of Americans between the ages of 26 and 40 have at least one tattoo. Getting a tattoo, once the province of sailors rather than suburbanites, is so mainstream that tats are inked at the mall and seen on everyone from Middle American mothers to H Street hipsters to Hollywood starlets.

Perhaps not surprisingly, a parallel trend is emerging: tattoo removal, with dozens of businesses and training schools opening across the country. Some are headed by entrepreneurs such as Ryan Lambert, who has a Harvard degree and launched a tattoo-removal training school at New Looks Laser College in Houston. He also manufactures tattoo-removal lasers.

In Washington, Ken Saler, a 61-year-old, semi-retired real estate maverick has reinvented himself. His Advanced Laser Tattoo Removal office sits above a Baskin-Robbins ice cream store on Connecticut

Avenue NW and has a steady stream of customers, all trying to dial back their everlasting tributes.

"We have a client who has 'Steve' tattooed on her chest. But now she's marrying Dennis," says Saler, whose bright white office features framed Grateful Dead posters and a print of Norman Rockwell's "The Tattooist," in which a heavily tattooed sailor is having his sixth romantic conquest's name scratched off his arm, and a seventh inked on, with an evil-looking needle.

#### Star-bellied Sneetches

Tattooing was once considered audacious, powerful and rebellious precisely because of its permanence.

But for a generation that has come of age during an unprecedented revolution in medical technology, tattoo removal by a super-powered laser seems like a facelift for young people, a chance to start over, erase, rewind. Like deleting a bad photo from a digital camera or defriending a Facebook friend.

"It was such an underserved market," says Christian Slavin, 54, who has an MBA from Harvard and owns Zapatat

in Arlington County, which opened in September. "The difference between the regret rate and the removal rate is huge."

While older lasers burned off the skin, Slavin's new model interacts only with the ink and "makes it shake and makes it break," he says. But it still hurts — it feels like hot rubber bands snapping against your skin, most removers say — and often is more painful than getting a tattoo.

"When it's all said and done, I'm just not that guy anymore," says Corey Newman, 29, who is getting married in May and wanted to get three tattoos removed: his left arm's panther, his right shoulder blade's bull, and two small Chinese characters on his right leg. He is spending \$2,500 to take off tattoos that cost \$600 to put on. (Which might explain why tattoo removers tend to be better dressed and better paid than tattoo artists.)

"I am starting a new life now," he says. "There's a big difference between being 19 and 29."

Part of what made tattooing cool was its outlaw vibe: the Harley biker, the heavy-metal drummer, the ex-con. Part of what makes tattooing uncool is its ubiquity. Newman recently went to Rehoboth Beach, Del., for the weekend, and "every Tom, Dick and Harry had a

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MATT MCCLAIN FOR THE WASHINGTON POST

**Wayne Stokes' hands tell of his suffering.**



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tattoo, and it looked ridiculous. I started the removal sessions right after that.”

It’s a little like Dr. Seuss’s *The Sneetches*. In the children’s classic, Sylvester McMonkey McBean sells the Sneetches a star machine for \$3. Once there are too many star-bellied Sneetches, he tells them about his “star-off” machine, which costs \$10.

### A fresh start

During a recent week, Saler’s appointment book included distraught mothers dragging their daughters in; ex-gang members with street tats who don’t want to be killed; professional women who are applying for office jobs; and African immigrants who want to get their tribal markings removed. Saler, who has a long face and tiny eyes under curly, graying hair, typically works in an oversize Cosby sweater and jeans.

“I have a lab coat,” he says. “But the sweater makes people feel more comfortable. They already arrive with a lot of anxiety and expectations.”

This being Washington, his office draws aspiring CIA and FBI agents, along with other law enforcement operatives. If they go undercover, they can’t risk being identified by their tattoos.

As it happens, Saler is the product of a fresh start. When the real estate market crashed, he was looking for a growth industry and heard about tattoo removal. He took a two-week course to become a certified laser specialist at Rocky Mountain Laser College in Colorado, and he invested in a Quanta Q-Plus laser, which has a \$90,000 price tag. The laser is on wheels and looks a little like a photocopy machine with a probe attached.

(He’s no stranger to entrepreneurial inspiration: He also claims that, in 1974, he became the first person to operate a hot dog stand in Washington.)

