



**Time Zones:
Who Has Time for That?**

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This curriculum unit is recommended for:
Sixth, Seventh, and Eighth Grade Social Studies/ Debate Course

Keywords: Debate, Time, Time Zones, Daylight Savings Time, Argument, History

Teaching Standards: See [Appendix 1](#) for teaching standards addressed in this unit.
See [Appendix 2](#) for student and teacher resources.

Synopsis: This Curriculum Unit is about Time Zones. The lessons will require students to analyze the necessity of Time Zones in our modern world. The creation of Time Zones as a solution to an every growing global community. As humans began to interact with each other, further and further from their local communities, on a more consistent basis there became a need to a general understanding of the social timeliness of communication. This unit will introduce students to the historical need for time zones. Students will evaluate the effectiveness of time zones in our current global society. Students will then form opinions about the structure of our modern time zones. The teacher will be responsible for facilitating a debate on the necessity of time zones in our global community. If time is a societal construct, then humans should be able to change their approach to time as needed. Students will have to explore the way they view time, as well as the way society views time. The goal is to challenge students with their own understanding of time and its relationship to distance.

I plan to teach this unit during the coming year to (Approx. 300) students in sixth, seventh, and eighth Grade Debate/ Social Studies.

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Introduction

In this curriculum unit, students will learn about time zones. Students will learn the origin of time zones. They will analyze the impact of time zones on our global society and world cultures. In order to prepare students to become global citizens, they must understand and gain knowledge of different aspects and characteristics of our world. Once students have mastered a general understanding of time zones, the lesson will challenge students to form their own opinions about the relevance of time zones to our modern global economy and society. Through their analysis of time on a global scale, students will have a better grasp on world geography. In a world of GPS (global positioning systems), our modern day student thinks of distance in a matter of how long it takes to get somewhere. When trying to decide what they are going to do over the weekend a student maps out their time in how long it takes to get from the movies to the mall. If it take 20 minutes to get to the movies then it will take 25 minutes to get to the mall from their house. Not viewing the same distance in terms of it being 5 miles from my house. They do not view the world in miles or kilometers. As a result, the modern day student will have a better grasp of the distance from the United States to Europe if explained in the change of time zones. Once they have this general understanding of time through distance, students will reflect upon their own opinions. Do they think we should still have time zones? This will bring up a lot of exploration of their own opinions and thoughts as they align with the thoughts and opinions of their peers.

The School Mission is that “Martin Luther King, Jr. Middle School provides a rigorous and relevant educational experience for every child.”ⁱ To ask a student to analyze a global phenomenon in such depth and then reflecting upon their own opinion provides them with a rigorous and relevant unit of study. The world they live in is growing ever smaller. They must be able to understand that there is a time difference between where they live in Charlotte, NC and where someone of their same age lives in another country. Through the internet and social media, the next generations will have access to communicating with a variety of people from various places in the same time. Allowing them the opportunity to explore something as simple as a time difference will provide them with a foundational skill to communicate with people who live in different places.

Just this summer, in Martin Luther King, Jr. Middle School’s (MLK) Freedom School program, students had the opportunity to FaceTime with a man living in Africa. They did not even think to ask him what the time was in Africa. The facilitator prompted the question by asking them if they knew that it was a different time there. Most of the students had no idea! They will be communicating on a much broader and at a much faster rate than past generations. It is relevant to provide them with opportunities to analyze the world around them. The Schools vision aligns with the goal of this curriculum unit. “Martin Luther King, Jr. Middle School cultivates a mindset of lifelong learning, which strengthens every students’ ability to succeed in future endeavors.”ⁱⁱ Providing students an avenue with which to explore their own opinions about time prepares them for their future endeavors.

We never know what our students will be doing. A wise teacher of mine once told a class, “[students] all will have jobs that don’t even exist yet.” We are working to prepare our students for the future. If we want to accomplish this, we must make them aware of their own present situation. We must work to provide them avenues to explore their own understanding and opinions of the world. Then we must nurture and foster these opinions to prepare them for things we cannot yet even see or imagine.

Demographics

MLK Middle School’s demographics are currently divided into 42.5% African American, 51% Hispanic, and 6.5% other ethnicities. Approximately 942 students attend MLK in grades 6-8. Within this diverse population, 18% percent of our students receive ESL services and 8% of our students receiving Exceptional Children (EC) services. Only 1% of our students receive Talent Development (TD) services. All of our students receive free or reduced lunch due to the Supplemental Nutritious Assistance Program (SNAP).ⁱⁱⁱ Martin Luther King Jr. Middle School is a Title I school. Title I is the cornerstone of the Elementary and Secondary Education Act (ESEA), previously known as No Child Left Behind Act (NCLB). Its purpose is to help ensure that all children have the opportunity to obtain a high quality education and reach proficiency on challenging State academic content and performance standards. School-wide programs have flexibility in using their Title I funds, in conjunction with other funds in the school, to upgrade the operation of the entire school. School-wide programs must conduct a comprehensive needs assessment, identify and commit to specific goals and strategies that address those needs, create a comprehensive plan and conduct an annual review of the effectiveness of the school-wide program, which the team works to revise as needed. The team completes this revision through the School Leadership Team (SLT) and presents the final product to the school community in the form of a School Improvement Plan. Over the course of 90 days, the school must achieve goals put in place by the SLT.^{iv}

I am a Middle Grade Social Studies teacher at MLK Middle School. The previous two school years I taught 8th grade social studies. My background has been in World History and US History content. This year the administration has asked me to teach a course that has become an innovative teaching experiment. The goal is to create a Latin American and African American History elective taught through debate. The administration would like to see a Model United Nations course evolve from this class. There have been challenges to writing a course of this nature. What will my students be debating? How much history is appropriate in an elective that is semester long and taught on an A/B day schedule? When deciding how to incorporate a seminar centered in the philosophies and physics of time into this curriculum it felt as if I was looking at one large puzzle that could not quite fit together.

Teaching debate and leadership at MLK is a way to encourage our students to look beyond the test scores. As a school community, we have been focusing on engaging students in Social Emotional learning opportunities. Providing students the opportunity to express themselves through structured debate encourages students to discuss their course work as well as topics with which they hold opinions. This encourages a deeper understanding of what they are learning and provides them alternative avenues to explore their interests.

