Welcome to CNN Studio Tours!

What to Expect on Your Field Trip
Using this Study Guide
Live Feed: Classroom Lesson Plans
1. CNN in Orbit (Science, Mathematics, Social Studies)
2. More than One Way to Tell a Story (English Language Arts, Communications)
3. From Scooping Ice Cream to Scooping the News (English Language Arts, Career Choices)
4. Chemistry Lights the Way (Science)
5. Interns in the News (Mathematics, Logic, Careers)

Beyond the News: Additional Resources
Games & Puzzles: Cryptogram, Word Search
The Real Story: History of CNN Timeline
Talk the Talk: CNN Control Room Jargon
The Man Behind the Station: Biography of Ted Turner
TV Terms: CNN Glossary
News You Can Use: Curriculum Standards
National Curriculum Standards
State: GA, AL, FL, NC, SC, TN
A field trip to CNN Studio Tours showcases what happens when you mix the spirit of entrepreneurship with advances in science and technology to create the world’s news leader. You and your students will go behind the scenes at CNN to explore how news and information are broadcast around the globe.

Welcome!
Ted Turner, a born entrepreneur, was not afraid to risk failure to achieve what he wanted. He was also able to recognize business potential when others did not. Cable and satellite communications systems started to develop in the late 1940s and 1950s but they were not widely used. In the 1970s Ted Turner saw those technologies as being the wave of the future for television.

Turner knew that people would watch if he provided programming that they wanted to see. He decided to start a network that provided news programming 24 hours a day, seven days a week as it was happening. He bought an abandoned country club in Atlanta, turned it into a television studio, and the Cable News Network was launched on June 1, 1980.

When the company grew too big for its original building, Turner purchased another old building and turned it into CNN Center, where it still is today. Over the years, CNN added spin-off networks and other news-related services. All CNN-branded networks and services combined are now available to more than one billion people in 212 countries and territories.

Control Room Theater
Your experience at CNN Studio Tours begins with a ride on an eight-story, freestanding escalator – the longest in the world! Your first stop is the Control Room Theater. From your seats, you see a screen with real-time representations of some of the monitors that the control room staff is watching from their location three floors below. On an average day, the control room staff is comprised of six to ten people. During breaking news, the control room environment can become very intense. Directors often have only seconds to prepare for new developments.

Studio 7E
Here, you learn about the technology used to deliver both news and weather. Someone from your group may even get be an anchor for the day and read off of the TelePrompTer! The weather team at CNN uses two systems during their coverage. One that you may have seen before – the Chroma Key system – is also called the “Green Screen.” The other technology is known as “The Magic Wall.” The Magic Wall is a display with a multi-touch overlay that allows meteorologists to interact directly with the graphics that they are discussing on air.

Studio 7
This is the HLN Studio featuring a signature set designed to inspire conversation among the hosts. There’s also a lot of technology at work, including a retractable green screen. The Vista wall seen in this studio is eight feet tall, 24 feet wide, and is made up of three smaller panels. The edges have been blended together to make the seams in the panels less noticeable. This wall is used to create a distinctive look for each program through a combination of videos, graphics, and text. The Vista wall has its own control room manned by a producer or technical director who manage the content it displays.

CNN Newsroom
The CNN newsroom operates 24 hours a day, seven days a week with a normal staff size of 150 people. During major breaking news events, there can be more than 300 people working in a heightened state of activity. As you will see, the newsroom is broken into three zones: news gathering, CNN Digital, and future assignments.
Digital Hub
CNN gets some of its headlines from social media and actively monitors multiple digital platforms about what people are searching, playing, sharing, creating and watching. You will also see the suite of apps that Turner (parent company) owns and operates.

Atrium
This stop on the tour brings you past the studios for CNN International and CNN en Español. You will overlook a food court that used to be a giant skating rink! Look closely at the floor and you will notice a map of the world with gold disks marking some of CNN's news bureaus.

Studio 3
Studio 3 is a modular studio capable of being transformed based on the needs of the broadcast schedule. This studio is used mainly for CNN weekend shows, CNN weather broadcasts, and sometimes for CNN en Español and CNN International.

CNN Studio Tours
CNN Studio Tours offers your students a unique opportunity to see STEAM learning at work. They will be inspired by the story of Ted Turner to think BIG and follow their passion. When you hear your students ask “Why do I need to learn this?” point to your class visit to CNN Studio Tours and remind them of how proficiency in science, technology, engineering, art, and math can lead to careers on the world stage - both in front of the camera and behind the computer.
Using this Study Guide

As a companion to your experience at CNN Studio Tours, this Study Guide has been created to complement your classroom instruction and make the most of your school field trip. It contains original, assessable, STEAM-related classroom lesson plans for you to use and share.

The Middle School Study Guide contains dynamic activities and assignments for students in grades three through five. There are also Study Guides for Middle School and High School. Each Guide is designed to be flexible and used to best meet the needs and capabilities of your class. You know your students better than anyone else!

Following this Introduction, you will find “Live Feed,” a section containing five interdisciplinary Classroom Lesson Plans addressing national and local curriculum standards. The lesson plans begin with instruction pages for teachers which include answer keys along with a list of the appropriate content areas and skills addressed by the activities in the lesson. Rounding out the lessons are ready-to-copy Student Activity worksheets that center on key STEAM topics featured on your tour.

The first lesson plan, “Capital Cities,” combines world geography and math in an inquiry-based class activity. Students use the coordinates of latitude and longitude to identify the locations of twenty-five international CNN bureaus.

“Science at Work” is the second lesson plan. It invites students to explore the world of niche journalism and discover that science, technology, and engineering are always news at CNN.

In the next lesson, “A Ride to the Top,” students use their geometry, algebra, and physics skills to design and build a scale model of the tallest freestanding escalator in the world. (Hint: you rode it on your way to the start of your tour!)

“1980 and Beyond” looks at changes in news coverage, lifestyle, and technology from the first broadcast at CNN in 1980 to the current day. Students will delve into literacy, history, and technology to research, analyze, and report on their findings.

The fifth lesson plan is “Careers in the News.” Students may think of an on-air reporter when they imagine a career in a newsroom. However, CNN—a vibrant workforce found all over the world—also employs a range of STEAM talent. The logic puzzle in this lesson plan opens your students’ eyes to the diversity of careers and locations available in a company like CNN while practicing critical thinking skills and establishing equalities without using any numbers.

Next, there are two Games and Puzzles related to themes in CNN Studio Tours. One is a word search and the second is a cryptogram. These are excellent activities for your bus ride to and from the tour or to assign for extra credit as you see fit. Under “Beyond the News,” you will also find a timeline of CNN history, a glossary of terms and jargon, and a biography of Ted Turner.

We know how important it is to justify field trips and document how instructional time is spent outside of your classroom. To that end, this Study Guide is directly correlated to the Common Core State Standards for English Language Arts and Mathematics, the C3 Framework for Social Studies State Standards, and the Next Generation Science Standards.

These correlations are organized by content and grade level. You can readily see how they fit into your required curriculum, making it easy to connect a field trip to CNN Studio Tours with your classroom instruction. Following the national curricula, you will find the Georgia Performance Standards and the Georgia Standards of Excellence.
In addition, specific requirements are provided for Alabama, Florida, North Carolina, South Carolina, and Tennessee.

All of these education resources can be used before or after your field trip. They will help prepare students for the teachable moments found throughout CNN Studio Tours. When you get back to school, you can refer to the Guide as you continue to explore connections between the themes of the tour and your classroom STEAM instruction. We’re ready to go live in 3-2-1!
Lesson Plan 1: CNN in Orbit

Teacher Instructions
CNN started with a dream and a satellite. Television stations and cable companies realized the potential of satellite technology during the 1970s, the era when Ted Turner launched his career in media. Turner’s experience with broadcasting via satellite began with his first television station, TBS (Turner Broadcasting System). He paid for a transponder, which is like renting space or leasing a channel, on one of the first geostationary communication satellites, Satcom 1.

These satellites receive an uplink, which is data sent from a dish in one location, such as a CNN bureau. A satellite orbiting Earth catches that signal, amplifies it, and sends it back down to another dish at a different location, such as your local cable company. This second pathway is the downlink. By using satellites instead of traditional television station antennas or terrestrial cables to deliver his programs, Turner’s stations were seen around the country and, soon after, around the world.