Saler’s bright office is on the second floor of a walk-up that houses several mental health therapists, “a back-up plan not lost on me, if people need therapy before or after,” he says with a chuckle. His Facebook page advertises “Tramp Stamp Tuesdays” and \$50 ring-finger tattoo removals after a breakup.

### Emotional pain, physical pain

On a rainy Tuesday, Dave Adams, 36, a musician and massage therapist, goes to Saler to have three neck tattoos removed. They are religious symbols, and there’s one on each side of his neck: a Star of David, a Hindu yantra and an upside-down cross.

“Tattoos were viewed as forever. But now I like the idea that I can treat the skin like an artist can treat a canvas,” he says, adding that he loves and respects tattoo work and expects to get more. “But I just got these too quickly. I feel like they are jumping off my neck.”

Then the burly, tattoo-faced Wayne Stokes, 34, arrives. He’s on his sixth session of a removal that might take up to 25.

He has tattoos on his face, neck, hands and chest. Both eyes are encircled by a black leopardlike Maori-inspired design, which is based on the tattoo sported by boxer Mike Tyson. The tops of his hands spell out S-U-F-F-E-R-I-N-G when he holds them side by side. The left side of his neck says “Life,” the back of his neck says “Is,” and the right side says “Pain.”

He started getting tattoos when he was 16. He says he grew up in rough neighborhoods in Baltimore, suffered abuse at the hands of his father and was threatened outside his home, too: by drugs, by peers on the streets.

“Subconsciously I was creating an image to keep people at bay and away from me. I wanted to look tough,” he says. “People ask me every day, ‘Why did you do it? Why did you put yourself

through that pain of tattooing your entire face?’ I’ve realized I don’t have to keep that trauma on my body.”

He’s gone through a lot of therapy. He works as a cook, but when the tattoos are off, he wants to mentor abused kids.

Now that the painful decision to get rid of the tattoos is over, the physical pain begins. He prays in the bathroom for strength. He gets into the chair and squeezes a ball as the laser hits his skin, turning parts of it red and then frosted white as the ink crystallizes into smaller particles that will be removed by his body’s immune system over the next few weeks. The laser emits a green light, and the room smells a little bit like burned hair.

Saler uses a hose — known as the “Zimmer Cryo cooler” — to blow air onto the skin and deaden the sensation. “Each time, I get [part of] it removed, it’s like I can exhale,” Stokes says. “Sometimes I do dread coming in. But it’s the end result.

“I want to look in the mirror and see myself again.” ■

### EDITOR’S NOTE

This print article becomes a multi-media package online. Informational graphics, photo gallery and video provide different dimensions to the tattoo topic.

“Thinking of inking?” is a five-part informational graphic: [www.washingtonpost.com/wp-srv/special/health/guide-to-tattoos/](http://www.washingtonpost.com/wp-srv/special/health/guide-to-tattoos/).

“Rethinking the ink” video takes viewers into Saler’s laser tattoo removal business: [www.washingtonpost.com/lifestyle/style/rethinking-the-ink-laser-tattoo-removal-gains-popularity/2011/12/08/gIQAvaQ9nO\\_story.html](http://www.washingtonpost.com/lifestyle/style/rethinking-the-ink-laser-tattoo-removal-gains-popularity/2011/12/08/gIQAvaQ9nO_story.html).

A photo gallery and captions tell the story of a laser removal business: [www.washingtonpost.com/lifestyle/style/the-tattoo-erasers/2011/12/08/gIQAURxGoO\\_gallery.html#photo=1](http://www.washingtonpost.com/lifestyle/style/the-tattoo-erasers/2011/12/08/gIQAURxGoO_gallery.html#photo=1).

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# Inside everything

*Smithsonian's scan man in high demand*

BY BRIAN VASTAG  
Washington Post Staff Writer

• Originally Published December 12, 2011

Oh, the things Bruno Frohlich can scan.

Ancient whale skulls. Smashed human ones. Stradivarius violins. Violas. Cellos. Guitars. Stringed instruments from Mongolia. Apollo spacesuits. Eagle feathers. Mummified birds from Egypt oddly missing their heads. Dinosaur leg bones, fossilized. Thigh bones, hip bones, arms bones, teeth. An infant's iron casket dug up in the District. Live turtles. Dead crocodiles. Mummy after mummy from Egypt. And one from Peru.