I am currently teaching seven classes of debate. Two 6th grade classes, two 7th grade classes, two 8th grade classes, and one 8th grade academic enrichment course. I teach approximately 175 students this semester and am expecting the same numbers next semester. I teach a variety of students. We have a high ELL (English Language Learner) population at our school. I teach approximately 45 students who qualify for ELL services. I also teach students with IEP's (individual education plans) and BIP's (behavior intervention plans). The design of the lessons in this curriculum unit are for modifications that are necessary to teach students with widely varying needs. The design of this curriculum unit is such that it can be adapted for all grade levels in any social studies classroom. The alignment of social studies standards are for a unit of geography and a better understanding of the people and places being discussed in those classrooms.

Rationale

Martin Luther King, Jr. Middle School was fortunate enough to receive the funds to create an innovative and new course. This class is developing and evolving as it progresses. The premise of the course is that it teaches leadership, debate, public speaking, Latin American and African American History. The need for a course of this nature evolved after our students staged a walk out in response to current immigration reforms. The students spoke out about wanting a space where they could express their opinions freely and learn about history that was more relevant to their lives. Often times the ancestors of the students we teach are missing from the narrative. They need to know about the history; they need to understand how that history affects our lives today. They need to understand what political and social debates are happening in a grandeur and global context. This will help them to understand their immediate and foreign worlds.

In the seminar "*It's About Time,*" we have discussed the physics of time, the acceptance of time as a social construct, and the use of time in historical and literary texts. In a debate course where we are spending a big chunk of time analyzing current events, it is relevant to analyze the debate happening globally about time zones. It is pertinent for 21st Century students to know what debates are happening on a global scale. To become global citizen's students must be knowledgeable of issues arising around the world. Currently a global debate about time zones and their necessary place in our modern world beg the question, "Should we even have time zones?" It is important for students to be aware of things that are happening in different parts of the world. First, they will need to understand the basic concept of the variance of time depending upon where one stands on the globe. Second, students will need to do research to gain a better understanding of why these time differences exist. Third, students will need to formulate their own opinion about this topic.

Goals/ Objectives

In this unit curriculum, I seek to create lessons that encourage students to explore the world around them and promote higher order thinking skills in daily life. Through the analysis of something that affects their immediate life, they can learn to question the world around them. They will be asked to question the decisions made by people who lived before them. Then they will be encouraged to think of new solutions to age-old problems. Debates generated around daylight savings and time zones have been occurring since the introduction of these institutions to the public. Students will investigate how humankind put these institutions into place. They will research the people and places that impact changes in our habitual and daily lives. My hope

is that this will encourage them to question everything they do throughout the day, and foster a community of students who think of solutions and respectfully disagree about topics of high interest to our society. This open communication platform will provide students with a space to explore their own thinking process as well as the logic behind decisions made by our global leaders.

- Students will be able to recall the history of time zones and the purpose of instituting time zones.
- Students will be able to discuss the necessity of time zones and their importance.
- Students will be able to create a time zone map and explain where the time zones are geographically.
- Students will be able to examine our modern means for communication and travel to determine the necessity of time zones in our modern world.
- Students will know the current time zones recognized in the modern world.
- Students will create arguments about the necessity of time zones.
- Students will hold a structured Lincoln-Douglas debate about the necessity of time zones in our modern world.

These goals are aligned to general NC Social Studies Essential Standards and the NC teacher evaluation system for performance. Current goals and objectives align with preparing students for 21st century college and career readiness. Goals consistently support the teachers' goal to prepare students to be global citizens in an increasingly interconnected world.

Content Research

Anthropologists frequently question the concept of time. This societal construct perpetually dictates our lives. We often feel like we never have enough time in our lives. The English language has created idioms like, on time, out of time, and past time. However, we can never be “on time” if time does not truly exist. The question of time permeates our very existence. Walter Hough, in his Chapter “Time Keeping by Light and Fire,” discusses how early civilizations kept time. He says that academics are becoming increasingly interested in how early people kept time. He says that there will be more observations and studies on this matter.^v From early humans to present day, light and time have entranced people. These two forces provide us with the ability to be productive. The determination of the amount that we can accomplish in a day is by our ability to see what we are doing and accomplish the task. Light, as a physical presence, was necessary for early humans to evolve. Time is something that humans constructed to measure their productivity within the light provided. This research portion of the curriculum unit will seek to explore the human relationship with time; also, how our time keeping measures developed throughout our history. This is tied together with the

“An almost unnoticed fact in the history of time-keeping is the use of fire and light for measuring and checking time.”^{vi} This is relevant to a unit of study about time zones, because humanity created them due to the need to know if it was day light or nightfall in different latitudinal regions. Ancient Civilizations kept time in a variety of ways. Humans have evolved from time keeping by fire to advanced time keeping methods and measurements, such as time zones. Hough claims that time check methods were originally for the purposes of keeping time

over short periods, not for extended time keeping records. He references such methods as using combustibles to measure shadows, and eventually using sundials to measure the shadows of the day.^{vii} This method of time keeping led to our modern day time zones. This is arguable because each time zone is measure so that the sun hits each zone directly at noon.

The evolution of how we as a human race tell time has progressed to a point of addiction. One could argue that we are addicted to time. It dictates our very existence. An alien looking down from space would see us constantly checking our smart devices, watches, and clocks. These devices all tell us what to do at different points of the day. It is only socially acceptable to participate in certain activities at certain times of the day. For example, we can only eat lunch between the hours of 11:00 am- 2:00 pm. People have determined these societal norms, which dictate our daily activities. The question remains, are these societal norms due to necessity or frivolity? If the latter, then one could argue that, we should do away with traditional time keeping methods all together and create new methods of which to determine the routines of our daily tasks. It is a societal construct, this idea of time. Therefore, what if we totally disregarded time, as we know it today. What if we allowed ourselves to set different “time names” for different parts of our day and different regions.

There is currently a debate occurring among academics and nonprofessionals alike, on a global platform. Time zones have not always existed. People are writing opinionated articles about the relevance of time zones and daylight savings. For most people these things have always existed and it is simply a life fact. For those that know history, they know that things did not always operate the way that they do. We set our calendar due to men who decided our current system was the best system. Our time system developed because of people’s needs; humans decided we would live life in this order. What if all of that could change? The debate that is happening questions the way we look at time. There are people who argue that we should get rid of time zones altogether. If we are able to get rid of them, then that means they were created and instituted. There was something before our current time system. It is important to understand where our current time system derived; why it exists the way that it does, and if we are even capable of changing this system.

