

**The Distribution of Growth:**  
Monitoring the Inhabitants at the Rouge  
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December 17, 2015

Dear SEMIS Coalition,

I recently was exposed to the idea of place-based education this year for the first time in my life. Initially I was hesitant about its success due to my inability to see the bigger impact it could have on the lives of students. Not only was I to be challenged to see the benefits in doing so, but I was also given the opportunity to see it happening in action.

For the past couple of months, my classmates and I have been attending Detroit Institute of Technology in order to gain experience into a school environment that is different from that of our own. We have been introduced to students that strive to prosper regardless of their situations and are able to see how place-based education has been beneficial to their education. It not only allows them to see and understand how what they are learning in school can be used to in the real world, but specifically in their communities. By being able to transfer the knowledge they have acquired from a school setting and use it to promote a community that thrives justly, we are ensuring positivity within our school community. Since the ninth grade students are grappling with the essential question of what they can do to help make Cody Rouge Park a more just community, the incorporation of all disciplines helps students further explore this question, which is one of the many advantages of teaching with a place-based approach.

Although many of us may have been reluctant at first, after having a firsthand experience with Place-Based Education we have learned more about what we as educators must do to ensure that our students have a good experience within their education. Instead of teaching them concepts without further exploring how they can be used in the real world, we are simply teaching with no purpose. Since Place-Based Education can't be effectively implemented without supporters, it's nice to know that in the face of all of the challenges within our educational system that there are people that care about students receiving the quality education that they should be entitled to. I know that the journey of getting thus far hasn't been easy, but I would like to thank you for your support.

Sincerely,

Jada Rachal

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**Audience:**

Detroit Institute of Technology (D.I.T.) 9<sup>th</sup> grade students, D.I.T teachers, SEMIS Coalition, Place-based educators, EMU College of Education professors, and pre-service teachers

**Unit Overview:**

This unit is designed specifically for DIT students at a 9<sup>th</sup> grade math level. The unit focuses on the essential question, “What role could the Rouge Park play in making Cody-Rouge a more just community?” Since the objective is to seek an understanding of the reasons behind the ecological issues, I have titled the unit “The Distribution of Growth: Monitoring the Inhabitants at the Rouge.” Because the only way to understand the current issues of today is to take a step into the past, to answer the essential question students will research the history of the park to learn about its origin as well as past inhabitants as a way to understand the reasoning behind the current number of inhabitants. The purpose of this unit is to educate students about the concept of exponential growth/decay, but in the midst allow them to creatively build it by having them grapple with an issue in their own community. In doing so they will learn about the ecological issues of the world and how it compares to their community, specifically the park, river development, and previous inhabitants as well as current ones. Using this vast amount of information, they will be able to display their findings on an exponential graph. This graph will symbolize the way that they have evolved as a community and will help to determine which direction they will need to take in order to make it a more just community.

<b>Place-based Education Project/Unit Plan</b>	
<b>Name of Project/Unit:</b> The Distribution of Growth: Monitoring the Inhabitants at the Rouge	<b>Duration:</b> 23 days
<b>Primary Subject(s) Addressed:</b> Math, Science, English, and Social Studies	<b>Grade Level:</b> 9 <sup>th</sup> Grade
<b>Place/Community Site for Renewal:</b> The Cody-Rouge Community	
<b>Project Summary/Overview</b>	<p>This unit is designed specifically for DIT students at a 9<sup>th</sup> grade math level. The unit focuses on the essential question, “What role could the Rouge Park play in making Cody-Rouge a more just community?” Since the objective is to seek an understanding of the reasons behind the ecological issues, I have titled the unit “The Distribution of Growth: Monitoring the Inhabitants at the Rouge.” Because the only way to understand the current issues of today is to take a step into the past, to answer the essential question students will research the history of the park to learn about its origin as well as past inhabitants as a way to understand the reasoning behind the current number of inhabitants. The purpose of this unit is to educate students about the concept of exponential growth/decay, but in the midst allow them to creatively build it by having them grapple with an issue in their own community. In doing so they will learn about the ecological issues of the world and how it compares to their community, specifically the park, river development, and previous inhabitants as well as current ones. Using this vast amount of information, they will be able to display their findings on an exponential graph. This graph will symbolize the way that they have evolved as a community and will help to determine which direction they will need to take in order to make it a more just community.</p>
<b>Common Core State Standards Addressed:</b>	<p>Math:</p> <ul style="list-style-type: none"> <li>• Distinguish between situations that can be modeled with linear functions and exponential functions</li> <li>• Interpret expressions for functions in the situation that they model</li> <li>• Construct an exponential graph given a graph, description of the relationship, or two input-output pairs</li> </ul> <p>Geography:</p> <ul style="list-style-type: none"> <li>• Explain the causes of population changes a certain amount of years by analyzing the:</li> </ul>

	<ul style="list-style-type: none"> <li>○ Population change</li> <li>○ Distribution on population change (including relative changes in urban rural populations, population density)</li> <li>● Explain the changes in the use, distribution, and importance of natural resources on human life, settlement, and interactions by describing and evaluating: <ul style="list-style-type: none"> <li>○ The impact of humans on the global environment</li> <li>○ The differences in the ways societies have been using and distributing natural resources</li> </ul> </li> </ul> <p>Science:</p> <ul style="list-style-type: none"> <li>● Scientific Inquiry <ul style="list-style-type: none"> <li>○ Generate new questions that can be investigated in the field</li> <li>○ Evaluate the uncertainties using an understanding of the logic of the argument</li> <li>○ Conduct scientific inquiry using the correct tools and techniques</li> <li>○ Describe the reason for a given conclusion using evidence from the investigation</li> </ul> </li> <li>● Scientific Reflection <ul style="list-style-type: none"> <li>○ Identify and critique arguments about personal or societal issues based on scientific evidence</li> <li>○ Access the information from multiple sources-evaluate the significance of that source</li> </ul> </li> </ul> <p>English:</p> <ul style="list-style-type: none"> <li>○ Voicing the concerns of the societal/environmental issues</li> </ul> <p>Common Core Standards:</p> <p>Mathematics:</p> <p>CCSS.Math.Content.HSF.IF.C.7 Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.</p> <p>CCSS.Math.Content.HSF.IF.C.7.e Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.</p> <p>CCSS.Math.Content.HSF.IF.C.8.b Use the properties of exponents to interpret expressions for exponential functions.</p>
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	<p>CCSS.Math.Content.HSF.IF.C.9 Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).</p> <p>Social Studies:</p> <p>K1.8 Apply social studies concepts to better understand major current local, national, and world events, issues, and problems</p> <p>P2.3 Know how to find and organize information from a variety of sources; analyze, interpret, support interpretations with evidence, critically evaluate, and present the information orally and in writing; report investigation results effectively.</p> <p>P3.2 Deeply examine policy issues in group discussions and debates (clarify issues, consider opposing views, apply democratic values or constitutional principles, anticipate consequences) to make reasoned and informed decisions.</p> <p>Science:</p> <p>E1.1A Generate new questions that can be investigated in the laboratory or field.</p> <p>E1.2A Critique whether or not specific questions can be answered through scientific investigations.</p> <p>E1.2B Identify and critique arguments about personal or societal issues based on scientific evidence.</p> <p>E1.2C Develop an understanding of a scientific concept by accessing information from multiple sources. Evaluate the scientific accuracy and significance of the information.</p> <p>E1.2D Evaluate scientific explanations in a peer review process or discussion format.</p> <p><b>English</b></p>
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	<p>CCSS.ELA-Literacy.SL.9-10.1.c Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.</p> <p>CCSS.ELA-Literacy.SL.9-10.1.d Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.</p> <p>CCSS.ELA-Literacy.SL.9-10.4 Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.</p> <p>CCSS.ELA-Literacy.SL.9-10.5 Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.</p>			
<b>21<sup>st</sup> Century Competencies</b> (to be taught)	<i>Collaboration and Communication</i>	x	<i>Concerned Citizen</i>	x
	<i>Collaborative Problem Solving</i>	x	<i>Environmental Awareness</i>	x
	<i>Critical Thinking</i>	x	<i>Personal and Social Responsibility</i>	x
<b>Top 5-10 Measureable Outcomes:</b>	<p><b><u>By the end of the project/unit, students will be able to:</u></b></p> <ul style="list-style-type: none"> <li>• Distinguish between situations that can be modeled with linear functions and exponential functions</li> <li>• Interpret expressions for functions in the situation that they model</li> <li>• Construct an exponential graph given a graph, description of the relationship, or two input-output pairs</li> <li>• Judge how the accuracy of information on the web</li> <li>• Explain how to transform data into insightful information via graphs</li> </ul>			