Although data is sent in digital signals today instead of the analog radio waves of the past, CNN uses the same uplink/downlink technology. Dozens of satellites encircling the globe are used to both gather and deliver the news. In the Control Room Theatre at the beginning of your tour at CNN Studio Tours, your students will see screens of many different sizes. Some of the screens show what is currently being seen on CNN in the U.S. Control rooms are considered the heart of the CNN broadcast because they are the last point of contact CNN has with the news before it is broadcast via satellite to viewers all around the world.

The smaller screens in the Control Room Theatre are routers. Routers contain information that is available for use on air. They include anything from shots of the anchor desk, to live feeds on location where reporters are standing by, to pre-recorded videos. It is all lined up and ready for use in an upcoming segment, as determined by the producers and directors in the Control Room. Almost of all this content is delivered to CNN headquarters in Atlanta via satellites from all over the world.

How do these satellites bring CNN to your television? With physics and algebra, of course! Your students will apply what they have learned in their science and math classes to discover more about the high-tech world of network broadcast satellites and their orbits.

Answer Key
Part 1:
1. $7.66 \times 10^3$ m/s (7660 m/s)
2. 9.07 m/s²
3. 5561.4 seconds = 1 hour 32.7 minutes
4. The gravitational force affecting the orbit is due to the mass of the larger, central object about which the satellite orbits, which in this case is the Earth.

Part 2:
1. Circular, because the orbit follows the equator and the Earth is more circular than elliptical.
2. 3.59 $\times 10^7$ meters = about 22,307 miles
3. (a.) $3.07 \times 10^3$ m/s; (b.) It is slower, or less, than the ISS ($v=7.66 \times 10^3$ m/s) by $4.59 \times 10^3$ m/s. (c.) The ISS has to compensate for the stronger effect of gravity due its closer proximity to Earth. Newton’s law of universal gravitation states that objects in the universe are attracted to each other with a force (gravity) that is inversely proportional to the square of the distance between them. So the greater the distance from the Earth, the weaker the force of gravity directed towards the Earth.
4. Inertia: the satellite would continue moving forward along its projectile but gravity pulls it down along the curve.
### Lesson Plan 1: CNN in Orbit

#### Table: Satellite Positions

<table>
<thead>
<tr>
<th>Satellite</th>
<th>Position</th>
<th>Location on Earth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thor 6</td>
<td>1.0°W</td>
<td>Atlantic Ocean, just west of Africa and the Gulf of Guinea</td>
</tr>
<tr>
<td>Intelsat 701</td>
<td>29.0°W</td>
<td>Atlantic Ocean, about halfway between Africa and South America</td>
</tr>
<tr>
<td>Intelsat 11</td>
<td>43.0°W</td>
<td>Atlantic Ocean, off the north coast of Brazil</td>
</tr>
<tr>
<td>Star One C2</td>
<td>70.0°W</td>
<td>Western Brazil, at the border with Colombia</td>
</tr>
<tr>
<td>Galaxy 14</td>
<td>125.0°W</td>
<td>Pacific Ocean, approaching the International Date Line</td>
</tr>
</tbody>
</table>
Student Activity
CNN started with a dream and a satellite. Television stations and cable companies realized the potential of satellite technology during the 1970s, the era when Ted Turner launched his career in media. Turner’s experience with broadcasting via satellite began with his first television station, TBS (Turner Broadcasting System). He paid for a transponder, which is like renting space or leasing a channel, on one of the first geostationary communication satellites, Satcom 1.

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How do these satellites bring CNN to your television? With physics and algebra, of course! Apply what you have learned in your science and math classes to discover more about the high-tech world of network broadcast satellites and their orbits.

Terms to Know
amplify, analog, centripetal, elliptical, geostationary, orbit, posigrade, terrestrial, transponder, velocity

Use the known quantities given and the formulas derived from Isaac Newton’s laws of gravity and Johann Kepler’s third law of planetary motion to perform the following calculations. Complete your work on separate paper and write your answers in the spaces provided.
Part 1: Low Earth Orbit

A satellite in orbit around Earth has to maintain a velocity that is neither too slow, in which case it would be pulled down by gravity, nor too fast, in which case it would break out of orbit and hurdle into space. This magnitude of this velocity depends on the gravitational pull of Earth. Satellites in low-earth orbit (LEO), like the Hubble Space Telescope, are more affected by gravity from the mass of the Earth than are the communication satellites used by CNN in higher, geostationary orbits. The International Space Station (ISS) is in LEO at an orbit height of 400.727 km (249 miles) above the Earth’s surface.

1. What is the velocity (v) of the ISS?

2. What is the acceleration (a) of the ISS?

3. What is the orbital period (T) of the ISS, converted to hours and minutes?

4. Based on Isaac Newton’s laws of gravity, why is the mass of the satellite, in this case the ISS, not a factor in any of these calculations?
Part 2: Geostationary Satellites

The satellites used by CNN to broadcast the news are in a geostationary orbit much further away from Earth than the ISS and other LEO satellites. A geostationary satellite circles the Earth at a location directly above the equator and remains in the equatorial plane. These satellites have approximately the same orbital period as Earth (24 hours).

1. Is the orbit of a geostationary satellite elliptical or circular? How do you know?

2. Calculate the height, or distance from the Earth, necessary for a geostationary satellite to maintain an orbital period equal to that of the Earth. Then, convert that distance to miles. Hint: $T = 24$ hours $= 8.64 \times 10^4$ seconds

3. (a.) What velocity must a geostationary satellite maintain in order to keep up with the rotation of the Earth? (b.) How does this velocity compare to that of the International Space Station? (c.) How do these two velocities illustrate Newton's law of universal gravitation?

4. In orbits governed by circular motion principles, gravity is the centripetal force. It causes acceleration on the satellite in the direction of the center of rotation, the Earth. Consult Newton's laws of motion to figure out what force counteracts the pull of gravity and keeps the satellite moving forward along the curve of its orbit.
5. Geostationary satellites move parallel to the Earth's equator and have posigrade orbits, so they appear to be parked in the sky. Because their latitudes are always zero degrees at the equator, they are easier to locate than satellites in LEO or medium Earth orbit (MEO). Each of the satellites in this chart carries signals from CNN for networks that broadcast from the production studios you see during CNN Studio Tours. These networks include HLN (Headline News), CNN USA, CNN International, and CNN en Español.

Use an atlas or a globe to complete the chart below with the absolute locations on Earth that correspond with the longitudes of the satellites that carry signals from CNN. The first one has been filled in for you.
The feeds you see on the monitors in the Control Room Theater arrived at CNN Center via satellites much like the ones in this image.

<table>
<thead>
<tr>
<th>Satellite Name</th>
<th>CNN Networks</th>
<th>Orbital Position</th>
<th>Location on Earth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thor 6</td>
<td>CNN International Europe</td>
<td>1.0°W</td>
<td>Atlantic Ocean, just west of Africa and the Gulf of Guinea</td>
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<td>CNN International Asia Pacific</td>
<td>29.0°W</td>
<td></td>
</tr>
<tr>
<td>Intelsat 11</td>
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<td>CNN en Español, CNN International, CNN US</td>
<td>125.0°W</td>
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</table>
Lesson Plan 2:
More than One Way to Tell a Story

Teacher Instructions
CNN provides the news to billions of people worldwide, both on television screens and online. Although it started as a television network in 1980, CNN found a place on the web in 1995 with cnn.com. The world of CNN Digital soon expanded to encompass CNNgo and mobile platforms of news presentation such as their CNN app. Today CNN is the number one destination for online news. It has more unique IP hits per month than any other news website. CNN can get a breaking story on their website in less than 3 minutes! You will see both the digital team and the news gatherers for on-air reports at work in the main newsroom during your field trip to CNN Studio Tours.

Although the subjects of news reports broadcast on air and those prepared for a website are often the same, the way they are presented can be quite different. For centuries, newspapers were the only way to learn about current events. But technology has changed how we get our news and how that news is prepared. News anchors can’t simply read a print newspaper article into the camera. From teleprompter text specifically written to be read on air to stories written to be read online, CNN reporters have to take many factors into consideration when drafting the news of the day – or the minute!

What are the similarities and differences in these storytelling techniques? What information is included or omitted in each version? What are some of the features and benefits of each form of media? In this activity your students will compare and contrast two versions of the same news event—an online article on cnn.com and an episode of CNN Student News—to identify information that is consistent or conflicting in both formats.