There was a point in human history when one determined the time of day by where you lived. The people running the town or city dictated the time by which that community operated.^{viii} With the invention of modern transportation, there became a need for people to know the time in places other than their own communities. Trains were one of the motivations for people to evolve a time system that was consistent, at least cross-continently if not globally. As trains became a popular form of transporting people and goods across the country, there became a need to know when each train was on what track. There were situations where trains would crash into each other because there was a lack of communication in the timetable.^{ix}

Andrew Coyne, a writer from the *National Post*, argues that we should do away with time zones all together. In his article, “Forget the Daylight Savings Debate, we need to get rid of time zones all together,” Coyne argues that time zones are an outdated system for dictating time around the world. His philosophy is that it will not change the way we as humans operate, it will just change what we call our different habits in our daily schedule. For example, we would not be eating breakfast at 6:00 am when Great Britain eats breakfast, we would instead eat breakfast

when we wake up, we would just call it 12:00 pm instead of 6:00 am. We do not need to change our time to adjust for the part of the world in which we live; we merely need to adjust our terminology for such things.^x

What is stopping us from totally altering the way our global society operates with time zone terminology? We have done it before. Russia has changed their time zones multiple times. President Dmitri A. Medvedev talked about scaling back Russia's time zones, which during his presidency were at 11 separate time zones. This stirred up a generally negative response from the populace.^{xi} This inspires questions about how we as humans view time. The way we view time has evolved with our technological advances. As our technology evolves, there becomes a greater need to know the time in different parts of the world.

However, North Korea is choosing to disregard the global norms to alter their time zone to fit their own needs. The measurement of time zones is in reference to England's Greenwich Meant Time (GMT). The representation of time in each time zone is by how far away the zone is from GMT.^{xii} "There is not international body that sets the worlds time zones, and time zones are often changed for political reasons."^{xiii} North Korea created its own "Pyongyang time." "The move was timed to coincide with the 70th anniversary of the liberation of the Korean peninsula from Japan... [who was] depriving Korea of its rightful time zone."^{xiv} Globally this 30-minute shift is not an issue because Korea is isolated from most international affairs. South Korea is not happy with the shift. They view the time change as an affront on their efforts at reconciliation between Seoul and Pyongyang.^{xv} This supports the idea that if the creation of time zones were to fit societal needs, then we can eliminate them for the same rational.

Time is an unusual societal construct. There is an interest in the weird and strange geopolitics of time. It is important to remember that time is not set in stone; our politicians set time. In Arizona, they do not follow daylight savings time at all. This is true of many other states, countries, and territories. The cultural perception of time also dictates how their societies tell time. As we grow more and more interconnected, it is important that the communication between politicians and change makers in our countries is clear. The way in which they determine how we tell time, also dictates how we go about living out daily lives.

The Australian Center for Moving Image states that there are 24 time zones in the world, one for each hour of the day.^{xvi} However, this does not include the variations that each countries politicians have decided to institute in their own countries. Each continent and country alike has territories that have determined their own time. They decide if they will or will not be participating in daylight savings time. Those same territories that do not participate then align their time zone to their neighbors for one season of the year.

An opinion article from "The Vox" argues that time zones are outdated.^{xvii} It references that time zones are a relatively recent human invention. That prior to time zones humans' just dictated time based on how they sun appeared from where they lived. People are set on the idea that noon will happen at 12:00 pm. It is difficult for a society to readjust their thinking to incorporate a new system of operating and ordering the structure of their day.^{xviii}

“The practical concept of time meridians (time zones) was first credited to Dr. William Hyde Wollaston in the late 1700s. Abraham Follett Osler later popularized it in the late 1800s in Britain. This led to the formation of the Greenwich Observatory Mean Time (GMT) standard with ship and rail chronometers set to the known GMT standard.”^{xix} Time zones have been around for hundreds of years, human history dates back 10,000 years. Arguably stating that we as humans do not need time zones to exist. We have simply developed these systems for dictating our daily schedules due to a need for communication and technological advances in transportation.

General Teaching Strategies

Snowball Fight

This activity will informally assess students’ prior knowledge of time zones. Teacher will write the word “time zone” on the board. Students will take 1 minute to write as much as they can about time zones on a scrap piece of paper. Students will then ball up their papers and on the instruction of the teacher will throw their paper to another part of the room. Then students will need to pick up one of the paper balls from the ground and share out what their paper says. This will open up the room for discussion about the topic and allow the teacher to take note of what the students already know and what they will need to learn.

Dividing the school/classroom into time zones and moving to those time zones

The 8th grade hall will be Eastern Standard Time. The 7th grade hall will be Central Time. The 6th grade hall will be Pacific Standard Time. The Main Lobby of the school will be Greenwich Mean Time. As a class, you will walk to each location. Students will walk with their notebooks. Starting in our time zone (EST) students will write down the time (i.e. 9:52). We will then walk to the 7th grade hall and they will have to write down the time and what they would be doing at that time of day (i.e. if it is now 8:52 am I would still be in first block). Then the class will walk to all other locations repeating the same procedure by writing down the time and what they would be doing at that time of day. The last location will be Greenwich Mean Time. This will lead into the lesson for the day about different time zones, why they exist, and the history of time zones around the world.

Turn and Talk

This strategy provides students with an avenue to generate conversation about time zones. Throughout the Unit, the teacher will prompt the students to turn to their neighbor and talk about a variety of topics. For lesson one, the teacher will ask the students to turn to their neighbor and tell them a general definition for time zones. In lesson 2 students will use the turn- and- talk to generate discussion about where they think time zones came from (teacher says: “for one minute turn to your partner and discuss why you think we have time zones and where they came from, go!”) This will be a good transition into the “School walk for time zones” activity.