	<ul style="list-style-type: none"> <li>• Identify how to effectively deliver an informative/persuasive speech</li> <li>• Explain the importance of voice</li> <li>• Define what it means to be a just community</li> <li>• Define Ecological/Environmental Issues</li> </ul>			
<b>Driving/Essential Question</b>	What role could the Rouge Park play in making Cody-Rouge a more just community?			
<b>Key Concepts/Big Ideas</b>	<ul style="list-style-type: none"> <li>• Origin of the Park</li> <li>• The River development-could this have had an effect on the number of inhabitants</li> <li>• Exponential Growth/Decay Functions</li> <li>• Data</li> <li>• Graph</li> <li>• Expressions</li> <li>• Informative/Persuasive Speech</li> </ul>			
<b>Student Products/Presentations/Civic Actions</b>	Students will give a presentation in front of the entire school illustrating their findings as a way to make others more aware of the ecological issues. Since problems become minor issues when many people are aware of their existence, students will also present in front of the school administration as a way to display that although this may seem like a minor problem, this can lead to our downfall if it continues to be unaddressed.			
<b>Public Audiences</b>	<ul style="list-style-type: none"> <li>• Community Members</li> <li>• Peers</li> <li>• School Officials</li> <li>• Inside-Out Organization</li> <li>• SEMIS</li> </ul>			
<b>Entry/Launch Event</b>	<b>Walk in the Park</b>			
<b>Reflection Methods/Formative Assessments:</b>  (These are just examples)	KWL	X	Exit Tickets	X
	4-Corners discussion	X	Think-Pair-Share	X

**Activities/Lessons**

Challenge Scenario (Authentic Assessment)

Exponents and Introduction to Exponential Growth (Direct)

Exponential Decay (Direct/Choice)

What Does It Mean to Live in a Just Community? (Inquiry)

Impact of Student Voice (Cooperative)

**Community Partners:**

- SEMIS
- Inside-Out
- EcoWorks

As an educator, I will connect my students to new and existing partners by networking and building a transformational relationship that models our intended outcome.

**Materials Needed:**

- Support of the community (i.e. school board officials)
- To test the water-nets, gauges, meters
- Computers to research the historical information
- Guided Practice Lessons
- Graphing Calculators
- Algebra One Math Books
- Scrap Sheets of Papers
- Graphic Organizers
- Poster Boards
- White Boards and markers
- Cell Phones (To access Twitter)

**Rationale:**

Growing up within our individualistic society has not only caused us to place a large value upon ourselves, but has also hindered us from seeking to understand anyone that is different ourselves. Since we are more alike than what our physical structures can reveal, alienating oneself from others acts as a way of tuning out things we do not want to a make reality, but instead would rather subtly ignore, such as the disparities within our society. Because being Caucasian in our society has subconscious benefits that being of color doesn't, it causes people to place labels on others without fully knowing them. For many people the act of labeling gives them the confirmation that they need not to try to understand, but instead rely blatantly only on what their eyes can perceive. Because eyes are not good indicators of what a person may be dealing with internally, being able to open up your mind and heart allows for a better understanding, making space for a transformation of one's initial perception. Simply seeing the students of Detroit Institute of Technology (D.I.T), outsiders may already have their stereotypes about people from Detroit, without even encountering them, however until you allow yourself to become submerged in a community that is different from your own, your ability to understand the complexities of their stories becomes limited to the stereotypes associated with that group of individuals as well as their environment.

If someone were to hear the term 'Detroit' today, there are many thoughts that may run through their minds, however due to the negative connotations associated with Detroit, because of the violent highlights within the media, many of them would not be positive. By continuously highlighting negativity, leaving the positive attributes aside, it leaves little room for people to see the positivity within the city. Although many people have their perceptions about what Detroit represents today, if they knew the history behind the city that they consciously judge, their outlooks may be altered. With the Ford plant lying in the midst of the city, factory jobs were

readily available and Detroit was once a renowned city in the 1940's for being the "arsenal of democracy," where it was "one of the nation's fastest growing boomtowns" (Sugrue, 3). The surrounding neighborhoods were not only home to the "highest paid blue-collar workers in the United States," (Sugrue 3) but were a representation of the city's promising future, that is until the economy began to crash, leading to "white flight," followed by an influx of African Americans beginning moving into the inner city. With the city in chaotic disarray, the once promising city began to take a turn for the worse. Since this time period still encompassed racial tensions, with whites leaving this gave rise to African Americans whom were still discriminated against within the workplace, but sought Detroit as a place for better opportunities as compared to the South. With Detroit becoming more physically urban, the flock of factory jobs previously available began to diminish leaving many people unable to provide for themselves and their families, causing them to rely on lower wage jobs. Because these jobs often pay minimum wage with no benefits, which is often not enough to survive on, within many of the household's parents have to maintain two jobs to support their families. Although this is still not enough to live above the poverty line, but instead may allow them to meet the basic means of survival, this often leaves little, if any, time available for them to partake within their child's studies, causing them to have to prioritize their time and needs.

Since many of the students within D.I.T. come from lower income families, where there are limited resources such as food, running water, and heat, they turn to their school community for the reassurance and resources that they need in order to thrive. However, within their school they are finessed out of the necessary resources that are predominant within any suburban school, teachers. With the lack of teachers, specifically math teachers, resources, and the financial means for survival it makes it hard for the students to see their value within our society.