Students will need access to the internet in order to complete the following:

- Select an article on the same topic from www.cnn.com.

They will also need a partner and a stopwatch, timer, or clock with a second hand. For assessment, the value of each part of the activity is included in parentheses and the final grade can be based on the percentage of the total earned out of 30 points.
Student Activity
CNN provides the news to billions of people worldwide, both on television screens and online. Although it started as a television network in 1980, CNN found a place on the web in 1995 with cnn.com. The world of CNN Digital soon expanded to encompass CNNgo and mobile platforms of news presentation such as their CNN app. Today CNN is the number one destination for online news. It has more unique IP hits per month than any other news website. CNN can get a story on their website in less than 3 minutes! You will see both the digital team and the news gatherers for on-air reports at work in the main newsroom during your field trip to CNN Studio Tours.

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You will need access to the internet in order to complete the following:

- Select an article on the same topic from [www.cnn.com](http://www.cnn.com).

You will also need a partner and a stopwatch, timer, or clock with a second hand. The value of each part of the activity is included in parentheses and your grade will be based on the percentage of the total of 30 possible points you earn.

Terms to Know
bias, consistent, corresponding, objective, teleprompter, transcript
Part 1: On the Air
Select a recent episode of CNN Student News. Each broadcast includes more than one report; pick one topic to be the focus of your media analysis. Written transcripts of each show are listed by date at http://transcripts.cnn.com/TRANSCRIPTS/sn.html. Find the corresponding on-air broadcast of CNN Student News for that date at www.cnn.com/studentnews. Use both the transcript and the video to answer these questions.

1. What is the date of the CNN Student News episode you selected? (1 point)

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2. What is the topic for the segment you selected from that day? (1 point)

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3. Watch the corresponding broadcast for that date at www.cnn.com/studentnews. Use the stopwatch or the time counter on the bottom of the video to note the length of the report on the story you chose. You may have to view the segment more than once in order to accurately record the time. How long is the report on your topic? (1 point)

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Part 2: On the Web
Find an article from www.cnn.com on the topic you selected in Part 1. To help your search, you can click on the magnifying glass on the upper right corner of the screen for the “Search” function. Scroll through the results of your search for the most recent article on the same topic. It should be within a day or two of the episode you chose from CNN Student News, but should not be an editorial or from the “Opinion” section of the website.

1. What is the title of the article? (1 point)

_______________________________________________________________________________________________________________________________________

2. What is the date the article was published online? (1 point)

_______________________________________________________________________________________________________________________________________
3. Using the stopwatch or clock, one partner will read the article aloud while the other partner times how long it takes. How long does it take to read the entire article aloud? (1 point)
_______________________________________________________________________________________________________________________________________

Part 3: Compare
Answer the following questions and complete the chart based on both versions of the current event you selected for Parts 1 and 2. Begin by identifying the six basic elements of any news story.

1. Who is it about? (1 point)
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_______________________________________________________________________________________________________________________________________

2. What happened to them? (1 point)
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_______________________________________________________________________________________________________________________________________

3. When did it happen? (1 point)
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_______________________________________________________________________________________________________________________________________

4. Where did it happen? (1 point)
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5. Why did it happen? (1 point)
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6. How did it happen? (1 point)

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7. List three additional facts about the event, from either the broadcast or the written article. (3 points)

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8. Did one of the versions provide more detailed information than the other for the six questions above? If so, which one had the more complete coverage? (2 points)

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9. Which version contains more words and longer sentences? Why? (2 points)

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_______________________________________________________________________________________________________________________________________
<table>
<thead>
<tr>
<th></th>
<th>Broadcast report/Transcript</th>
<th>Written article</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>One fact or supporting detail not included in the other version (2 points)</td>
<td></td>
</tr>
<tr>
<td>11.</td>
<td>Experts or sources or cited (2 points)</td>
<td></td>
</tr>
<tr>
<td>12.</td>
<td>Does this version show a bias or is it objective? How? (2 points)</td>
<td></td>
</tr>
</tbody>
</table>

13. Which media format do you prefer? Why? (2 points)
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________

14. Which media do you think would be better for reporting breaking news? Why? (2 points)
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_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________

15. Why do you think the news gatherers and the web team that you saw on the CNN Studio Tours share space in the main newsroom? (1 point)
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_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
Lesson Plan 3: From Scooping Ice Cream to Scooping the News

Teacher Instructions
One of the field trip options offered at CNN Studio Tours takes your class behind the scenes to watch how the news is delivered to millions of students around the world each day. CNN Student News is designed to bring current events into middle and high school classrooms. Originally titled “CNN Newsroom,” founder Ted Turner began the channel in 1989 as a way to reach younger viewers. Since that time it has varied in both broadcast length and in the on-air talent serving as hosts.

Today, it is a 10-minute, commercial-free program anchored by Carl Azuz. It is available daily at www.cnn.com/studentnews and is often viewed in Social Studies classes or homeroom. Carl Azuz is more than just the face of CNN Student News. He is responsible for researching national and international current events and writing about them in a way that appeals to students. Before taking the helm at the student news channel, Azuz fulfilled several roles at CNN including writing, reporting, and producing for some of CNN’s other networks and programs.

Part 1 of this lesson is an excerpt from an interview with Carl Azuz. He describes the education, choices, experiences, and skills that have helped him become successful in his career. Students will read his responses and answer the questions that follow. In Part 2, using Carl Azuz as their inspiration, they will conduct an interview with someone in a profession they are interested in pursuing after high school and college. Students will interview that person using the list of questions provided.

Answer Key
Part 1:
1. writing, shooting, editing, directing, and interviewing
2. Broadcasting History and Script Writing
3. bag boy at a grocery store, sold candy and snacks at Kmart, and scooped ice cream at Baskin Robbins
4. internship at a video production house
5. It is unusual to go from off air to on air at CNN. He’s a good writer, experienced in speaking publicly, and able to produce
6. Researching and writing
7. Their audience doesn’t watch the news everyday so their job is to explain what is happening and why it is happening. Exploring how a volcano eruption can affect the operation of a jet engine and cause flights to be diverted
8. Answers will vary but should include something about having to work hard to achieve success
9. Japan, Honduras, the Middle East
10. get your foot in the door and work your way up

Part 2:
Answers will vary based on individual interviews. Assessment can be based on completion of this portion of the lesson plan.
Writing, reporting, and producing for some of CNN's other networks and programs.

In the interview with Carl Azuz excerpted below in Part 1, he describes the education, choices, experiences, and skills that have helped him become successful in his career. Read his responses and answer the questions that follow. In Part 2, using Carl Azuz as your inspiration, you will conduct an interview with someone in a profession you are interested in pursuing after high school and college. Interview that person with the list of questions provided to gain insight on how you might be able to forge a similar path for yourself.

**Terms to Know**
anchor, bulk, excerpt, forge, helm, internship, transcribe

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**Part 1:**
Read the following excerpt from an interview with Carl Azuz about the path that brought him to a career as the host of CNN Student News. Answer the questions that follow.

Which of the courses that you took in college as part of your major were your favorite?

*I majored in video and film production. I learned so much about writing, shooting, editing, directing, and interviewing. I also gained a lot of technical experience in college. My favorite course was Broadcasting History and I loved Script Writing. I got an A in that class and it wasn’t easy! I am still passionate about writing.*

What jobs did you have before you joined CNN?

*I spent my whole professional career at CNN. In fact, Ted Turner spoke at my college graduation but I wasn’t there to hear him. I was already on my way to Atlanta. I was recruited to work for him before I graduated. Prior to that, I was a bag boy at a grocery store. I also sold candy and snacks at Kmart and scooped ice cream at Baskin Robbins. I did complete an internship at a video production house which helped me get my job at CNN.*

What is something surprising or unexpected about your career path?

*It is very unusual to go from off air to on air at CNN. I made the transition because I am a good writer and I had experience speaking publicly on behalf of CNN. Being able to write, produce and speak in front of (a lot!) of people helped me get on the air. I will say that I never really expected the enthusiasm of our audience. We are seen by three million students a day yet I am still surprised to be recognized and asked to have my picture taken. It happened to me just the other day at a Rome Braves Game!*
What tasks make up the bulk of your work day?

I’m a writer. I write all of my own copy for the show. I was a news writer and producer before I came to CNN Student News so I am very comfortable with this part of the job. Most of my day is spent researching and writing.