The Smithsonian Institution owns 137 million things. Over the past 15 years, Frohlich, it seems, has scanned them all.

Okay, not quite. But if he had enough time, he would.

"This is my hobby," Frohlich says of his job.

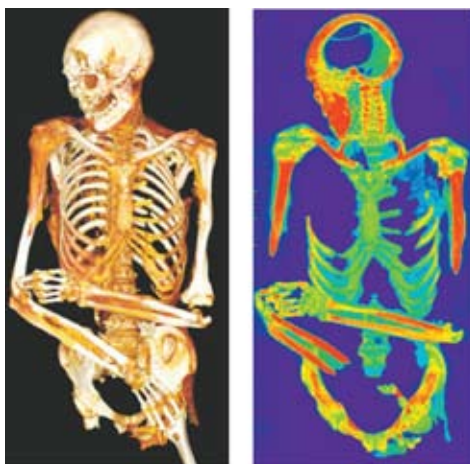
In 1996, Siemens Corp. donated a used medical CT scanner to the National Museum of Natural History. Understanding the machine's potential to reveal ancient secrets, Frohlich took charge of it.

"In the old days, 20 years ago, we would do an autopsy, cut the body open," Frohlich says of studying mummies. No need for such destructive science now. Just scan an object, and a three-dimensional image of its innards appears.



MARK GAIL — THE WASHINGTON POST

**Bruno Frohlich uses a CT scanner at the National Museum of Natural History to examine the bones of a teenage male who died 800 to 900 years ago.**



**Scans of a natural mummy found in Mongolia show that the man had been bludgeoned and stabbed.**

Frohlich said few other museums own full-size CT machines. And now the Smithsonian owns two. A faster, higher-resolution scanner arrived in September, again a used model (again donated by Siemens) that retails for about \$250,000. It's a gleaming white five-foot-tall vertical doughnut with a sliding table attached, squeezed into Frohlich's third-floor laboratory.

In a hospital, the scanner's penetrating X-rays might spot a tumor. At the museum, they reveal that what appears

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to be a small mummy of a sacred kitten is, in fact, hollow — a 2,500-year-old Egyptian con job.

“You never know what you’ll find,” says the 60-something Danish native, perhaps a little impishly.

A small rectangular box hangs above the lab door. It reads “X-RAYS” and flashes red when the scanner is on. People walk in anyway, interrupting. This annoys Frohlich. There’s so much to scan.

Frohlich enjoys the solitude of it. “I’m not a give-me-attention kind of guy,” he says as he briskly leads a visitor past a mob of tourists in the museum’s entrance hall. “I’m more of a leave-me-alone type.”

Sometimes this happens: A colleague wheels up to the lab a behemoth chunk of dinosaur skeleton. It is mineralized bone — a fossil — so it is hard. X-rays scatter off such items, bouncing all over the joint and possibly exposing the unwary to tiny doses of radiation. So when confronted with hard targets, Frohlich waits until everyone in the vast museum has left.

In the 2 a.m. quiet, he scans.

“My workdays keep going; they are 24 hours,” he says. “I love it.”

Scanmaster of the Smithsonian is Frohlich’s second job at the museum. He arrived in 1978 as a forensic anthropologist, a career that still carries him around the world. In the Aleutian Islands of Alaska and the deserts of Mongolia, he helps solve ancient murder mysteries. When he’s not traveling, he spends half his time in Vermont, where he aids the state police there and in Connecticut in solving more-recent homicides.

At the museum, though, it’s all about the scans. As Frohlich works, he sits behind a leaded-glass window with a view of the CT machine. A dosimeter stays clipped to his shirt pocket, measuring his radiation exposure.

The CT machine whirs in a wash of white noise. On the screen of the control station, a three-dimensional image appears, a high-resolution peek inside rock, or metal, or wood, or tissue. It’s technology; may as well be magic.

### Coming back to life

One recent morning, the museum showed off its new scanner. Three reporters, a TV camera and four high school interns clad in red polo shirts crowd around the scanner table. It’s warm. Sweat appears on Frohlich’s brow. As he expounds on the machine’s value to science, he talks a little too fast, excitedly.

As he does so, a 700-year-old Peruvian rests on the scanning table. She is on her side with her legs crossed, one knee sticking up. She is tiny. She has seen better days. Her bones are bony.