As they look around their communities, schools, and even within their households, they see people working hard, but the amount of other's work not equating to the progression needed to thrive financially as well as academically, causes them to question their own need to succeed. Because many of the students believe it to be their fault that they have numerous burdens placed in front of their paths, as many of them are unable to see the possibilities that lie in front of them, they opt out of the challenge of pursuing an education to better themselves. However by building an environment where students can voice their opinions and be themselves, it can lead to success within the lives of students as well as the community. Instead of allowing their current situations to be a determinant of later outcomes, providing them with an environment where they can be themselves, while voicing their opinions shows students that you care not only for them, but also about what they have to say. Building an inclusive community takes time and effort from both teachers and students, but when built, it can leave a lasting impact.

The teachers and students within Cody high school have created a youth ambassador program, an inclusive leadership program, that gives driven students the ability to voice their concerns, network, and educate others about the obstacles that they face on a daily basis. Since no one can be a better advocate than those that have a first-hand experience, the program elevates the minds of the students to want to pursue more than what society believes Black urban students capable of. In the process, not only are their internal thoughts about themselves and their community altered, but they are able to see how the skills that they are learning can be applied within their own environments. By taking the knowledge that they have learned within their classrooms and during conferences, the students and faculty have completed many beautification projects within the school as well as within the surrounding neighborhood. Since the faculty at D.I.T. Cody recognize the positive impact a strong community can have on the

lives of their students, it has allowed their school community to transform from a place of learning specific disciplines to exploring how different subject matters can be integrated and used to diminish the ecological issues surrounding their students' communities. In so doing, it allows the students to be the engineers of their education, as they seek to explore different aspects about their surrounding areas, that have been long forgotten or taken for granted.

The ninth grade students at D.I.T., along with the student ambassadors, are conducting an inquiry at the Rouge Park to figure out how they can make the Cody-Rouge community more just. Since the park has important aspects that cannot be understood by simply looking at it, using a place based approach serves on the basis of taking a student's surrounding community's heritage, landforms, obstacles, and other previously overlooked aspects and combining them with classroom disciplines to explore important issues within the community. Instead of taking a conventional approach by separating subjects, place-based education seeks ways to incorporate cross curriculum to actively engage students regardless of their preferred subject area.

(Demarest, 2015) The integration of disciplines grants students the ability to see how subjects such as Science and Math can be paired with English in order to give their findings authenticity by actively using words instead of merely displaying numerical data. Since exploring issues that are closely related to students, can spark their interest in ways that simply learning a concept cannot, by integrating complex concepts with real world problems, students will partake a different role within their communities. Instead of merely being aware that there are problems, by inviting them in to help solve issues, they become more knowledgeable about the things that they can do for the good of their community, which in return allows them to grow as individuals. By fostering practical growth within the future generation, we can be reassured that some of the destructive problems at the hands of humans, will soon begin to fade. Because students will now

be educated about problems in connection to concepts, they will be more likely to know what to do in light of a world problem, instead of solely taking part in the destruction.

### **Content Analysis:**

This Mathematics unit is designed to work in conjunction to DIT's essential question, "What role can the Rouge Park play in making Cody-Rouge a more just community?" The unit will focus on monitoring the inhabitants of the Rouge Park, by asking students to explore the possible answers to the essential question "What has impacted Cody Rouge's ability to thrive?" Because this essential question is not one that can be answered using only one discipline, the combination of Math, Science, English, and Geography are essential. Although it is easier to use place-based education for the subject matters of Science, English, and Geography, which can allow students to research previously known inhabitants of the area as well as the history of the park and address their next steps, the subject area of mathematics can be used to display the findings that the three subjects joined together can pose. Using the Common Core Standards of Geography, there is a need to gather information and justify conclusions. By gathering information about the previous aspects of the Rouge Park, we can come to understand its origin as well as the river development, however we may not know what has caused it to become an ecological issue. Since ecological issues do not occur overnight and do not have specifically one factor that impacts them looking at articles about the ecological issues of our world is a start. We will not find one general answer, but by using cross curriculum to integrate the subject matters of Geography, English, and Science along with our own inferences, we can make sense of the problems as a whole. Because science is a discipline whose focus is on understanding the world through experimentation and observation, students will conduct experiments on the water that can demonstrate whether it has an effect on the number of inhabitants of the given area. Because

water is a vital source to any community, knowing the state of the water can help to determine whether that has been an issue that has strayed people and animals from this particular area. As we gather the results from the experiments and research, students will be made aware of how the concept of exponential growth/decay within mathematics can be used to display real world issues.

By incorporating the use of cross curriculum into the unit it aids in the students' ability to see the overlap of subject matter and how it can be used to have a better understanding of the world, but also their community. The students will not only be exposed to learning exponential growth/decay within their classroom, but given the opportunity to put their understanding to the test outside of a written assessment, which will challenge them to think more critically about what change needs to occur to allow us to become better on an ecological scale. For change to be able to occur, there needs to be people willing to voice their opinions and concerns, regardless of the thoughts of others, but rather for the betterment of their society. If the Cody Rouge environment is going to continue to withstand, it is essential that there are advocates willing to stand up for the good of their society. Students will use their findings and research to present at a community school board meeting to allow their voices to be heard. Since they are the future of the current society, making them aware that they are more than their surroundings and their voices are important, helps to diminish their negative outlooks about society and the fact that what they are learning within the classroom is useful and can be transferred to their own lives. By coming to terms with the environment as a whole it will allow us to see what factors have caused the destruction and what we as humans can do to make the environment more inviting and ecologically friendly to not only serve us currently, but for years to come.

## **References**

Demarest, A. (2015). *Place-based curriculum design: Exceeding standards through local investigations*.

Sugrue, T. (1996). *Introduction*. In *The origins of the urban crisis: Race and inequality in postwar Detroit* (p. 3). Princeton, N.J.: Princeton University Press.

## **Unit Goals and Aligned Standards**

### **Mathematics:**

CCSS.Math.Content.HSF.IF.C.7

Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

CCSS.Math.Content.HSF.IF.C.7.e

Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.

CCSS.Math.Content.HSF.IF.C.8.b

Use the properties of exponents to interpret expressions for exponential functions.

CCSS.Math.Content.HSF.IF.C.9

Compare properties of two functions each represented in a different way (algebraically, graphically, numerically in tables, or by verbal descriptions).

### **Social Studies:**

K1.8

Apply social studies concepts to better understand major current local, national, and world events, issues, and problems

P2.3

Know how to find and organize information from a variety of sources; analyze, interpret, support interpretations with evidence, critically evaluate, and present the information orally and in writing; report investigation results effectively.

### P3.2

Deeply examine policy issues in group discussions and debates (clarify issues, consider opposing views, apply democratic values or constitutional principles, anticipate consequences) to make reasoned and informed decisions.