Carousel Debate

This is a general discussion generator, which allows students to express their opinions in a safe and respectful way (also known as the silent debate or maker sparker). Students will be at tables in groups of 3-4. At each table, students will have a piece of large poster paper. In the middle of

the paper should be a document to analyze. For the purposes of this lesson, it will be a picture of a country in the form of a map or just a picture of that city. The teacher will write a time on the board (1:00pm) and students will have to write what time they think it is in that country and why. Students will have 3 minutes at each table and then have to switch. Students should go around “the world” to all of the different tables. When they get back to their original table, they will discuss what other people at their tables wrote. Then we will open the floor to class discussion. This will generate thought and discussion about how different times of day impact different countries perspectives and lifestyles. This will provoke students to think about if this matters on a global scale with politics and cultural interactions. The goal is to generate student thought and be intentional about the discussions that circulate this debatable topic.

Gallery Walk

Students will walk around the room looking at documents and artifacts reflective of the lesson while filling out a worksheet that asks guiding questions. Students will be looking at their own responses from the Carousel Debate. They will be analyzing each other’s opinions, all the while forced to come up with their own opinions in the process.

Debate

This will be a structured in class debate. The resolution is “Time Zones are Necessary.” The teacher will assign students to either affirm or negate the resolution. It will begin with students taking 2 minutes to brainstorm their argument on a sticky note. Once students have brainstormed, they will then [turn-and-talk] to the people at their table for 1 minute to share their arguments. Students will then, at their tables, come up with a claim (structured argument) and write it on their paper. Once they have created their claim, they will then do research to create their warrant (supporting evidence). Their warrant is a list of evidence they can use to support their claim in a debate. Once they have come up with their warrant they will then move onto the impact. Their impact is their “closing statement.” This is their effect of their claim, and an explanation of why the other team’s argument is flawed. If their claim is true, then what will the world look like because of this. What are the outcomes of their claim?

Assessment 1: Essay

To summarize the unit, students will write a paper in response to the debate prompt. After 10 days of research, discussion, debate, and general analysis students should be prepared to express their own opinions through an in depth essay. Students will have one week to complete the assignment. They must write a five-paragraph essay expressing their own original thoughts and opinions about the debate over time zones.

Assessment 2: Test

Students will take a test that will have a combination of multiple choice, matching, fill in the blank and free response questions. This test will reflect what they have learned about time zones throughout the unit.

Lesson 1

Unit: Time zones Lesson: 1 Date of instruction:

Social Studies Standards	8.H.1.5 Analyze the relationship between historical context and decision-making.
ELA Standards	CCR Anchor Standard RI.8 – Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
Objective	<ul style="list-style-type: none"> ● Students will be able to recall the history of time zones and the purpose of instituting time zones.
Today's Title:	The History of Time and time zones
Resolution:	Time zones are necessary
Do Now:	<p>Students will read the following article (https://newsela.com/read/BHP-U7-9-timekeeping/id/3840/) and annotate as they read.</p> <p>CFU: Teacher will check students annotations to ensure that they are using their Metacognitive Marker Annotation Legend and understanding the text (√- Indicates a lack of understanding and poor annotations, √ Indicates understanding, however using MMAL annotations incorrectly, √+ Indicates understanding and correct annotations)</p>
Activator	<p>Choose one of the following debate games to gain student buy in and get the conversation started:</p> <ol style="list-style-type: none"> 1. "I couldn't disagree more" : Two students will debate in front of the classroom. Student A makes an opinion statements by saying, "I think..."; Student be must disagree with this statement by saying, "I couldn't disagree more, because..." 2. Stream of Conscience: Students will be asked to stand next to their desk; students must speak for the allotted amount of time without stopping; teacher will shout out different emotions for the students to enact as they are speaking. 3. Four Corners: Each corner will be labeled "Agree" "Strongly Agree" "Disagree" "Strongly Disagree." Teacher will call out different resolutions. Students must move to the corner of their opinion and then explain why they went to that corner.

I Do	<p>Notes and Brief Lecture about topic. Students will take <i>Cornell style notes (or notes of teacher's choice)</i> as the teacher explains an introduction about the history of time and time zones.</p> <ul style="list-style-type: none"> -History of time and time zones -Time keep methods date back to prehistoric civilizations. -Methods include time keeping through shadows, combustibles, the flowing of sand and water. - Ancient Chinese, pacific islander, and African Civilizations kept time as a measurement for cooking, growing crops, and general daily activities. - Time zones were created as a way to standardize time globally as transportation became more accessible.
We Do	<p>Snowball fight: students will write down one thing they think about time on a scrap piece of paper. Students will then throw their papers to a designated place in the classroom. Students will pick up a "snow ball" closest to them. The teacher will select 3 students to read what they have picked up. The teacher will guide a conversation about their general understanding of time, and how it relates to the unit.</p>
You Do	<p>Students will show mastery of their knowledge of the history of time and time zones. Students will complete a metacognitive log in response to the NewsELA article. The teacher will address misconceptions and check for understanding through aggressive monitoring.</p> <p><i>The metacognitive reading log, modeled from the reading apprenticeship workshop. It is easily adapted to fit the needs of all classrooms. The work sheet can be found under appendix 2.</i></p>
Exit Ticket	<p>What were some of the factors that led to the creation of time zones? Explain your answer in 1-3 sentences.</p>

Lesson 2

Unit: Time zones Lesson: 2 Date:

Social Studies Standards	8.H.1.5 Analyze the relationship between historical context and decision- making.
ELA Standards	CCR Anchor Standard RI.8 – Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
Objective	<ul style="list-style-type: none"> ● Students will be able to create a time zone map and explain where the time zones are geographically. ● Students will know the current time zones recognized in the modern world.
Today's Title:	The Locations of Time Zones
Resolution:	Time zones are necessary
Do Now:	<p>Students will read the following article (https://newsela.com/read/lib-longitude-latitude/id/34202/) and annotate as they read.</p> <p>CFU: Teacher will check students annotations to ensure that they are using their Metacognitive Marker Annotation Legend and understanding the text (√- Indicates a lack of understanding and poor annotations, √ Indicates understanding, however using MMAL annotations incorrectly, √+ Indicates understanding and correct annotations)</p>
Activator	<p>Teacher will use a desk lamp and a globe to show students why we have different time zones. First, the teacher will show students where they live on the globe. This gives students a relative idea of where all other places are located on the map. The teacher will then show the students where Greenwich mean time is on the globe. The teacher will point the light on the globe at Greenwich mean. The teacher will rotate the globe, but keep the lamp pointing at the same spot. The teacher will ask the students where they see the light and where they see darkness. The teacher will then guide students to understand how where the lamp is shining represents the sun. Then the teacher will ask students that if it is light where they live, then where is it dark? Once students have identified where it will be dark, then the teacher will ask them what time it should be in that place if it is dark. This activity will begin stimulating students' interest in time in different parts of the world.</p> <p>Students will also begin to understand how time zones work. ^{xx}</p>
I Do	<p>Notes and Brief Lecture about topic</p> <ul style="list-style-type: none"> - Geography -Lines of Latitude -Lines of Longitude -Teacher says: Time zones follow the lines of latitude and longitude that you read about in your do now article. Today's activity we will divide the school into lines of longitude. Each separate line will be a separate time zone.