PHOTOS BY MARK GAIL — THE WASHINGTON POST

**Since the Smithsonian acquired a used medical scanner, Bruno Frohlich has examined mummies and musical instruments, live turtles and dead crocodiles.**



**Among the items scanned by Frohlich are the skull of a dolphin, left, and a bowl, above.**

She is missing a lot of teeth and some of her skin. Ragged cloth strips still wrap her head. Decades ago in the Andes, she was found in a cold, dry cave, good for preservation. She’s a natural mummy.

Scans revealed that the woman was in her 40s when she died, her organs still intact. She may have been a sacrifice, Frohlich says. Other scientists can now read the images and learn more about the woman’s health, search for hints as to what diseases she may have had, whether she had any broken bones.

They can piece together her story.

As Frohlich talks, a phalanx of Siemens executives and the museum’s director, Cristian Samper, wait in the hallway. They are on a schedule. Someone tells Frohlich to wrap it up.

“They expect me to describe 20 years of work in 20 minutes,” he scoffs.

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He keeps talking, faster.

He pulls a human skull from a shelf behind him. Yes, there are human skulls on his shelves, in cardboard boxes numbered 39,233,787. The Smithsonian flies Frohlich to Mongolia frequently to collaborate with the Mongolian Academy of Sciences. And so, here is a skull he brought back.

Frohlich turns it over, points to a triangular hole gaping in the rounded back of the skull. Something like a baseball bat could have done it. A real good thwack. Who killed this centuries-old Mongolian, and why?

"We're not out there just to pick up mummies and skeletons," Frohlich says later of his expeditions. "We're there to learn about the people. We make them come alive."

Scanning helps. It can show, for instance, whether bone healed after a trauma, indicating survival. The hole-in-the-head guy, he did not survive the whack. His face is smashed, too. "Someone made sure he was dead," Frohlich says.

### The sounds of music

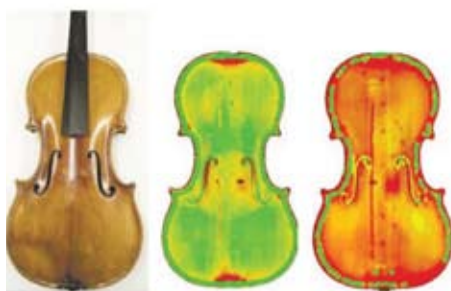
Frohlich enjoys the forensics, unraveling these mysteries. Even more, he loves scanning.

After the first machine arrived, Frohlich sent word to staff at the Smithsonian's 19 museums and galleries: Bring me your scannables. And so they did.

Some Air and Space Museum curators carried over a spacesuit once worn by a moon-walking astronaut. The scans revealed weak spots in the suit's latex and neoprene, guiding conservation efforts.

National Zoo herpetologists brought him a turtle.

The reptile kept trying to amble off the table. Frohlich set it atop a block of plastic foam. "The arms and legs were



**Scans of Stradivarius violins reveal a secret of their sonorous sound: Their maker used very thin wood.**

flapping," Frohlich says, demonstrating with his own arms and legs.

Why scan the turtle? Was something wrong with it? "Yeah, I guess" is the answer. Diagnosing the ills of a turtle is not the point for Frohlich. The point is to scan it.

So the machine virtually sliced the turtle into hundreds of paper-thin digital slices. It is now a digitized turtle, stored in the cloud somewhere.

While the Smithsonian owns all of the scan data, Frohlich is working to make it publicly available. By March, he says, visitors to a new Web site will be able to download nearly every scan.

Such as that of a famous violin.

About a decade ago, someone at the National Museum of American History arrived with a Stradivarius violin.

"I thought it would be a half-hour project," Frohlich says. But he became fascinated with the famous instrument. "It's been 10 years." His blue eyes go wide when he says this, as if even he is incredulous.

Frohlich set out to determine if a heartless X-ray machine could suss out the sonorous secrets of a Stradivarius.

Eventually, his scans built three-dimensional maps of 11 Stradivarius violins, violas and cellos. Their innards were revealed in such high resolution that Frohlich could see tiny wormholes in the wood. The scans also showed that the Italian who fashioned the

instruments in the 17th and 18th centuries, Antonio Stradivari, used very thin wood, perhaps a clue to their tremendous timbre.

But even after all this, Frohlich is convinced that scanning will never reveal why a Stradivarius sounds like a Stradivarius. Music is largely in the ear of the beholder, he says, pointing to his ear.