How is the news presented differently for CNN Student News, compared to other CNN broadcasts?

CNN Student News is an explainer show. We know that our audience is not watching every day. Our job is to explain what is happening and why it is happening. A particular news event could obviously be covered by CNN but on our show we take the time to look at the details, the history, and the science behind the story. For example, we will explore how a volcano eruption can affect the operation of a jet engine and cause flights to be diverted. We look for interesting nuggets to explain why something is in the news and why students should be interested.

What is the most exciting part of your job with CNN Student News?

I really enjoy interacting with students who take field trips to CNN. We have seen double digit growth in the numbers of students who take our tour and the volume of students who watch our broadcast around the world. We are seen in Japan, Honduras, the Middle East. I love that! We added a special studio tour just for CNN Student News and it sold out for the school year. I enjoy writing for sure but I also like going on camera. I like being the dude who tells people what’s going on in the news. It’s thrilling for me to do.

What advice do you have for students interested in doing what you do?

Be prepared to pay your dues. This is a pay your dues profession. You won’t get on air at a major network right after college. You have to get your foot in the door and work your way up. Just know that you probably won’t get paid a lot after graduation.

1. What did Carl Azuz learn as part of his major in video and production at college?

_______________________________________________________________________________________________________________________________________

_______________________________________________________________________________________________________________________________________

_______________________________________________________________________________________________________________________________________

2. What were Azuz’s favorite classes for his major?

_______________________________________________________________________________________________________________________________________

_______________________________________________________________________________________________________________________________________

_______________________________________________________________________________________________________________________________________
3. What jobs did Azuz have before he began his career in broadcast media?
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________

4. Which early experience helped him get a job at CNN?
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_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________

5. Why was his career path at CNN unusual? What skills helped him on that path?
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________

6. Although Azuz is best known as the anchor who presents CNN Student News, how does he spend most of his work day?
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________

7. Why does Azuz describe CNN Student News as an “explainer” show? What example does he give to support this description?
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
8. What do you think he means by “This is a pay your dues” profession?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

9. Name three locations outside of the U.S. where students watch CNN Student News.
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

10. What does he recommend that students who are interested in a career like his do after college?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

**Part 2:**
Choose a family member, friend, or someone in the community with a profession you are interested in pursuing after high school and college. Interview that person with the list of questions below. It might be helpful to record your interview with video or audio and transcribe the responses afterward—a very good skill to have if you are interested in a future in journalism! Be sure to get permission before you start the recording.

Person's name: ________________________________
Profession: ________________________________

1. What kind of education or training did you need to become qualified for your career?
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
2. During your education or training, what did you enjoy learning most? What did you learn that has been the most helpful in your chosen profession?
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
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3. What were some of your first jobs?
_______________________________________________________________________________________________________________________________________
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4. What is something surprising or unexpected about your career path?
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________

5. Which tasks make up the bulk of your work day?
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_______________________________________________________________________________________________________________________________________
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6. What is your favorite part of your job?
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_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
7. When you were in high school, what kind of career did you expect to have as an adult?
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_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________

8. What advice do you have for high school students interested in doing what you do?
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
_______________________________________________________________________________________________________________________________________
Lesson Plan 4: Chemistry Lights the Way

Teacher Instructions

Lights, camera, action! During your field trip to CNN Studio Tours, pay attention to the lighting systems used for different CNN television broadcasts. In Studio 7, which is home to HLN (Headline News), part of its control room is dedicated to lighting. From there, the lighting director can retract lights into the ceiling and change the colors of lights contained in boxes on the ceiling. Studio 3 is a modular studio capable of being transformed for the needs of the broadcast schedule. Its lights must have that same level of flexibility which is why you can see over 500 lights strung around the ceiling.

The lights in a CNN studio have changed significantly since the network debuted in 1980. Until recently, tungsten and halogen lights were the main source of light—and heat—on a set. They are similar to incandescent light bulbs still found in many homes. They produce light by becoming hot enough to glow. In this method, light is created by a blackbody, which glows because it is white-hot. If you've ever tried to change a light bulb as soon as it's gone out, you've felt the heat from this kind of light.

Set designers and lighting directors now prefer to use LED (light-emitting diode) lights. Over 2,500 feet of color-changing, programmable LED fixtures light the CNN Washington, DC, bureau. The main studio spaces in London and Abu Dhabi both have large LED walls. Studio 7 at CNN Center in Atlanta features more than two miles of LED lighting on the floors and walls! These systems allow CNN to customize the colors based on the needs of each program.

Why are LEDs preferred over other bulbs and lamps? Beyond the ability to customize colors, LEDs last much longer (sometimes years longer!) and they provide light without excess heat. With fewer lights to buy and less air conditioning needed to cool a studio, LEDs save money, too. How do they do it? What is the science behind the efficient rainbow of LED colors now found everywhere from television studios to holiday lights to children's glowing shoes? Instead of incandescence, this light comes from electroluminescence. Electroluminescence is light created at the intersection of physics and chemistry. In an LED, it happens when a charge supplied by an electric current passes through a semiconductor and energy is released as a photon by a material in that semiconductor.

Electrical conductivity is the measure of a material's ability to conduct an electric current. It is affected by the presence of electrons available to move among atoms and molecules, as well as the amount of effort (energy) it takes for an electron to break out of its valence orbital to keep the charge moving. The conductivity of a semiconductor lies somewhere between conductors and insulators. Conductors (metals) are found on the left side of the periodic table while insulators (nonmetals) are on the far right side. In this lesson, instruct your students to keep their periodic table of the elements nearby as they explore the inner workings of the LEDs that are changing the way we light our world.
Answer Key

Part 1:
1. Negative, because it has excess electrons
2. Positive, because it is lacking electrons
3. Ionic bond because in that kind of bond, there is attraction between ions with opposite charges. In a covalent bond, electrons are shared.

Part 2:
1. Yellow
2. Green
3. (a.) 610-760 nm; (b.) 1.63-2.03 eV
4. (a.) 450-500 nm; (b.) 2.48-3.7 eV

Part 3:
1. Gallium
2. Arsenic, phosphorus, nitrogen, indium, aluminum
3. (a.) gallium arsenide phosphide; (b) gallium aluminum arsenic phosphide; (c.) gallium aluminum indium phosphide; (d.) gallium aluminum arsenide
4. (a.) Groups III/13. They have three valence electrons. (b.) Groups V/15. They have five valence electrons.

Part 4:
Arguments in favor of LED lights might include energy efficiency, longer lifespan, lower cooling costs, more light per Watt, flexibility in color choices, high reliability, smaller size, lack of potentially harmful UV rays or infrared radiation, etc. Answers will vary based on the lighting systems in use at your school.
Student Activity
Lights, camera, action! During your field trip to CNN Studio Tours, pay attention to the lighting systems used for different CNN television broadcasts. In Studio 7, which is home to HLN (Headline News), part of its control room is dedicated to lighting. From there, the lighting director can retract lights into the ceiling and change the colors of lights contained in boxes on the ceiling. Studio 3 is a modular studio capable of being transformed for the needs of the broadcast schedule. Its lights must have that same level of flexibility which is why there are over 500 lights strung around the ceiling.

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Terms to Know
blackbody, conductivity, covalent bond, diode, electroluminescence, electromagnetic, halogen, incandescence, ionic bond, orbital, photon, semiconductor, spectrum, tungsten, valence
Part 1: In the Junctions

A semiconductor in an LED is separated into two thin areas, or bands. The valence band has electrons to spare. The conduction band has empty orbital holes. The space where these two bands meet is the p-n junction, for positive-negative. Photons are released when electrons break out of the negative zone, cross the p-n junction, and move into the positive zone.

1. Does the valence band have a negative or positive charge? Why?

____________________________________________________________________________________
____________________________________________________________________________________

2. Does the conduction band have a negative or positive charge? Why?

____________________________________________________________________________________
____________________________________________________________________________________

3. Is the movement of electrons across the p-n junction more similar to an ionic bond or a covalent bond? Why?

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________

Part 2: In the Bandgaps

The amount of energy required to get electrons through the p-n junction is the bandgap. It is measured in electron volts (eV). Some semiconductors have very narrow, or low, bandgaps. It doesn’t take much electric current to get the electrons to break their bonds and move into the conduction band. Others have a wider bandgap and require more “encouragement,” or electricity, to get the electrons moving.