	We talked about time and time zones last class. Today we will be combining the two geographical ideas in our next activity.
We Do	<p>This activity will simulate walking through different time zones and should only take 50-10 minutes. Students will receive a map of the school. Students will use a ruler to divide the school equally into twelve regions along twelve imaginary lines of latitude. Each region will represent a different time zone. Students will label region one “Greenwich Mean Time.” Every region after that will be plus one hour. The class will go on a walking tour of the school. As the class crosses into each new region, the teacher will ask, “What is the time?” Students should write down the time on their papers as they walk. When we go back to the classroom the teacher will facilitate a brief discussion asking the following questions:</p> <ol style="list-style-type: none"> 1. What would our school day look like if each region we created operated at a different time? For example; if it was 2:00 pm on the 6th grade hallway and 5:00 pm on the eighth grade hallway. 2. Would that make our day more complicated? 3. What would our bell schedule look like? 4. Now think about the regions of the world. Do time zones make things easier or more difficult for the world?
You Do	<p>Debate: Students will be introduced to the idea of time zones. Students will be asked to affirm or debate the Unit resolution (time zones are necessary). If students agree that time zones are necessary, they will argue the affirmative. If they disagree and think time zones are unnecessary, then they will negate the argument. This is meant to be an informal assessment of students’ knowledge. The teacher will facilitate this debate. The students will not need to prepare, they will use the knowledge and information from the previous two lessons.</p> <p>-Each team gets one minute for opening statements (2 minutes) - Question 1: 1 min Affirm/ 1 Minute rebuttal from negate Question 2: 1 min Affirm/ 1 Minute rebuttal from negate: Question 3: 1 min Affirm/ 1 Minute rebuttal from negate: Question 4: 1 min Affirm/ 1 Minute rebuttal from negate: -Closing statements (<i>This should be students impact statement</i>)</p>
Exit Ticket	Why do we have different time zones?

Lesson 3

Unit: Time zones Lesson: 3 Date:

Social Studies Standards	8.H.1.5 Analyze the relationship between historical context and decision-making.
ELA Standards	CCR Anchor Standard RI.8 – Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
Objective	<ul style="list-style-type: none"> • Students will be able to examine our modern means for communication and travel to determine the necessity of time zones in our modern world. • Students will be able to discuss the necessity of time zones and their importance.
Today's Title:	Time zones and communications
Resolution:	Time zones are necessary
Do Now:	<p>Students will read the following article (http://entm.ag/100H4Fk) and annotate as they read.</p> <p>CFU: Teacher will check students annotations to ensure that they are using their Metacognitive Marker Annotation Legend and understanding the text (✓- Indicates a lack of understanding and poor annotations, ✓ Indicates understanding, however using MMAL annotations incorrectly, ✓+ Indicates understanding and correct annotations)</p>
Activator	<p>Choose one of the following debate games to gain student buy in and get the conversation started:</p> <ol style="list-style-type: none"> 1. "I couldn't disagree more" : Two students will debate in front of the classroom. Student A makes an opinion statements by saying, "I think..."; Student be must disagree with this statement by saying, "I couldn't disagree more, because..." 2. Stream of Conscience: Students will be asked to stand next to their desk; students must speak for the allotted amount of time without stopping; teacher will shout out different emotions for the students to enact as they are speaking. 3. Four Corners: Each corner will be labeled "Agree" "Strongly Agree" "Disagree" "Strongly Disagree." Teacher will call out different resolutions. Students must move to the corner of their opinion and then explain why they went to that corner.
I Do	<p>Notes and Brief Lecture about topic</p> <ul style="list-style-type: none"> -Time zones were created in response to an increase in transportation and communication. -Trains run on timetables, and when they were not in sync they would run into each other on the tracks. -Telephone communication required that a person needed to know the time in the place that they were calling.

We Do	Carousel Debate: Teacher will place the documents found in appendix 2 on the desks. Teacher will follow the procedures for carousel debate found in the general teaching strategies portion of this curriculum unit.
You Do	<p>Students will formulate arguments about the resolution. They must create and affirmative and negative argument using a claim, warrant, and impact structure.</p> <p>Claim: This should be the student's argument in support or opposition to the resolution.</p> <p>Warrant: This is the evidence to support the student's argument. They may use evidence from previous classes or the carousel debate.</p> <p>Impact: This is the students final rational. They must recognize the opposition's argument, discredit the opposition's argument, and support their own.</p>
Exit Ticket	Are time zones necessary? What would our world be like without time zones? Explain in 1-3 sentences.

Social Studies Standards	8.H.1.5 Analyze the relationship between historical context and decision-making.
ELA Standards	CCR Anchor Standard RI.8 – Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.
Objective	<ul style="list-style-type: none"> • Students will be able to examine our modern means for communication and travel to determine the necessity of time zones in our modern world. • Students will be able to discuss the necessity of time zones and their importance.
Today's Title:	Time zones and communications
Resolution:	Time zones are necessary
Do Now:	<p>Students will read the following article (http://entm.ag/100H4Fk) and annotate as they read.</p> <p>CFU: Teacher will check students annotations to ensure that they are using their Metacognitive Marker Annotation Legend and understanding the text (✓- Indicates a lack of understanding and poor annotations, ✓ Indicates understanding, however using MMAL annotations incorrectly, ✓+ Indicates understanding and correct annotations)</p>
Activator	<p>Choose one of the following debate games to gain student buy in and get the conversation started:</p> <ol style="list-style-type: none"> 1. "I couldn't disagree more" : Two students will debate in front of the classroom. Student A makes an opinion statements by saying, "I think..."; Student be must disagree with this statement by saying, "I couldn't disagree more, because..." 2. Stream of Conscience: Students will be asked to stand next to their desk; students must speak for the allotted amount of time without stopping; teacher will shout out different emotions for the students to enact as they are speaking. 3. Four Corners: Each corner will be labeled "Agree" "Strongly Agree" "Disagree" "Strongly Disagree." Teacher will call out different resolutions. Students must move to the corner of their opinion and then explain why they went to that corner.
I Do	<p>Notes and Brief Lecture about topic</p> <ul style="list-style-type: none"> -Time zones were created in response to an increase in transportation and communication. -Trains run on timetables, and when they were not in sync they would run into each other on the tracks. -Telephone communication required that a person needed to know the time in the place that they were calling.