In a research paper describing the project, Frohlich and three colleagues wrote, "Did [Stradivari] apply some secret features, material and/or chemical treatments to his instrument, which later instrument makers failed to recognize? Did he use special treated wood, special varnish, and did he select wood with very specific density to enhance both the looks and the tone qualities? Or, is it all a product of manipulative marketing in order to sell more instruments? We still do not know for sure, but it is most likely a result of many factors, some known to us, and others still a secret."

The enduring mystery has not stopped instrument makers from trying to re-create a Stradivarius. Two luthiers in Minnesota recently used CT scans to attempt to replicate one of the violins, called the Betts, now held by the Library of Congress.

Frohlich says they have little chance of reproducing the sound quality.

Still, he'll keep scanning.

"Can you do that fish fossil this afternoon?" one of the museum's paleontologists, David Bohaska, asks as he wanders into the lab.

Although it pains him, Frohlich cannot. But he will soon. "How about next Monday?" ■

### EDITOR'S NOTE

A photo gallery accompanies this article online. Visit [www.washingtonpost.com/national/health-science/ct-scans-unlock-historys-secrets/2011/12/12/gIQAmaejpO\\_gallery.html](http://www.washingtonpost.com/national/health-science/ct-scans-unlock-historys-secrets/2011/12/12/gIQAmaejpO_gallery.html).

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Academic Content Standards

*This lesson addresses academic content standards of Maryland, Virginia and the District of Columbia.*

Maryland

- Fine Arts:** Students will demonstrate the ability to perceive, interpret, and respond to ideas, experiences, and the environment through visual art. (Standard 1.0)
- Reading:** Students will use a variety of strategies and opportunities to understand word meaning and to increase vocabulary (Standard 1.0, Topic D)
- English Language Proficiency:** English Language Learners will read English to acquire language and comprehend, analyze, interpret and evaluate a variety of literary and informational texts. (Standard 3)
- d. Use text features including illustrations, photographs, titles, and labels to make meaning from text with support (Grades 4-5 R/ELA SC 2.A.2 and 3.A.2)
  - d. Use text features including bold print, font size, italics, captions, and headings to make meaning from text with support (Grades 4-5 R/ELA SC 2.A.2 and E.A.2)
- Personal Financial Literacy Education:** By the end of Grade 5, students will compare the relationships among education, skills, career choices, economic conditions and income (2.5.A)

The Maryland Voluntary State Curriculum Content Standards can be found online at <http://mdk12.org/assessments/vsc/index.html>.

Virginia

- Fine Arts:** The students will identify and discuss a variety of art careers. (Cultural Context and Art History, Grade 4)
- Fine Arts:** The student will analyze, interpret, and judge works of art based on biographical, historical, or contextual information. (Judgment and Criticism, Grade 7)
- Reading:** The student will read and demonstrate comprehension of nonfiction.
- a. Use text organizers, such as type, headings, and graphics, to predict and categorize information. (Grade 5)
- Virginia, U.S. History:** The student will demonstrate knowledge of economic, social, cultural, and political developments in recent decades and today by
- c. explaining the media influence on contemporary American culture and how scientific and technological advances affect the workplace, health care and education. (VUS.15)

Standards of Learning currently in effect for Virginia Public Schools can be found online at [www.doe.virginia.gov/testing/sol/standards\\_docs/index.shtml](http://www.doe.virginia.gov/testing/sol/standards_docs/index.shtml)

Washington, D.C.

- Visual Arts:** Investigate and understand historical and cultural dimensions of the visual arts and to construct meaning in the diverse ways in which human experience is expressed across time and place (Strand 3, Historical and Cultural Context)
- Visual Arts:** Connect and apply what is learned in the visual arts to other forms, subject areas, visual culture and communications, and to careers (Strand 5, Connections, Relationships, Applications)
- Visual Arts:** Draw diagrams, maps, graphs, timelines, or illustrations to communicate ideas or tell a story about a historical event. (Strand 5, Visual Literacy, 4.5.3)
- Reading:** Use knowledge of morphology or the analysis of word roots and affixes to determine the meaning of unfamiliar words. (Vocabulary and Concept Development, 4.LD-V.10)

Learning Standards for DCPS are found online at <http://dcps.dc.gov/DCPS/In+the+Classroom/What+Students+Are+Learning>