The size of the bandgap in an LED semiconductor correlates to the wavelength of light emitted by the LED. Red light, at one end of the visible electromagnetic spectrum, has the longest wavelength. A semiconductor with a small bandgap releases energy with a light wave of about 700 nanometers (nm) and it appears red. Violet LEDs have shorter wavelengths at around 400 nm and larger bandgaps. Use the chart below to predict colors emitted by LEDs, based on their average wavelengths and bandgaps.
<table>
<thead>
<tr>
<th>LED Color</th>
<th>Light Wavelength Range (nm)</th>
<th>Semiconductor Bandgap (eV)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red</td>
<td>610-760</td>
<td>1.63-2.03</td>
</tr>
<tr>
<td>Orange</td>
<td>590-610</td>
<td>2.03-2.10</td>
</tr>
<tr>
<td>Yellow</td>
<td>570-590</td>
<td>2.10-2.18</td>
</tr>
<tr>
<td>Green</td>
<td>500-570</td>
<td>1.9-4.0</td>
</tr>
<tr>
<td>Blue</td>
<td>450-500</td>
<td>2.48-3.7</td>
</tr>
<tr>
<td>Violet</td>
<td>390-450</td>
<td>2.76-4.0</td>
</tr>
</tbody>
</table>

1. Which color would be emitted from a semiconductor with a bandgap of 2.15 eV?
_______________________________________________________________________________________________________________________________________

2. Which color can be made from the greatest variety of semiconductors, based on bandgap measurements?
_______________________________________________________________________________________________________________________________________

3. Red has been a signature color at CNN for as long as CNN has been on the air. With extensive news coverage during election years in the U.S., red studio lights and graphics get particularly heavy use along with white and blue, of course. (a.) What is the wavelength range for red LED light? (b.) What size should the bandgap be in the LED semiconductor in order to produce red light?
_______________________________________________________________________________________________________________________________________

4. When Robin Meade hosts her Morning Show on HLN from Studio 7 in Atlanta, the background behind her is often blue. (a.) What is the wavelength range for blue LED light? (b.) What size should the bandgap be in the LED semiconductor in order to produce blue light?
_______________________________________________________________________________________________________________________________________
**Part 3: In the Compounds**

To change the color emitted by an LED, lighting engineers change the bandgap in the diode’s semiconductor. These adjustments are made by altering the elements, compounds, and ratios inside the semiconductor. This list of compounds is enough to create every color of the rainbow:

- GaAs (gallium arsenide) for red, orange, and yellow
- GaP (gallium phosphide) for red, orange, yellow, and green
- GaAlP (gallium aluminum phosphide) for green
- GaN (gallium nitride) for green and blue
- GaInN (gallium indium nitride) for blue and violet

1. Which element appears in each of the compound semiconductors?

_______________________________________________________________________________________________________________________________________

2. Identify the remaining five elements used in these compound semiconductors.

_______________________________________________________________________________________________________________________________________

_______________________________________________________________________________________________________________________________________

3. Other semiconductors often used in LEDs are made with these same elements, but combined in different ways. One compound can emit a variety of lights because of its composition ratios. For example, GaAsP produces yellow light with a composition of GaAs0.15P0.85 but the light becomes orange when those amounts are changed to GaAs0.35P0.65. Identify these additional compound semiconductors:

   a. GaAsP:

   b. GaAlAsP:

   c. GaAlInP:

   d. GaAlAs:
LED fixtures installed in CNN’s Washington, DC bureau allow for great flexibility in color design. CNN uses LED lights outside of the studio, too. Here, the Empire State Building is lit in red, white, and blue as a way to report election results.

4. Locate these elements on the periodic table. (a.) In which group are aluminum, gallium, and indium found? What electron configuration do they have in common? (b.) In which group do you find nitrogen, phosphorus, and arsenic? What electron configuration do they have in common?

Part 4: In your School
Compared to incandescent and fluorescent lights, LEDs use less energy to create their light and waste less energy in the process. A typical incandescent bulb loses up to 90% of its energy as heat. One LED bulb lasts as long as 100 conventional light bulbs. Conduct a survey of the lighting fixtures and systems in your school to see which kinds of lighting are used where. In addition to LEDs and incandescents, you may find fluorescent lights in the ceilings, halogen lights on the auditorium stage, or mercury vapor lights in the gymnasium.

Based on the results of your assessment, conduct research on the benefits of installing more LEDs at your school. Prepare a fact-based persuasive essay that explains where and why your school should replace some of its current lighting with LED systems, just as CNN has done at its bureaus around the world including CNN Center in Atlanta.

CNN uses LED lights outside of the studio, too. Here, the Empire State Building is lit in red, white, and blue as a way to report election results.
Lesson Plan 5:
Interns in the News

Teacher Instruction

In this lesson, your class will read a short story and solve a logic puzzle that matches four students with intern positions they would like to have at different CNN departments while they are in college. Logic puzzles are a fun way to practice mathematical skills without using any numbers! Your students will be making deductions and establishing equalities similar to those used in algebra: if \( A = B \) and \( B = C \), then \( A = C \).

To solve the puzzle, read each clue carefully. Use the answer grid to help you keep track of what you do and do not know. Because each student in the puzzle can only have one intern position, in one geographic location, with one start date, critical thinking skills and the process of elimination will solve the mystery.

When you are able to match a student to his or her internship choice, its location, or its starting date, put a checkmark in the box formed at the intersection of the person’s name and the city, position, or start date on the grid. If a clue tells you that a person does NOT like something, then place an X in the box for that person and that particular topic. The first clue says that Betsy loved the field trip so much, that she wants a position at CNN Center in Atlanta. Therefore, Atlanta, GA, is going to be Betsy’s location. This first clue has been marked on the grid for you.

Keep reading the clues and marking an X on the grid for what you know is not true and a checkmark for what you know is true. When you finish all the clues and still have not completed the logic puzzle, read through the clues again. Once you make some basic deductions, you will discover new relationships and come closer to solving the puzzle. Be diligent! If you get stuck, check your grid to see if any connections have revealed themselves.

Answer Key

Start date = Student name = Location = CNN division
January = Henry = Washington, DC = CNN Newsource
June = Daniel = Miami, FL = CNN en Español
August = Mia = Munich, Germany = CNN International
September = Betsy = Atlanta, GA = CNN.com

Although the first jobs we usually think about at CNN are reporters and on-air personalities, many more “behind-the-scenes” careers are needed to deliver 24-hour news on TV and online.

Maybe there is a job as a CNN Studio Tours guide in your future! One former tour guide became a bureau chief in Dubai and another became the executive producer of HLN.
Student Activity
In this lesson, you will read a short story and solve a logic puzzle that matches four students with intern positions they would like to have at different CNN departments while they are in college. Logic puzzles are a fun way to practice mathematical skills without using any numbers! Your students will be making deductions and establishing equalities similar to those used in algebra: if $A = B$ and $B = C$, then $A = C$.

To solve the puzzle, read each clue carefully. Use the answer grid to help you keep track of what you do and do not know. Because each student in the puzzle can only have one intern position, in one geographic location, with one start date, critical thinking skills and the process of elimination will solve the mystery.

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If a clue tells you that a person does NOT like something, then place an X in the box for that person and that particular topic. The first clue says that Betsy loved the field trip so much, that she wants a position at CNN Center in Atlanta. Therefore, Atlanta, GA, is going to be Betsy’s location. This first clue has been marked on the grid for you.

Keep reading the clues and marking an X on the grid for what you know is not true and a checkmark for what you know is true. When you finish all the clues and still have not completed the logic puzzle, read through the clues again. Once you make some basic deductions, you will discover new relationships and come closer to solving the puzzle. Be diligent! If you get stuck, check your grid to see if any connections have revealed themselves.