## **Science:**

### E1.1A

Generate new questions that can be investigated in the laboratory or field.

### E1.2A

Critique whether or not specific questions can be answered through scientific investigations.

### E1.2B

Identify and critique arguments about personal or societal issues based on scientific evidence.

### E1.2C

Develop an understanding of a scientific concept by accessing information from multiple sources. Evaluate the scientific accuracy and significance of the information.

### E1.2D

Evaluate scientific explanations in a peer review process or discussion format.

## **English**

### CCSS.ELA-Literacy.SL.9-10.1.c

Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

### CCSS.ELA-Literacy.SL.9-10.1.d

Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

CCSS.ELA-Literacy.SL.9-10.4

Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

CCSS.ELA-Literacy.SL.9-10.5

Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

### **Core Concepts:**

**Acceptance**-Students will learn that in order to grow as an individual, they must first be willing to accept where they come from. Because problems cannot be diminished overnight, seeking to understand that the problems that they are currently facing, do not determine the life that they are destined to live. Students must instead, accept it as a stepping stone for bigger and better things.

**Understanding**-Students will examine the history of the Cody Rouge community, which will display a time of prosperity and growth. Instead of getting upset or angered, students will be able to see the various aspects that have had an impact on transforming their community from a boomtown into what it is today.

**Compassion**-Because growing up in a city is not enough to cause someone to have compassion for it, students will be faced to further explore whether the remnants of the Cody Rouge community is a result of human's wrongdoings or natural causes. Using their inferences along

with factual knowledge it will aid in their ability to strive to fix the ecological issues for the betterment of the place they know and love.

### **Major Assignments:**

The major assignments within the unit are meant to act as the building blocks needed to explore the essential question of the unit as well as DIT's essential question. Since the duration of the unit is four weeks, within each week a new major assignment will be explored, totaling four major assignments. Using the first three days of the unit to welcome exponential functions, the first assignment calls for students to be able to decipher the differences between exponential growth and exponential decay models and how these functions can relate to real world experiences.

The second assignment calls for students to participate within three discussions in class that will build up to students being able to answer the question of "What do just communities and exponential graphs display within the Cody-Rouge Park?" In order for students to be able to understand all the components of that question they will first be asked to explain their understanding of what a just community represents, by breaking apart what it means to live in a community followed by what "just" means to them. Since each student has their own perception of a community, listening to the views of others allows for new perspectives and understandings to blossom. As students grapple with this question, the following day students will also be challenged to explore the question of what are the ecological/environmental issues within the world. This will build onto the idea of just communities and help to teach students about the need to be ecologically friendly. In doing so they may begin to see the relationship between the concept of exponential growth/decay and communities. Because the relationship is not directly visible having them break a part what exponential functions seek to display and what

communities serve as, will make the distinction more obvious. Since the outcome of these discussions are for students to become more knowledgeable about their community, the discussions will aid in their ability to see the ecological issues within their own community. The final portion of the second assignment is for students to use their knowledge to find their voice, as a way to display their concerns.

The third assignment calls for students to take the research findings they found on the computer about the Cody Rouge Park and its ecological issues and put them to the test with reality, by testing the river water to see if it has had an effect on the number of inhabitants. Combining their research and findings will allow them to transfer their information from charts to exponential models that they will use to present their data in front of the class.

The fourth assignment calls for students to prepare for their cultivating project, to present their findings to the school board. Students will use the knowledge they have gained over the course of the three weeks to create PowerPoints reflecting their findings from the park as well as what they learned about with respect to the ecological issues. Over the course of the week before the big event they will have two trial runs by first presenting as a class in front of me and then the school, leaving room for the last day to be a day for perfecting any minor flaws.

### **Differentiation:**

My unit is differentiated to meet the need of the students at D.I.T in the following ways: multiple learning styles within each lesson, concepts and essential questions that explore occurrences within their specific environment and community, and assessments that adhere to students' interest and understanding different from that of traditional teaching. Since there are

various readiness levels that can be evident within a classroom, paying attention to this aspect offers appropriate challenging content.

### **Educational Philosophy:**

Education is an important asset that should be available to all regardless of class, gender, race, and social economic status. Since we as a society promote the need for an education without serving quality education for all students, we are deciding who deserves better treatment as compared to others. However, if we are instead trying to capture the minds of our students we must not look at what they have as an indicator of their ability to succeed, but instead the impact an education can have on their minds and hearts.

As an upcoming educator, I believe my job is to not only provide students with the knowledge that they need to succeed within my discipline, but in the process create an environment that is secure, stimulating, and engaging. I want to not only challenge my students academically, but intellectually as a way for them to reach their fullest potential. To allow them to see that school and life coincide, and in both cases you get back what you put in. In order for my students to get the most out of life, I want to educate them on things that not only serve their interest, but are meaningful and relevant to their lives. Since students remember the teachers that had a direct impact on them not only within the classroom, but also by being there, I want my students to know that I am not only capable of being their educator, but also their mentor, biggest support system, and even a friend. Due to my job of an educator having little specifics, it gives me the space to allow my students to fill in the blanks helping to give my life the meaning it needs to proceed. This unit embodies my educational philosophy by challenging my students to see the value of their worth. With each assignment they are not only becoming educated within certain disciplines, but in the process are learning about a subject that hits close to home, their

community. Since their community is of value to them, while educating them on the history of their community I am not only able to see the direct impact it has upon them, but in the process challenging them to do more than simply know about an issue, instead seek ways to publicly voice their concerns. In doing so they are not only growing as students, but as society members that are able to recognize the impact of leadership.