We Do	Carousel Debate: Teacher will place the documents found in appendix 2 on the desks. Teacher will follow the procedures for carousel debate found in the general teaching strategies portion of this curriculum unit.
You Do	<p>Students will formulate arguments about the resolution. They must create and affirmative and negative argument using a claim, warrant, and impact structure.</p> <p>Claim: This should be the student's argument in support or opposition to the resolution.</p> <p>Warrant: This is the evidence to support the student's argument. They may use evidence from previous classes or the carousel debate.</p> <p>Impact: This is the students final rational. They must recognize the opposition's argument, discredit the opposition's argument, and support their own.</p>
Exit Ticket	Are time zones necessary? What would our world be like without time zones? Explain in 1-3 sentences.

Lesson 4

Unit: Time Zones Lesson: 4 Date of instruction:

<p>Social Studies Standards</p>	<p>8.H.1.5 Analyze the relationship between historical context and decision-making. 8.C&G.1.3 Analyze differing viewpoints on the scope and power of the state and national governments (e.g. Federalists and anti-Federalists, education, immigration and healthcare). 8.C&G.1.4 Analyze access to democratic rights and freedoms among various groups in North Carolina and the United States (e.g. enslaved people, women, wage earners, landless farmers, American Indians, African Americans and other ethnic groups). 8.C&G.2 Understand the role that citizen participation plays in societal change.</p>
<p>ELA Standards</p>	<p>CCR Anchor Standard RI.8 – Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.</p>
<p>Objective</p>	<ul style="list-style-type: none"> • Students will create arguments about the necessity of time zones.
<p>Today's Title:</p>	<p>Do we need time zones?</p>
<p>Resolution:</p>	<p>Time Zones are Necessary</p>
<p>Do Now:</p>	<p>Students will read the following article (https://newsela.com/read/florida-daylight-savings-time/id/41150/) and annotate as they read. CFU: Teacher will check students annotations to ensure that they are using their Metacognitive Marker Annotation Legend and understanding the text (✓- Indicates a lack of understanding and poor annotations, ✓ Indicates understanding, however using MMAL annotations incorrectly, ✓+ Indicates understanding and correct annotations)</p>
<p>Activator</p>	<p>Choose one of the following debate games to gain student buy in and get the conversation started:</p> <ol style="list-style-type: none"> 1. "I couldn't disagree more" : Two students will debate in front of the classroom. Student A makes an opinion statements by saying, "I think..."; Student be must disagree with this statement by saying, "I couldn't disagree more, because..." 2. Stream of Conscience: Students will be asked to stand next to their desk; students must speak for the allotted amount of time without stopping; teacher will shout out different emotions for the students to enact as they are speaking. 3. Four Corners: Each corner will be labeled "Agree" "Strongly Agree" "Disagree" "Strongly Disagree." Teacher will call out different resolutions. Students must move to the corner of their opinion and then explain why they went to that corner.
<p>I Do</p>	<p>Teacher will go over general guidelines for essay writing. Teacher will model an argumentative claim and essay outline for students to use in their constructed</p>

	<p>essays. <i>Depending on the level of the students, some may use sentence stems to construct their claims.</i></p> <p>Introduction: -Hook _____ -Claim: _____</p> <p>Body Paragraphs: -Warrant 1 -Warrant 2 -Warrant 3</p> <p>Conclusion -Impact Statement</p>
We Do	<p><i>Reloop definitions of...</i> Claim (Argument) Warrant (evidence) Impact (why?) This can be done through a snowball fight or cold call (call on students to provide definitions quickly) Have definitions of the terms written on an anchor chart for students to use as they write.</p>
You Do	<p>Students will write a comprehensive essay responding to the resolution. Students will choose either negate or affirmative to construct their essay. The rubric for the essay can be found in the teacher resources below.</p>
Exit Ticket	<p>Should humans continue to use time zones in the future?</p>

Lesson 5

Unit: Time zones Lesson: 5 Date of instruction:

<p>Social Studies Standards</p>	<p>8.H.1.5 Analyze the relationship between historical context and decision-making. 8.C&G.1.3 Analyze differing viewpoints on the scope and power of the state and national governments (e.g. Federalists and anti-Federalists, education, immigration and healthcare). 8.C&G.1.4 Analyze access to democratic rights and freedoms among various groups in North Carolina and the United States (e.g. enslaved people, women, wage earners, landless farmers, American Indians, African Americans and other ethnic groups). 8.C&G.2 Understand the role that citizen participation plays in societal change.</p>
<p>ELA Standards</p>	<p>CCR Anchor Standard RI.8 – Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.</p>
<p>Objective</p>	<ul style="list-style-type: none"> ● Students will hold a structured Lincoln-Douglas debate about the necessity of time zones in our modern world.
<p>Today's Title:</p>	<p>Debate about Time Zones</p>
<p>Resolution:</p>	<p>Time zones are necessary</p>
<p>Do Now:</p>	<p>Students will read the following article (https://www.huffingtonpost.com/quora/how-when-and-why-were-tim_b_5838042.html) and annotate as they read. CFU: Teacher will check students annotations to ensure that they are using their Metacognitive Marker Annotation Legend and understanding the text (√- Indicates a lack of understanding and poor annotations, √ Indicates understanding, however using MMAL annotations incorrectly, √+ Indicates understanding and correct annotations)</p>
<p>Activator</p>	<p>Choose one of the following debate games to gain student buy in and get the conversation started:</p> <ol style="list-style-type: none"> 1. "I couldn't disagree more" : Two students will debate in front of the classroom. Student A makes an opinion statements by saying, "I think..."; Student be must disagree with this statement by saying, "I couldn't disagree more, because..." 2. Stream of Conscience: Students will be asked to stand next to their desk; students must speak for the allotted amount of time without stopping; teacher will shout out different emotions for the students to enact as they are speaking. 3. Four Corners: Each corner will be labeled "Agree" "Strongly Agree" "Disagree" "Strongly Disagree." Teacher will call out different resolutions. Students must move to the corner of their opinion and then explain why they went to that corner.