Terms to Know
affiliate, deduction, elimination, fluent, grid, intern, logic

The Story
On the bus ride back to school after their class field trip to CNN Studio Tours, four friends discussed intern positions they would love to have with CNN when they are in college. They were really excited after learning about what goes on behind the scenes in television and digital news broadcasting. Their teacher overheard the conversation and could not wait to tell the other teachers back at school how much the students were inspired by the field trip. By the time they returned to school, the forgetful teacher could only remember parts of the friends’ conversation. Help the teacher fill in the gaps by reading clues and matching students to the location, CNN division, and month of the beginning of their future internship.
The Clues
1. Betsy loved the field trip so much that she wants a position at CNN Center in Atlanta.
2. The student who wants to write for CNN.com will start the internship later than Mia.
3. Either the student who begins in June or the one who begins in August wants to live in Miami.
4. The student whose position begins in August has always wanted to live in Europe.
5. The student who wants to work on the website for CNN.com has the latest starting date.
6. The student whose position begins in January wants to be a researcher for CNN Newsource, which provides CNN's high quality news content to local affiliate networks.
7. The four students are: (1) the student who wants a position with CNN Newsource, (2) the one whose intern would start in August, (3) the one who wants to stay in Atlanta, and (4) Daniel.
8. The student who wants to move to Washington DC will not be working with CNN International or CNN en Español.
9. Neither Mia nor the student who will live in Atlanta will be an intern with CNN en Español or CNN Newsource.
10. Mia plans to use her fluency in German in her intern position.

Use this chart to keep track of the solutions as you solve the puzzle.
<table>
<thead>
<tr>
<th>Student</th>
<th>Location</th>
<th>CNN Division</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mia</td>
<td>Atlanta</td>
<td>Washington DC</td>
</tr>
<tr>
<td>Daniel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Betsy</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Henry</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Miami</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Munich</td>
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<tr>
<td></td>
<td>CNN</td>
<td>International</td>
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<td></td>
<td>CNN.com</td>
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<tr>
<td></td>
<td>CNN en Español</td>
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</tr>
<tr>
<td></td>
<td>CNN Newsource</td>
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</tr>
</tbody>
</table>

- **Starting Month:**
  - January
  - June
  - August
  - September

- **Location:**
  - Atlanta: x
  - Washington DC: x
  - Miami: x
  - Munich: x
This puzzle is a cryptogram, a code in which letters have been replaced by numbers. Decipher the sentence to reveal a quote from the founder of CNN, Ted Turner. Use the chart below to decode the message and find out the promise Ted made in 1980 about the end of CNN. Hints are provided and a few have been filled in to get you started.
After the first office opened in Atlanta in 1980, CNN spread quickly across the country and around the globe. Today, CNN networks and services are available in 212 countries and territories. Search for the names of 20 international cities in the list below that are home to CNN studios and offices. Then, identify the country in which each of these bureaus is located, on the line next to each city name.

Amman ___________________________ Madrid ___________________________
Beijing ___________________________ Manila ___________________________
Beirut ____________________________ Mumbai ___________________________
Berlin ___________________________ Nairobi ___________________________
Dubai _____________________________ Paris ___________________________
Havana _____________________________ Rome ___________________________
Istanbul ___________________________ Santiago _______________________
Jakarta _____________________________ Seoul _________________________
Jerusalem ___________________________ Sydney _________________________
Johannesburg _________________________ Tokyo ________________________
This puzzle is a cryptogram, a code in which letters have been replaced by numbers. Solve the puzzle to reveal a quote from anchor, Robin Meade. Meade is host of the popular morning show on HLN, “Morning Express with Robin Meade”. She films inside CNN Global Headquarters in Atlanta. Use the chart below to decode the message and find out what she says is the most important element in a news story. Hints are provided and some letters have been filled in to get you started.

<table>
<thead>
<tr>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
<th>F</th>
<th>G</th>
<th>H</th>
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<td>26</td>
<td>13</td>
<td>20</td>
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</table>

<table>
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<tr>
<th>N</th>
<th>O</th>
<th>P</th>
<th>Q</th>
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<th>U</th>
<th>V</th>
<th>W</th>
<th>X</th>
<th>Y</th>
<th>Z</th>
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<tbody>
<tr>
<td>9</td>
<td>10</td>
<td>4</td>
<td>25</td>
<td>19</td>
<td>17</td>
<td>11</td>
<td>12</td>
<td>15</td>
<td>1</td>
<td>22</td>
<td>7</td>
<td>16</td>
</tr>
</tbody>
</table>

**Word Search**

Amman (10, 20, E) Jordan
Beijing (15, 12, SW) China
Beirut (2, 3, E) Lebanon
Berlin (2, 3, S) Germany
Dubai (11, 12, W) United Arab Emirates
Havana (17, 20, N) Cuba
Istanbul (1, 18, E) Turkey
Jakarta (4, 10, S) Indonesia
Jerusalem (11, 9, NE) Israel
Johannesburg (6, 12, N) South Africa
Madrid (1, 17, E) Spain
Manila (14, 9, SE) Philippines
Mumbai (16, 17, W) India
Nairobi (8, 1, SE) Kenya
Paris (9, 1, SE) France
Rome (4, 14, NW) Italy
Santiago (4, 7, E) Chile
Seoul (11, 13, SW) South Korea
Sydney (18, 6, N) Australia
Tokyo (19, 15, S) Japan
Below is a timeline of significant moments in the development and expansion of the first 24-hour, all-news network in the world.

This information can be used in your classroom:

- For exercises in historical geography, by mapping specific locations over time.
- To develop group study aids such as trivia contests and game or quiz shows.
- As writing prompts and research project topics across the curriculum.

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1980</td>
<td>CNN, Ted Turner's Cable News Network, makes its initial broadcast. CNN signs on the air June 1 as the world's first 24-hour news network reaching 1.7 million cable television households.</td>
</tr>
<tr>
<td>1982</td>
<td>CNN launches a second network, CNN2, on New Year's Day. The next year, it becomes CNN Headline News.</td>
</tr>
<tr>
<td>1985</td>
<td>CNN International begins live 24-hour transmission to Europe. Turner Broadcasting System, Inc. purchases 75% of the Omni International Complex for Ted Turner's growing cable network television project. The following year, TBS purchases the remaining 25%.</td>
</tr>
<tr>
<td>1986</td>
<td>CNNRadio launches. The Omni International complex is renamed CNN Center and becomes the world headquarters for TBS, Inc. and CNN.</td>
</tr>
<tr>
<td>1992</td>
<td>CNN launches CNN Newsource, a service comprised of TV stations and local/regional cable news channels throughout North America. It provides partners with the news content necessary to produce competitive newscasts.</td>
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<tr>
<td>1993</td>
<td>CNN launches CNN en Español radio.</td>
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<tr>
<td>1995</td>
<td>CNN launches the Airport Channel, later renamed CNN Airport Network. CNN launches CNN Interactive online, which later becomes CNN.com.</td>
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<tr>
<td>1997</td>
<td>CNN launches CNN en Español television network.</td>
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</tbody>
</table>
### The History of CNN

<table>
<thead>
<tr>
<th>Year</th>
<th>Event</th>
</tr>
</thead>
<tbody>
<tr>
<td>1999</td>
<td>CNN Turk, headquartered in Istanbul, Turkey, is launched as one of the earliest CNN-branded, local-language, news service to be operated and controlled outside of Atlanta. CNN Mobile is launched as CNN International's service for mobile devices.</td>
</tr>
<tr>
<td>2001</td>
<td>CNN launches CNN.com, the first major news and information website dedicated to providing 24-hour-a-day, up-to-the-minute access to accurate, independent news and information on the Internet and other distribution platforms.</td>
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<tr>
<td>2002</td>
<td>CNNArabic.com is launched from CNN's Dubai bureau as the network's first Arabic language venture.</td>
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<tr>
<td>2005</td>
<td>CNN-IBN, or Indian Broadcasting Network, is launched in India. By their 25th anniversary, CNN is distributed to 260 million households worldwide, is available in six different languages, and operates with 36 bureaus around the world.</td>
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<tr>
<td>2008</td>
<td>CNN Chile, a Chilean news channel in Santiago, Chile, is launched.</td>
</tr>
<tr>
<td>2012</td>
<td>CNN launches a film division called CNN Films to distribute and produce made-for-TV and feature documentaries.</td>
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<tr>
<td>2015</td>
<td>CNN Indonesia and CNN Philippines are launched.</td>
</tr>
</tbody>
</table>

CNN World Headquarters in Atlanta, GA.
Talk the Talk: CNN Control Room Jargon

During your class visit to CNN Studio Tours, you may overhear some interesting conversations coming from the Control Room. These tech professionals speak a very unique language!

• See how many phrases your students can match to their “translations.”

• Watch a broadcast of CNN as a class and identify the moments when you might hear these sayings coming from the Control Room.

• Use this list as a model to create your own Classroom Jargon.