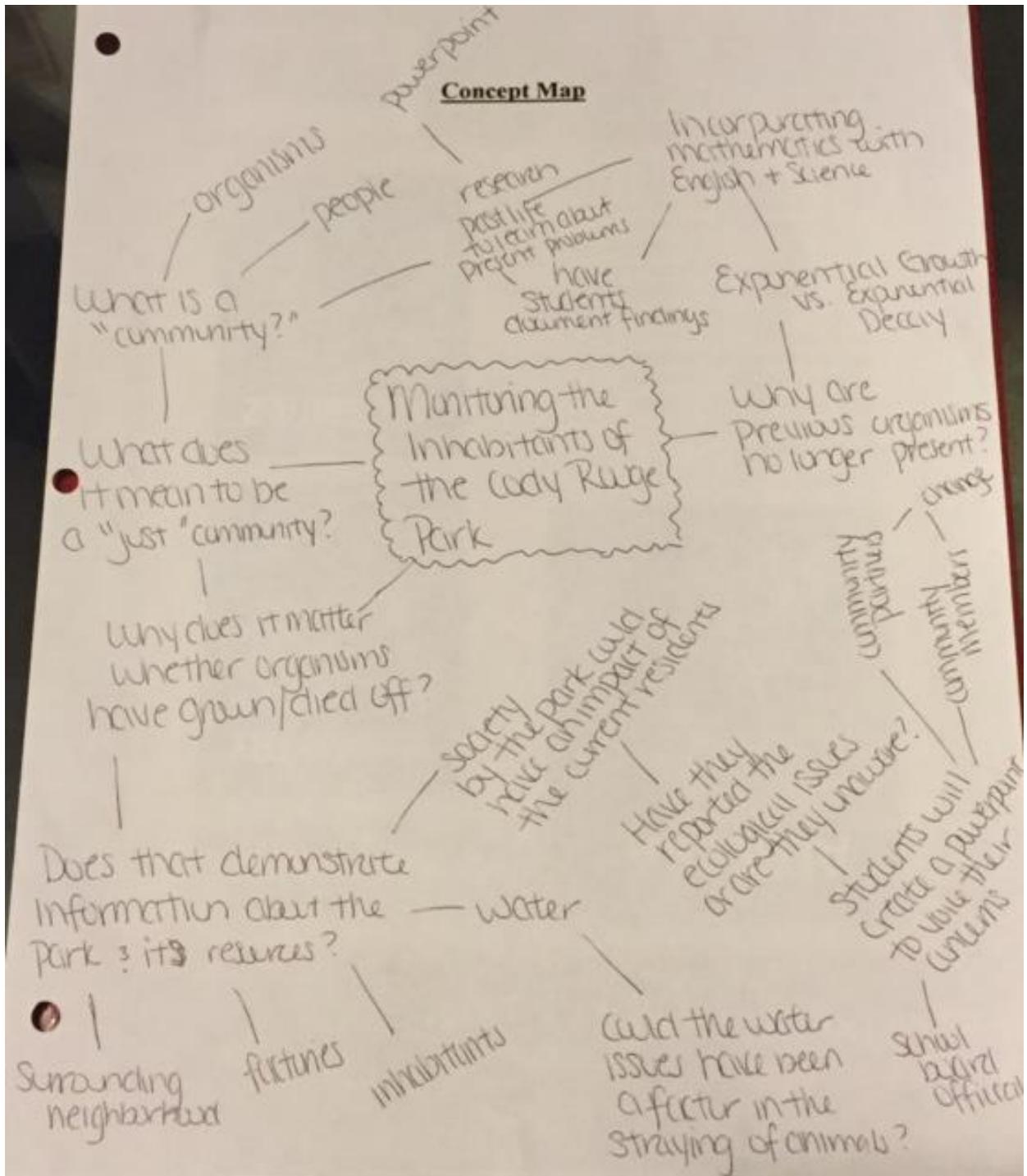
## Scope and Sequence Chart

Day One	Day Two	Day Three	Day Four	Day Five
<b>Direct Instruction:</b> -Review of Linear and Quadratic Functions/Graphs -Introduction to Exponential Functions and Exponents	<b>Direct Instruction:</b> -Exponential Growth Model-Interest <b>Homework:</b> Further practice with exponents and the reasoning behind the formula-allowing them to build exponential growth models on their own.	<b>Direct Instruction:</b> -Exponential Decay Model-Half Life <b>Homework:</b> Further practice with exponents and the reasoning behind the formula-allowing them to build exponential decay models on their own.	<b>Cooperative Learning:</b> Being able to identify between exponential decay vs. growth models -Solve problems involving both models	<b>Assessment:</b> -Assessing how well students understand the concepts, skills, and problems solving abilities -how they can relate them to real world experiences
Day Six	Day Seven	Day Eight	Day Nine	Day Ten
<b>Inquiry:</b> What does a just community mean? -Breaking apart what it means to live in a community. -What does it mean to be just?	<b>Inquiry:</b> -What are ecological issues? <b>-Homework:</b> Based on your new understanding of ecological issues, look up information about the Cody Rouge Park	<b>Inquiry:</b> How are just communities and exponential graphs/functions related?	<b>Inquiry:</b> Based on our last three discussions, what can just communities and exponential graphs display within the Cody-Rouge Park? (i.e. water samples?)	<b>Cooperative Learning:</b> -What impact can voicing your concerns have?
Day Eleven	Day Twelve	Day Thirteen	Day Fourteen	Day Fifteen
<b>Research:</b> -Guest Instructor/Historian comes in to explain how to properly find reliable sources about Cody Rouge Park as well as gives insight about the history of the	<b>Research in Groups/Cooperative Learning:</b> -Each group with varying skillset will be assigned a different topic dealing with the Cody Rouge Park-based on students' interest/ecological issues	-Continue to Work on PowerPoint Presentations	<b>Presentations:</b> -Present PowerPoints in class; Students must take notes-reflection for others	<b>Displaying Findings:</b> -Students will take their research findings about inhabitants, water, surrounding neighborhoods to test the river water to

park. (i.e. inhabitants, water, surrounding neighborhood- factories)	-Create a PowerPoint to display findings			see if that has had an effect on the number of inhabitants.  -Given their findings, students will create charts to model their findings.
Day Sixteen	Day Seventeen	Day Eighteen	Day Nineteen	Day Twenty
<b>Transformation</b> -Based on the group students chose they will turn their information from charts to exponential models (exponential decay/growth)- allowing them to see visually what was previously represented in terms of numbers	<b>What does this mean &amp; what are our next steps?</b> -Combining the groups information into one PowerPoint that displays the students' findings-in charts and exponential models -Teaching students about the importance of professional presentations - Breaking into our previous groups and practice explaining the information displayed.	<b>Implementing the Techniques:</b> -Practice Presenting in Front of Our Class -One person from each group will talk about their information/topic researched -Listening to feedback and constructive criticism	<b>Present as a class, with me being the audience</b>	<b>Present in Front of the Entire School</b> -I will videotape so they can see themselves
Day Twenty-One	Day Twenty-Two	Day Twenty- Three		
<b>Reflection/De- brief about Experience</b> -Before watching the video have students write a paragraph reflection about how they felt the presentation went. -Watch the	<b>Practice Makes Perfect:</b> -Reiterating on exponential models -Spend time practicing presentations -Explaining the Expectations for Presenting to the School Board Officials	<b>Assessment: Presentation to the School Board</b> -Presenting information about the water and how that can create problems within the community, essentially the		

<p>presentation as a class and look for the following:</p> <ul style="list-style-type: none"> <li>-What we can do better as a class?</li> <li>-Was the topic clear that we were trying to embrace?</li> <li>-What will we do differently when we present to the school board?</li> </ul>		<p>dependent aspects (i.e. inhabitants- humans as well as other species).</p> <ul style="list-style-type: none"> <li>-Modeling these problems with exponential functions and PowerPoint to display the seriousness of problem now as compared to the past.</li> <li>-I will videotape once again</li> <li>-Have students write a two paragraph reflection highlighting: <ul style="list-style-type: none"> <li>-What they thought they did well as a class?</li> <li>-In the future what they could improve on?</li> <li>-What did the overall unit allow them to understand?</li> </ul> </li> </ul>		
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## Concept Map



## Authentic Assessment

The *Monitoring the Inhabitants at the Rouge* unit will be the launch into a potentially powerful culminating project. The unit begins by having students learn about exponential growth and decay functions within mathematics to build on the idea of mathematics being used outside of the classroom. Because many students see mathematics as a discipline that cannot be applied to real-world situations, but instead only to specific problems, they tend to dismiss the idea of learning it. I however want to place the spark back in their eyes for math, by not only explaining it thoroughly, but in a way that makes sense and is applicable to their lives.