I Do	<p>Teacher will give instructions for debate and reloop debate procedure. Teacher says, “as a group you will create your claim, warrant, and impact. Claim is your argument; warrant is the evidence to support your claim; and impact is why the opposition’s argument is wrong. You will be assigned either negate or affirm in your group. If your team negates the resolution, then your job is to poke holes in the affirmatives claim. If you are on the affirmative team, then your job is to agree with the resolution and defend your claim. The resolution is the same resolution we have been using during the unit. Time zones are necessary. You may use your work from previous classes to construct your group arguments. You will have 20 minutes to complete the tasks.”</p> <p>Students will have their work from previous classes to help them formulate arguments as a team.</p>
We Do	<p>The teacher will divide students into groups of 3-4. Each students will have a job: Speaker, writer, timekeeper, and runner. The speaker will be the representative who debates. The writer will document all of the research the students will do on their group worksheet. The timekeeper will make sure the students are on task and keeping track of time. The runner is the only student allowed to get up and gather materials as necessary.</p> <p>Step 1: Students will have 1 minute to brainstorm their claims individually on a sticky note. Step 2: Students will share their sticky note ideas with their groups and come up with a group claim statement. Step 3: Students will research and gather evidences to support their claims. Step 4: Students will collectively write an impact statement.</p> <p><i>Students should have a complete debate structure prepared for the speaker to use during the class debate.</i></p>
You Do	<p>Debate</p> <ul style="list-style-type: none"> -Each team gets one minute for opening statements (2 minutes) - Question 1: 1 min Affirm/ 1 Minute rebuttal from negate Question 2: 1 min Affirm/ 1 Minute rebuttal from negate: Question 3: 1 min Affirm/ 1 Minute rebuttal from negate: Question 4: 1 min Affirm/ 1 Minute rebuttal from negate: -Closing statements (<i>This should be students impact statement</i>) <p><i>This is an abbreviated Lincoln-Douglass debate format. This is structured and created to be flexible for any grade. Different grade levels and ability levels may need more or less structure.</i></p>
Exit Ticket	<p>Are time zones necessary? Explain your answer using two examples from the debate to support your argument.</p>

Appendix 1: Implementing Teaching Standards

This unit will address the following standards from the North Carolina Essential Standards for eighth grade social studies and Common Core Standards for Reading and Writing. The objectives from each of the standards, as well as a summary of their application to this unit is below. These objectives directly address the issues and events discussed in a unit about Time. The following objectives outline how students should structure an argument about time. This is applicable to a unit of study about debate and time zones.

Social Studies

- 8.H.1.5 Analyze the relationship between historical context and decision-making.
- 8.C&G.1.3 Analyze differing viewpoints on the scope and power of the state and national governments (e.g. Federalists and anti-Federalists, education, immigration and healthcare).
- 8.C&G.1.4 Analyze access to democratic rights and freedoms among various groups in North Carolina and the United States (e.g. enslaved people, women, wage earners, landless farmers, American Indians, African Americans and other ethnic groups).
- 8.C&G.2 Understand the role that citizen participation plays in societal change.

English Language Arts

- CCR Anchor Standard RI.8 – Delineate and evaluate the argument and specific claims in a text, including the validity of the reasoning as well as the relevance and sufficiency of the evidence.

Appendix 2: Resources

List of Materials for classroom use

1. Stop Watch
2. Gavel
3. Post-it notes
4. Hand-outs and graphic organizers (attached below)
5. Access to computers for research
6. High-lighters
7. Hand-held white boards
8. Dry Erase markers
9. Globe or image of the world
10. Time zone Maps

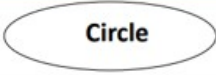





Resources for teachers

1. This paper can be used to help a teacher better understand how to transfer local time into Greenwich Mean Time: https://analytics.ncsu.edu/sesug/2016/BB-164_Final_PDF.pdf
2. Time zone activities for students: <https://wonderopolis.org/wonder/why-do-we-have-different-time-zones>
3. Documents for Carousel Debate:
 - a. Use images of planes from the following website: <http://www.loc.gov/teachers/classroommaterials/themes/flight/set.html>
 - b. Use images or documents from the following website about telephones: <https://www.loc.gov/collections/alexander-graham-bell-papers/about-this-collection/>
 - c. Use a quote from the following article about time zones and business: <https://www.entrepreneur.com/article/160228>
 - d. Use images or quotes from the following website about clocks: <https://www.timecenter.com/articles/ultimate-collection-of-clock-resources/>

4. Metacognitive Reading Log: *This was developed from a reading apprenticeship Teacher Professional Development.*

METACOGNITIVE READING LOG	
Name: _____	Class Period: _____
Chapter: _____ Sections: _____	Due Date: _____
Important Ideas and Information in the Text (p.)	My Thoughts, Feelings, Questions

5. Metacognitive Marker for Annotation Legend:
This is the legend that we use at Martin Luther King Jr. Middle School to help students comprehend and connect with a text.

Metacognitive Marker Annotation Legend	
SYMBOL	MEANING
 Circle	Unfamiliar or important
 Underline/Highlight	Textual Evidence
 Question Mark	Questioning the Text
 Exclamation Point	Surprising or New
 Star	Comment or Thought
 Heart	Love It or Favorite Part

6. Graphic Organizer for Developing and argument:

This graphic organizer can be adapted as necessary. This should be used to scaffold students' argumentative essays. This structure was created with the intention of repeating throughout the Unit as necessary.