“Big box, little box.” Divide the screen into a little box for a person (anchor) and a big box for live video.

“Faster, Prompter, faster!” The TelePrompter operator is not keeping pace with the anchor.

“Feed it from the pool.” Sending video to CNN from a pool camera that is shared by the competitive news and broadcast networks.

“Feed the tape.” Broadcast video from one of CNN’s many video feeds.

“Float that package.” Postpone the broadcast of a package.

“Go with rolling coverage.” Continue extensive coverage of a breaking news story over a period of several hours or more.

“He’s a donut.” Use a reporter’s live remote between two stories.

“He’s out shooting a standup.” A standup is the reporter’s on-camera appearance during a package.

“Is that tape raw or cut?” Is the tape edited or unedited?

“Kill the package.” Pull the story before it is broadcast.

“Let’s use the weather as an accordion.” Use the non-scripted weather report to either shorten or lengthen the show to end exactly on time before local or commercial breaks.

“Lose the bug.” Remove the CNN logo from the bottom right corner of the screen.

“Roll on the feed.” Record video that is coming in from one of CNN’s many feeds.

“Roll the SOT.” SOT stands for Sound Over Tape.

“Send a crew to spray the room.” Send a camera crew to shoot video without a reporter and producer.

“She’s a live pop.” A reporter is giving a live report.

“She’s on the beeper.” The reporter is broadcasting live via telephone.

“That package is crashing.” That story is fast approaching its deadline.

“The bird’s going down.” CNN is about to lose its time on a satellite.

“The package is a hot roll.” A package broadcast live from one of CNN’s bureaus.

“What’s the bird gonna cost?” How much is the satellite time going to cost?

“What’s the slug?” What is the name of the package?
Throughout his career, Ted Turner has won recognition for his entrepreneurial acumen, sharp business skills, vision, leadership and philanthropy.

R.E. “Ted” Turner is the founder of Turner Broadcasting System, Inc. He began his career as an account executive with Turner Advertising Co. and entered the television business in 1970 when he acquired Atlanta independent UHF station Channel 17. In 1976, Turner bought Major League Baseball’s Atlanta Braves and launched TBS Superstation, originating the “Superstation” concept. The following year, Turner Broadcasting System Inc. acquired the National Basketball Association’s Atlanta Hawks, and in 1980, Turner launched CNN, the world’s first live, 24-hour global news network.

During the next two decades, the company built a portfolio of unrivaled cable television news and entertainment brands and businesses, including CNN Headline News, CNN International, TNT, Cartoon Network and Turner Classic Movies. In the mid-1990s, Castle Rock Entertainment and New Line Cinema became Turner Broadcasting properties. In October 1996, the company merged with Time Warner Inc. In January 2001, Time Warner Inc. merged with America Online to create AOL Time Warner. In October 2003, the company changed its name back to Time Warner Inc. Turner served on the board of Time Warner Inc. until May 2006. Today, Turner Broadcasting remains a basic cable revenue and industry leader, operating many of the most powerful and well-established brands in news, entertainment, and animation.

Turner has also made his mark as one of the nation’s most influential philanthropists. He is Chairman of the Turner Foundation Inc., founded in 1990, which provides support for clean water and toxics reduction; clean air through improved energy efficiency and renewables; wildlife habitat protection; and the development of equitable practices and policies designed to reduce population growth rates. Since 1991, the Turner Foundation has provided grants to hundreds of organizations committed to those goals.

In September 1997, Turner announced a pledge of up to one billion dollars to the United Nations Foundation (UNF). The organization supports the goals and objectives of the United Nations to promote a more peaceful, prosperous, and just world. UNF has identified four core priorities: women and population; children’s health; the environment; and peace and security. Originally to be awarded over 10 years, Turner’s historic gift was intended to inspire an international spirit of participation and philanthropy. At a commemorative luncheon in December 2002 celebrating the fifth anniversary of Turner’s pledge, the UNF board of directors agreed to extend the life of the foundation an additional five years.

In early 2001, Turner launched the Nuclear Threat Initiative (NTI), a foundation of which he and former Senator Sam Nunn are co-chairmen. NTI is working to close the growing and increasingly dangerous gap between the threat from nuclear, chemical and biological weapons, and the global response.

The Turner Endangered Species Fund is a core grantee of the Turner Foundation. It works to conserve biodiversity through efforts to restore endangered or imperiled species on the Turner properties. Through Turner Enterprises, Turner manages the largest commercial bison herd in North America, which is spread across his ranches in Colorado, Kansas, Montana, Nebraska, New Mexico, Oklahoma and South Dakota.

In January 2002, Turner opened the first Ted’s Montana Grill in Columbus, Ohio, with his partner, George W. McKerrow Jr., founder of the Longhorn Steakhouse chain. Ted’s Montana Grill offers classic American comfort food, including bison or beef burgers, in an authentic Montana bar-and-grill atmosphere.

Turner also enjoys several outdoor sports, especially hunting and fishing.
TV Terms: CNN Glossary

Provide an area in your classroom with dictionaries – online or hard copies – for your students to define the terms below. For additional vocabulary development, refer to the word bank (“Terms to Know”) listed on the Student Activity Page in each of the lesson plans. As a quick reference tool, students can compile their TV terms in a mock “Reporter’s Notebook.”

Affiliates: TV stations, usually smaller local stations, where information for news stories is gathered

Analog: Information or video in a tape format

Anchor: A person who reports and coordinates a newscast, typically from a studio

AP: (Associated Press) A source for news

Audio: Any sound that is inserted into a broadcast (i.e. music, sound effects, or speech from talent)

Bureaus: CNN studios and offices throughout the world

CNN Air: The CNN viewed on television, including the commercials

CNN Program: The CNN viewed on television, excluding the commercials

CNN Preset: The image that will air next

Control Room: The heart of a newsroom where the entire broadcast is put together; the last point of contact before the news is seen on the air

Correspondent: A person who reports news from a distant place

Digital: Information or video in a computerized format

Director: Responsible for the technical production of a newscast, segment or documentary. As the only member of the technical team who has a complete set of scripts, the Director prepares the technical crew before production as well as guides them through the actual shoot or newscast. The director follows scripts and orders from the Executive Producer.

Feeds: Distributing a local radio or television broadcast to a larger group of receivers by way of a network or satellite

Fiber Optics: The technology of light transmission through very fine, flexible glass or plastic fibers

Fonts: Text/words (i.e. anchors name or location)

Graphics: Images/pictures (i.e. maps, logos)

Green Screen Effect: Technology that is frequently used by meteorologists. The effect begins with a chip inserted into a camera, which then has the capability of replacing the color green with an image; can also be used with the color blue

Hard copy: A sheet of paper with the script typed out- used in case the Teleprompter malfunctions

Lavalieres: A uni-directional microphone, usually worn on a tie or lapel, that picks up noise within a one-foot radius

Master Control: Where commercials are inserted

Media Operations: A department that assists in the overall production of news packages and stories for the CNN Networks and its affiliates

Monitors: Television sets

Producer: Responsible for formatting a program, deciding which stories will go on the air, when, and how much time will be spent on each report. The producer also assigns a writer to each story.
Rating: A share multiplied by the number of households with televisions

Reuters: International news agency

Robotic Cameras: Cameras operated by one individual with a joystick or pre-programmed commands on a keyboard

Routers: Monitors that show images or text from different areas

Satellite: A manufactured object intended to orbit the earth transmitting radio and television signals

Share: The number of households watching a specific channel divided by the total number of households watching TV

Talent: Program anchors, reporters, and correspondents who appear on camera

Technical: Director Responsible for all the changes in video during a newscast. The Technical Director acts as the Director's right hand by keeping track of the timing of packages and other video elements.

TelePrompTer: System from which the anchor reads the news stories

Transponder Time: The specific time leased from a communications company for satellite time

Wire Services: Network of news sources and stories that come through the Internet
We know how important it is for you to justify field trips and document how instructional time is spent outside of your classroom. With this in mind, both the activities in this Study Guide and the experiences your students have during their field trip to CNN Studio Tours are correlated to the Common Core State Standards for English Language Arts and Mathematics along with the C3 Framework for Social Studies State Standards, and the Next Generation Science Standards.

The standards are arranged by content area and grade level. Following the national curricula, you will find the Georgia Standards of Excellence and Georgia Performance Standards. In addition, specific requirements are provided for Alabama, Florida, North Carolina, South Carolina, and Tennessee.