Since one of the ways to get to know and understand someone, is to take a walk in their shoes, to explore what my students know and love, I explored their community. Communities are not only indicators of what others values and traditions may be, but are places you can subconsciously learn a lot from. Because a sense of place can serve a deeper meaning than just a location, one way to effectively make education applicable, is to implement place-based education into the curriculum. Place based education serves on the basis of exploring a surrounding community's heritage, landforms, obstacles, and other previously overlooked aspects and combining them with classroom disciplines to explore important issues within the community. (Demarest, 2015)

Within Detroit Institute of Technology, ninth grade students are grappling with the essential question "What role could the Rouge Park play in making Cody-Rouge a more just community?"

Because this question is not one that can be answered easily, I decided to integrate the subject areas of English, Science, and Social Studies with Mathematics to give my students the ability to see the overlap needed, between the disciplines, to allow us to explore this question. By not having one certain discipline to account for, it allowed the students to bring in their own insight

which promoted more learning than simply thinking of the subject matters as separate. Although the main focus question was “how are exponential functions and just communities related?” in order to answer this question we had to break down what a community was as well as what it meant to be just. In doing so, students were able to have a better understanding of the complexity of the essential question. Instead of simply learning from a book or me, through the use of discussions, research, and direct lessons my students were not only challenged to see how exponential functions can be used to display findings within their community, but also how important voicing your thoughts and feelings can be.

Since no one is going to push you to want better for yourself, you have to be willing to see that you deserve better. While looking at how to make Cody Rouge a more just community, students were able to analyze how the ecological issues that are occurring within their community aids in their ability to prosper. Since we are all interdependent upon the society we live in, if one aspect is harmed then we are all harmed, instead of simply learning about the issues within their community and not doing anything about them, we must take the necessary steps to ensure change.

The students will be challenged to stand up for themselves by demonstrating their findings from their collected water samples, research about the surrounding community, and class discussions at a school board meeting. Because the school board generally make most of the decisions concerning the schools, voicing their concerns to the administration about their communities shows that they want better not only for themselves, but also for the people within their community.

## **Lesson**

In order for this to occur, the students will be surveyed to figure out which the four ecological/environmental issues that they would like to further explore: water, number of inhabitants, surrounding neighborhoods, or factories. As I receive the students' choices by doing an exit ticket, I will also have a hand in the decision process about who get to explore what issues. Since each student has a different readiness level, I would like to ensure that there aren't all people of the same level within one group.

After students are placed within their groups, they will then be given the choice of who will have the role of instructor, creator, presenter, and social media person. This serves to promote different learning intelligences as it challenges each student in a different way. Within the role of an instructor, their job is to guide their group member in the right way to complete the PowerPoint, that student will have a leadership position and is typically an extrovert. The role of creator refers to the person who is in charge of creating the PowerPoint with the help of their group members, this role is typically for someone who is an introvert as they would rather have minimum speaking roles. The role of presenter is for someone who enjoys the spotlight and has no problem taking charge. Having the role of social media person is making sure that the event many people are informed about the upcoming event. As the event approaches, the social media person sends out reminders to people within the community informing them of nearing of the event. During the event the job of the social media person is to capture photos as well as quotes from the presenters.

### **Common Core/Michigan Standards:**

K1.8

Apply social studies concepts to better understand major current local, national, and world events, issues, and problems

## P2.3

Know how to find and organize information from a variety of sources; analyze, interpret, support interpretations with evidence, critically evaluate, and present the information orally and in writing; report investigation results effectively.

## P3.2

Deeply examine policy issues in group discussions and debates (clarify issues, consider opposing views, apply democratic values or constitutional principles, anticipate consequences) to make reasoned and informed decisions.

## E1.2C

Develop an understanding of a scientific concept by accessing information from multiple sources. Evaluate the scientific accuracy and significance of the information.

## CCSS.ELA-Literacy.SL.9-10.4

Present information, findings, and supporting evidence clearly, concisely, and logically such that listeners can follow the line of reasoning and the organization, development, substance, and style are appropriate to purpose, audience, and task.

## CCSS.ELA-Literacy.SL.9-10.5

Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

**Lesson Objectives:**

- Students will be able to work with others to analyze information from the internet for accuracy.
- Students will be able to creatively create a PowerPoint that models their understanding of their ecological issue

- Students will be able to use their social skills to work with others
- Students will be able to apply what they learned from the guest speaker into their PowerPoints
- Students will make strategic use of digital media within their presentations to add to their presentation as a whole

### **Assessment Rubric:**

Students will be given an individual grade as well as a group grade. The assessment is heavily based on value of the information since each person had a part in helping to create the PowerPoint, while the roles are of less value. Since each student chose their part, reflecting on “how they felt that they did within their specific role” will take place after the school board meeting. It will be a one paragraph reflection that will allow each student to think about what went well as well as what could be changed in the future. The grade of the reflection will be based on how much effort was put into the response.

#### **Group Grade:**

Presentation (PowerPoint): 1 2 3 4 5

Value of Information: 1 2 3 4 5 6 7 8 9 10

Evaluation of Partners/Group Members: 1 2 3 4 5

Overall Total: \_\_\_\_\_/20

Feedback/Comments:

**Individual Grade:**

Reflection: 1 2 3 4 5

Role (e.g. Creator, Presenter, Social Media, Instructor): 1 2 3 4 5

Overall Total: \_\_\_\_/10

Feedback/Comments:

Reference:

**Demarest, A. (2015). *Place-based curriculum design: Exceeding standards through local investigations.***

December 15, 2015

Welcome Cody Rouge Families,

My name is Jada Rachal and I am the ninth grade math teacher here at Detroit Institute of Technology. With the new school year just beginning, I wanted to take the time to inform you about what will be occurring within your students' math class for the next four weeks.

As the students' segue from middle school to high school, they are not only being challenged to figure out who they are or what they are intending to become, but in the process asked to be a leader within their community. One of the way we as educators of D.I.T. seek to challenge our students not only academically, but also intellectually is by making them aware of the ecological issues that are abundant within our world. Although the media consistently makes remarks about the ecological problems that our world faces as a result of the negligence of our human species, we may find trying to save the entire world is nearly impossible, however starting at a smaller scale and building our way up is the impact our society needs to make a difference.