Resolution	
Affirm or Negate	
Claim (Argument)	
Warrant (Evidence to support your claim)	
Impact (Why the oppositions argument is wrong)	
Exit Ticket	

7. Rubric for Comprehensive Essay

Score	0	1	2	3	4
Writing Style	Student does not support their claim or use argumentative essay structure.	Student poorly supports their claim and lacks structure in their essay.	Student lacks support for their claim and lacks structure in their essay.	Student supports their claim using structure provided for an argumentative essay.	Student creatively and successfully supports claim using proper structure for an argumentative essay.
Grammar and punctuation	Essay has multiple grammar and punctuation mistakes.	Essay has grammar and punctuation mistakes.	Essay has very little grammar and punctuation mistakes.	Essay has a few grammar and punctuation mistakes.	Essay has almost no grammar or punctuation mistakes.
Argumentation	Obvious lack of Claim, Warrant, and Impact structure to support argument. ^{xxi}	Claim, Warrant, and Impact is not stated nor supported throughout the essay to support student's argument.	Claim, Warrant, and Impact is not clearly stated and supported throughout the essay to support student's argument.	Claim, Warrant, and Impact is stated and supported throughout the essay to support student's argument.	Claim, Warrant, and Impact is clearly stated and supported throughout the essay to support student's argument.
Citations	Essay does not cite sources.	Student's use of sources are incorrect as evidence to support the claim. Sources are not cited using correct formatting.	Sources are used poorly as evidence to support the claim. Sources are poorly cited using correct formatting.	Sources are used as evidence to support the claim. Sources are cited using correct formatting.	Sources are used correctly as evidence to support the claim. Sources are cited using correct formatting.
Score					Total: _____

-
- ⁱ “Martin Luther King, Jr. Middle School.”
- ⁱⁱ “Martin Luther King, Jr. Middle School.”
- ⁱⁱⁱ “Eligibility for Free or Reduced-Price Meals in the National School Lunch Program.”
- ^{iv} “School Improvement Plan.”
- ^v Hough, “Time-Keeping by Light and Fire.”
- ^{vi} Hough.
- ^{vii} Hough.
- ^{viii} DeForrest, Time CTI 2018
- ^{ix} DeForrest.
- ^x “Andrew Coyne: Forget the Daylight Savings Time Debate, We Need to Get Rid of Time Zones Altogether | National Post.”
- ^{xi} Gleick, “Opinion | Time to Dump Time Zones.”
- ^{xii} <https://www.facebook.com/mradamtaylor>, “North Korea’s New Time Zone Already Has an Enemy.”
- ^{xiii} <https://www.facebook.com/mradamtaylor>.
- ^{xiv} <https://www.facebook.com/mradamtaylor>.
- ^{xv} <https://www.facebook.com/mradamtaylor>.
- ^{xvi} “Time Zones.”
- ^{xvii} Yglesias, “The Case against Time Zones.”
- ^{xviii} Yglesias.
- ^{xix} Quora, “How, When, and Why Were Time Zones Created?”
- ^{xx} “Why Do We Have Different Time Zones? | Wonderopolis.”

Annotated Bibliography

“Andrew Coyne: Forget the Daylight Savings Time Debate, We Need to Get Rid of Time Zones Altogether | National Post.” Accessed November 20, 2018.

<https://nationalpost.com/opinion/andrew-coyne-forget-the-daylight-savings-time-debate-we-need-to-get-rid-of-time-zones-altogether>.

This comprehensive opinion piece provides a deeper look into the debate about Time Zones. The author explores current debates and his own opinions in an easy to read format.

DeForrest, Mathew. "It's About Time." *Charlotte Teachers' Institute*, 2018.

This seminar focused on the literature, philosophies, and physics of time. The references used in this curriculum unit centered around the discussions about the creation of time zones and the beginnings of time keeping.

“Eligibility for Free or Reduced-Price Meals in the National School Lunch Program.” Accessed November 20, 2018. <http://www.ncpublicschools.org/newsroom/news/2012-13/20120806-01>.

This reference show NCDPI's standards for meeting free and reduced price meal requirements.

Gleick, James. “Opinion | Time to Dump Time Zones.” *The New York Times*, January 20, 2018, sec. Opinion. <https://www.nytimes.com/2016/11/06/opinion/sunday/time-to-dump-time-zones.html>.

This article is an alternative view on time zones. Gleick offers another perspective on the arbitrations of time zones.

Hough, Walter. “Time-Keeping by Light and Fire.” *American Anthropologist* 6, no. 2 (1893): 207–10.

This anthology explores time in many facets. Hough's chapter gives an insightful overview of the beginnings of time keeping.

<https://www.facebook.com/mradamtaylor>. “North Korea’s New Time Zone Already Has an Enemy.” Washington Post. Accessed November 20, 2018.

<https://www.washingtonpost.com/news/worldviews/wp/2015/08/11/north-koreas-new-time-zone-already-has-an-enemy/>.

This article provides an interesting perspective on North Korea's recent shift in time zones. This further amplifies students arguments and provides teachers with alternative resources.

“Martin Luther King, Jr. Middle School.” Accessed November 20, 2018.

<http://schools.cms.k12.nc.us/martinlutherkingjrMS/Pages/Default.aspx>.

The use of the school improvement plan in the curriculum unit is to provide rationale for teaching this unit.

Quora. "How, When, and Why Were Time Zones Created?" *Huffington Post* (blog), September 17, 2014. https://www.huffingtonpost.com/quora/how-when-and-why-were-tim_b_5838042.html.

This article gives further insight to the necessity of time zones.

"School Improvement Plan." Accessed November 20, 2018.

<http://schools.cms.k12.nc.us/martinlutherkingjrMS/Pages/School-Improvement-Plan.aspx>.

The use of the school improvement plan in the curriculum unit is to provide rationale for teaching this unit.

"Time Zones." ACMI. Accessed November 20, 2018. <https://www.acmi.net.au/education/online-learning/inquiry-learning-time/time-zones/>.

This interactive museum website has great tools and resources for exploring the concept of time and the establishment of time zones.

"Why Do We Have Different Time Zones? | Wonderopolis." Accessed November 20, 2018.

<https://wonderopolis.org/wonder/why-do-we-have-different-time-zones>.

This website has great resources for classroom activities. This website provides ideas that can be found throughout this curriculum unit.

Yglesias, Matthew. "The Case against Time Zones." *Vox*, August 5, 2014.

<https://www.vox.com/2014/8/5/5970767/case-against-time-zones>.

This is yet another article to provide further reinforcements on the need to debate this topic. Students will explore the internet and need guidance in the debates happening between academics and nonprofessionals.