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**National Curriculum Correlations**

**Common Core State Standards for English Language Arts**


**Common Core State Standards for Mathematics**


C3 Framework for Social Studies State Standards: D1.5.9-12., D2.Geo.2.9-12., D2.Geo.7.9-12., D3.1.9-12., D3.3.9-12.

Next Generation Science Standards: HS-PS1- 1, HS-PS1- 2, HS-PS1- 3, HS-PS1- 4, HS-PS1- 6, HS-PS2- 1, HS-PS2-2, HS-PS2- 4, HS-PS2- 6, HS-PS3- 2, HS-PS3- 5, HS-PS4- 1, HS-PS4- 2, HS-PS4- 4, HS-ESS3-

**GEORGIA English Language Arts**

Grades 9-10: Reading Informational Text ELAGSE9-10RI1, ELAGSE9-10RI2, ELAGSE9-10RI4, ELAGSE9-10R15, ELAGSE9-10RI7; Writing ELAGSE9-10W7, ELAGSE9-10W9; Speaking and Listening

ELAGSE9-10SL2; Literacy in Science and Technical Subjects ELAGSEL9-10RST4, ELAGSEL9-10RST5, ELAGSEL9-10RST7

Grades 11-12: Reading Informational Text ELAGSE11-12RI1, ELAGSE11-12RI2, ELAGSE11-12RI4, ELAGSE11-12RI5, ELAGSE11-12RI7; Writing ELAGSE11-12W7, ELAGSE11-12W9; Speaking and Listening ELAGSE11-12SL2; Literacy in Science and Technical Subjects ELAGSEL11-12RST4, ELAGSEL11-12RST5, ELAGSEL11-12RST7
**News You Can Use:**
**Curriculum Standards**

**Mathematics**

Standards for Mathematical Practice: 1, 2, 4, 7


**Social Studies**

Economics: SSEPF6

United States History: SSUSH23

World Geography: SSWG2

World History: SSWH22

Map and Globe Skills: 9

Information and Processing Skills: 1, 5, 6, 11, 15

**Science**

Chemistry: SC1, SC2, Environmental Science: SEV3

Physical Science: SPS1, SPS2, SPS7

Physics: SP1, SP2, SP4, SP5

**ALABAMA**

**English Language Arts**

Grades 9: 10, 11, 13, 14, 16, 26, 28, 31

Grade 10: 10, 11, 13, 14, 16, 27, 29, 32

Grade 11: 10, 11, 13, 14, 16, 25, 27, 30

Grade 12: 10, 11, 13, 14, 16, 25, 27, 30

Reading Standards for Literacy in Science and Technical Subjects: 4, 5, 7

**Mathematics**

Standards for Mathematical Practice: 1, 2, 4, 7, 9

Algebra I: 4, 5, 7, 9, 12, 15, 16, 17, 19

Precalculus: 7

Analytical Mathematics: 2

**Social Studies**

Grade 9 World History, 1500 to the Present: 17

Contemporary World Issues and Civic Engagement: 1, 4, 6

**Science**

Physical Science: 1, 7, 8, 13

Chemistry: 3

Physics: 1, 2, 4

Earth and Space Science: 4

Technology Education: 10, 11, 13
FLORIDA

English Language Arts

Grades 9-10: Reading Informational Text LAFS.910.RI.1.1, LAFS.910.RI.1.2, LAFS.910.RI.2.4, LAFS.910.RI.2.5, LAFS.910.RI.3.7; Reading in Science and Technical Subjects LAFS.910.RST.2.4, LAFS.910.RST.2.5, LAFS.910.RST.3.7; Speaking and Listening LAFS.910.SL.1.2; Writing LAFS.910.W.3.7, LAFS.910.W.3.9

Grades 11-12: Reading Informational Text LAFS.1112.RI.1.1, LAFS.1112.RI.1.2, LAFS.1112.RI.2.4, LAFS.1112.RI.2.5, LAFS.1112.RI.3.7; Reading in Science and Technical Subjects LAFS.1112.RST.2.4, LAFS.1112.RST.2.5, LAFS.1112.RST.3.7; Speaking and Listening LAFS.1112.SL.1.2; Writing LAFS.1112.W.3.7, LAFS.1112.W.3.9

Mathematics


Social Studies

Geography: SS.912.G.1.3, SS.912.G.1.4

Humanities: SS.912.H.3.1

Sociology: SS.912.S.6.9

World History: SS.912.W.9.1

Science

Computer Science: SC.912.CS-PC.2.1, SC.912.CS-PC.2.12, SC.912.CS-PC.2.3, SC.912.CS-PC.2.7, SC.912.CS-PC.3.2, SC.912.E.5.6

Earth and Space Science: SC.912.E.5.11
NORTH CAROLINA

English Language Arts
Grade 9-10: RI.1, RI.2, RI.4, RI.5, RI.7, W.7, W.9, SL.2
Grade 11-12: RI.1, RI.2, RI.4, RI.5, RI.7, W.7, W.9, SL.2

Mathematics
Math II: N-Q.1, N-Q.2, A-SSE.1, A-SSE.3, A-CED.1, A-CED.4, A-REI.1
Math III: N-Q.1, N-Q.2, A-SSE.1, A-SSE.3, A-CED.1, A-CED.4, A-REI.1

Standards of Mathematical Practice: 1, 2, 4, 7

Social Studies

Science
Physical Science: PSc.1.1, PSc.1.2, PSc.2.2, PSc.3.2
Chemistry: Chm.1.1, Chm.1.2, Chm.1.3
Physics: Phy.1.1, Phy.1.2, Phy.2.2

Information and Technology: HS.SI.1, HS.TT.1

SOUTH CAROLINA

English Language Arts


Mathematics
Mathematical Process Standards: 1, 2, 4, 7
Algebra: ACE.1, ACE.4, AREI.1, AREI.3, AREI.5, ASE.1, ASE.3
Number and Quantity: NQ.1, NQ.2, NVMQ.3

Social Studies
Social Studies Literacy Skills for the Twenty-First Century:
- Represent and interpret Earth’s physical and human systems using maps, mental maps, geographic models and other social studies resources to make inferences and draw conclusions.
- Analyze and evaluate evidence, arguments, claims, and beliefs.

Science
Earth Science: H.E.1A.2, H.E.1A.4, H.E.1A.5, H.E.1A.6, H.E.2B.3
TENNESSEE

English Language Arts

Grades 9-10: RI.1, RI.2, RI.4, RI.5, RI.7, W.7, W.9, SL.2

Grades 11-12: RI.1, RI.2, RI.4, RI.5, RI.7, W.7, W.9, SL.2

Mathematics

Standards for Mathematical Practice

- Make sense of problems and persevere in solving them.
- Reason abstractly and quantitatively.
- Model with mathematics.
- Look for and make use of structure.

Number and Quantity: NQ.1, NQ.2, N-VM.3


Social Studies

Contemporary Issues: CI.8, CI.21

Economics: E.30

United States Government and Civics: GC.33

United States History and Geography: US.85

World Geography: WG.3, WG.4

Science

Chemistry I: CLE 3221.Inq.4, CLE 3221.T/E.3, CLE 3221.T/E.4, CLE 3221.1.2, CLE 3221.1.3, CLE 3221.2.1, CLE 3221.3.1

Chemistry II: CLE 3224.Inq.4, CLE 3224.T/E.3, CLE 3224.T/E.4, CLE 3224.1.1, CLE 3224.1.2

Physical Worlds Concepts: CLE 3237.Inq.4, CLE 3237.T/E.3, CLE 3237.T/E.4, CLE 3237.Math.1, CLE 3237.2.1, CLE 3237.3.6, CLE 3237.3.7, CLE 3237.3.9

Physics: CLE 3231.Inq.4, CLE 3231.T/E.3, CLE 3231.T/E.4, CLE 3231.Math.1, CLE 3231.1.2, CLE 3231.4.1, CLE 3231.4.5

Physical Science: CLE 3202.Inq.4, CLE 3202.T/E.3, CLE 3202.T/E.4, CLE 3202.Math.1, CLE 3202.1.2, CLE 3202.1.3, CLE 3202.1.7, CLE 3202.2.1, CLE 3202.2.2, CLE 3202.3.1, CLE 3202.3.2, CLE 3202.3.6, CLE 3202.4.2

Computer Technology

Computer Applications: 2.1