Since the Cody Rouge community was once renowned for its prosperity within the Detroit area back in the 1960's, seeing the way it has evolved is at the heart of our focus. Because the only way to understand the current issues of today is to take a step into the past, the purpose of the upcoming unit titled *The Distribution of Growth: Monitoring the Inhabitants at the Rouge*, is to allow students to use the concepts within mathematics to explore the essential question of "What role could the rouge park play in making Cody-Rouge a more just community?" In doing so the students will be able to see how the subject areas of Math, Science, English, and Social Studies can be interrelated to solve a common problem within their community.

Instead of the culminating project being seen as just a project within the classroom, each week students will be given the necessary tools to help prepare them for the overall outcome of the unit: presenting their findings in front of the school board. This will allow students to get an understanding that their voice does matter and the issues that they face within their community can be changed by standing up for themselves. Prior to giving the big presentation students will deliver their findings in front of the school on January 12<sup>th</sup> at 12:15p.m., while the school board presentation will occur on February 2<sup>nd</sup> at 1:00 p.m. at the Board Office. Since this is a big

presentation that may take many students out of their comfort zones, as a way to ease their stress for the big day, your student will need to practice their presentation at home, so I will be encouraging them to rehearse in front of their friends and families. Although the majority of the work going into this unit will be completed in class, supporting our class in any way you can is very much appreciated. If you are able to attend either of the conferences, the students and I would be glad to have you and your support. Since you have had a hand in shaping the pupils that now sit before me, I would like to share with you my love for your students and the Cody Rouge Community.

If you have any comments, questions, or concerns, please feel free to contact me at 734-555-1010. Thank you for your time and support, I look forward to seeing what this semester brings.

Sincerely,

Jada Rachal

**Type of Instruction:** Direct

**Title:** Exponents and Introduction to Exponential Growth Functions

**Grade Levels:** 9-12, Algebra I

**Duration/Length:** 45 minutes, two class periods

**Brief Overview:**

The focus of this unit is on how students can recognize, apply, represent, and analyze exponential functions in relation to their essential question at DIT. Since students are asked “What role could the Rouge Park play in making Cody-Rouge a more just community?” understanding how the concept of exponential functions can transfer from the classroom to a real world experience is key. The lesson begins with students reviewing the previous concepts of linear and quadratic functions in order to later compare them to exponential functions. The unit proceeds with students learning about the two different types of exponential functions (exponential growth and exponential decay) and the ways that they can be distinguished amongst real world problems/experiences.

**Lesson Objectives:**

- Students will be able to identify, write, and solve problems within the concept of exponential functions
- Students will be able to distinguish between linear, quadratic, and exponential functions
- Students will use exponential growth models to solve real-world problems

**Common Core/Michigan Content Standards:**

A3.2.1-Write the symbolic form and sketch the graph of an exponential function given appropriate information

A3.2.4-Understand and use the fact that the base of an exponential function determines whether the function increases or decreases and understand how the base affects the rate of growth or decay.

A.3.2.5-Relate exponential and logarithmic functions to real phenomena, including half-life and doubling time.

CCSS.Math.Content.HSF.IF.C.7

Graph functions expressed symbolically and show key features of the graph, by hand in simple cases and using technology for more complicated cases.

**Materials:**

- Guided practice sheet
- (20) Scrap sheets of paper
- Graphing Calculators
- Overhead Projector
- Algebra One Math Books

**Introduction:**

Since this unit will occur within the beginning of the school year, with students trying to get back into the swing of things, its essential that I have an idea of where my students are in relation to one another. In order to do so, I have created a pre-assessment of four review problems that

encompass concepts that were previously taught to them, that align and are necessary for my upcoming lessons. Although these problems will not be graded, the data that they provide will help to determine the structure of my class. The problems will review linear functions ( $y = mx + b$ ), quadratic functions ( $ax^2 + bx + c$ ), and exponents ( $y = a^x$ ). Because these functions will show up multiple times within their high school careers and further on, if they plan on becoming engineers, keeping them fresh and alive within the minds of the students allows them to easily distinguish one function from the others.

Once students enter the classroom, on the board they will find instructions as followed:

### **Agenda**

(8-10 minutes) Once students enter the classroom they will report to the front table to...

1. Sign in for attendance
2. Pick up the handout titled *Warm-Up: Review Problems* and our class syllabus and return to a seat of your choosing to complete the four review problems.

Transition: “Hi students you will be given approximately 8 minutes to complete the four problems and once you are finished raise your hands and I’ll come by to pick them up from you. Don’t rush take your time, your understanding is very important to me. I’ll check in with those of you that are still working around minute 6, to see whether or not we need additional time. For those of you that finish early, read through the class syllabus to make sure that everything is clear and understandable.”

### **Engage:**

(10-15 minutes) Once the time allotted for the pre-assessment is completed, students will partake in an activity where they will serve to guide the initial point of the upcoming lesson. By knowing how well they understood the activity I will know how in depth I need to go with directly instructing them later.

To incite interest into the minds of my students I will give each of them a blank piece of paper without speaking, followed by directions that must follow listed on the overhead projector. Since students tend to become suspicious when the teacher doesn't give verbal instructions, but rather relies on nonverbal cues, it alone will cause them to wonder. My plan is to have students actively be involved in this lesson since it will be the starting point for lessons to come. While the students are completing the next activity I will use this time to look at their review problems in order to see each of their readiness levels.

The steps of the lesson will go as followed:

1. Start by looking at the number of rectangles you have when the paper isn't folded. Take out a piece of paper and write this number down.
2. Fold the given piece of paper in half hamburger style.
3. How many rectangles do you have now? Record this number.
4. Fold the paper in half once more.
5. How many rectangles do you now have? Record this number.
6. Fold the paper in half once more.
7. How many rectangles do you now have? Record this number.
8. Fold the paper in half for the last time, if you were to keep this procedure going, what can you conclude about the rectangles? How many would there be if you were to fold the paper a total of twenty times?

### **Explore/Enable/Explain**

Once the students have completed their folding with no verbal instruction from me, I will then ask them to turn and talk to a partner to do a think-pair-share for thirty seconds modeling the results that they found from the activity. This will allow them to display their findings to others while at the same time checking to understand whether they themselves got the bigger picture of the activity different from simply folding paper.

(10-15 minutes) After the think-pair-share we will come back as a class to discuss and I will ask them “What are two things that them and their partners noticed about the number of folds and number of rectangles?”

I will wait for responses such as the initial rectangle shape decreased as the number of folds increased, which displays that as you increase the number of folds the number of rectangles also increases. The students may not be able to tell me two things so I may have to reword the question to ask “So is this relationship a direct relationship or indirect relationship? Does the number of rectangles depend on the number of folds?”

I will wait for responses such as yes, in order to get more rectangles, you have to fold more.

Transition: “So since there is a direct relationship, the first fold creates two rectangles, the second fold creates four rectangles. If the paper is folded a third time it will create eight rectangles, can anyone tell me how many rectangles will be formed on the fourth fold?”

Answer: Sixteen. “Everyone take out a piece of paper, you will want to take notes. Let’s create a table to model what we have found from our folding activity (draws table on the board). Looking at the table below, a pattern develops, as each fold occurs there is a double in the number of

rectangles, this can be displayed by using the following formula  $y = a^x$ , which is an exponential function. The base in our case would be a, while the exponent would be x.”

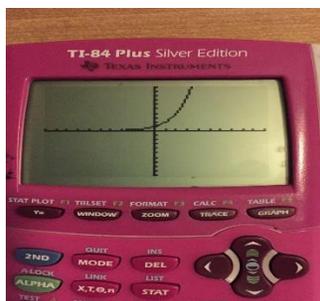
Number of Folds	0	1	2	3	4	5
Number of Rectangles	1	2	4	8	16	32

“Since our base is an independent factor that remains constant, while our exponent changes, the rectangles doubling has been a consistent factor throughout the whole activity, so we can easily make two our base, while our x is dependent on the number of folds. For instance if we were to fold two times our equation would be  $y = 2^2$ , which would equal four. However if we were to fold three times our equation would be  $y = 2^3$ , equaling 8.”

(15 minutes) “I would like for everyone to stand up and I need fifteen volunteers.”

Since I would like for students to have an additional visual understanding outside of the calculator and table, I want them to be able to visually see an exponential function, so what better way than having them participate. Students will be asked to be “rectangles” or the outputs of our class graph. Because we are limited on space, within our “number of folds” or inputs we will only go up to three.

Now that students have made their own graph we will also use the table we have created on the board to input our points into the calculator to form a function and to see if our account was accurate. If we used the equation  $y = 2^x$  our graph should look something like this:



Transition: “How does this compare to the graphs we have previously seen in linear functions and quadratic functions?” Does this graph remind you of any specific graph?”

(Calls on Timmy)

Timmy’s answer: This graph looks like a mixture of both a linear and quadratic function.

(20 minutes) “Ok. Nice observation, it does, but with exponential functions they not only seek to show you that something can double, but also the exponential growth of money, interest, and even bacteria. So now that we have a feel for exponential functions, specifically exponential growth functions, let’s see how they can be used to model real world phenomenon.”

Since our previous equation of  $y = a^x$  is just one form of an exponential growth model another equation for an exponential growth model is  $y = C(1 + r)^t$ . The C represents the initial amount, while the t is the time period, (1+r) is the growth factor, and r the growth factor.”

“Let’s do an example regarding money, everyone likes money. Don’t we?”

Example 1: Let’s say you have \$500 in an account that pays 7% annual interest compounded yearly. What is the account balance after 6 years?

“Well we should first start of by using our exponential function equation  $y = C(1 + r)^t$ . Our c in this case would be the initial amount which is what Simon?

Simon's answer: \$500

"r in our case would be the 8% but since we want the percentage into a decimal it has to be .08."

The "t" in our case would be 6, since it's over the course of six years. By using our known numbers, we can seek to find our unknown. If we substitute everything in our equation becomes  $y = 500(1 + .08)^6$  which equals 793.4371615. So our balance after 6 years will be about \$793.48.

Now let's graph this on our calculators to see if it represents the same thing and surprisingly it does. But how?

Unlike quadratic and linear functions where there are specific criteria that helps to distinguish them from all other functions exponential functions are a little less obvious, however since the goal was for students to get their feet wet, I will later explore with them the different aspects of exponential functions specifically decay.

### **Enact/Evaluate**

Throughout the lesson and while students are doing their homework I will be walking around to assess their understanding. After completing the lesson students will be given a guided practice problem that I will use as an exit card to see whether they have grasped the initial concept of exponential growth. Based on the students answers I will be able to assess did they understand the concept or did they simply get through it. Since our class time is only 45 minutes long, it will take two class periods to complete exponential growth, but after that second day that's when I will have students complete the exit card. Once the students have completed the exit card on the second day, if there is enough time they can start to work on their homework. Since the exit card will serve as an indicator of their competence within exponential growth, students will be given

three problems for homework termed: mild, medium, and hot. The temperatures represent the complexity of the problem, so if students feel that they can only do mild, then they only do that one, but if the students understand the first level they will be advised to continue on. Their work will be collected the next day and graded on accuracy, as compared to whether they completed all of the problems or not.

### **Extend:**

The concept of homework will be used in order for students to check their own level of understanding. Since the lessons on exponential functions will primarily be direct instruction followed by group assignments and/or individual work, after looking at the students understanding of lessons that they should have learned previous to exponential functions I will be able to conclude how to structure my homework expectations. If I find that majority of students are not up to par on the basic operation skills, personally checking their homework will serve as a guide to keep them on track. In doing so it will allow students that enjoy doing homework to continue to practice the concept and get better, while students that are behind can catch up and have the security that they aren't being judged or ridiculed for not being where their peers are. Homework in this sense acts as a guide to making sure that they understood the concepts in class, if they aren't able to understand then they know that they need to meet with me in order to gain a better understanding.

### **Differentiation:**

Throughout the lesson I have not only used direct instruction, but I have allowed the students to be engineers of their own learning. They were given an activity that was not only engaging, but was one that caused them to use many of the multiple intelligences such as: spatial when they

were folding the paper and when we created a graph of our own, visual when we created the data table and used the calculators, and logic when I dispersed challenging questions that caused them to think outside the box. Students also were able to work in pairs to discuss what they found from doing the activity which is when interpersonal intelligence was used. By starting off the concept by grasping their attention with something that they could do easily, it aided in their ability to want to see where the lesson was going. Instead of teaching at them the whole time, I used a combination of instructional techniques, however for the objective of the lesson, direct instruction was the one I suited to be most fitting.

### **Reference**

Paper folding and exponential functions. (2008, January 29). Retrieved December 16, 2015, from <http://samjshah.com/2008/01/30/paper-folding-and-exponential-functions/>

Name:

Date:

### Warm-Up Review Problems

1. Given the equation  $y = 3x + 2$  determine whether it is a straight line or curve line and then draw a graph modeling this equation. (Hint: If you are unsure as to how to draw the graph plot the points on a table first)
2. Given the equation  $y = (x + 1)^2$  determine whether it's linear or quadratic and then draw a graph modeling this equation.
3. What is an exponent? What are they used for?
4. Is  $y = 4^3$  the same as  $y = 3^4$ ? Explain.

Name:

Date:

### Homework Problems

Mild: Identify the equations as a linear growth model or exponential growth model.

- a)  $y = 5x + 2$
- b)  $y = 12 + 5^x$
- c)  $y = 2x$
- d)  $y = 2^x$

Medium: The equation  $y = 4^x$  is an exponential growth model. Copy and complete the table.

x	0	1	2	3	4	5
y	1	4				

Hot: The population of babies born in Detroit in 2015 was 250 per neighborhood due to the increase of jobs. They project that we will continue to grow exponentially at 8% over the course of the next three years.

- a) Write a model for the population of babies during the next three years.
- b) Find the population of babies at the end of the three years.

**Type of Instruction:** Direct

**Title:** Exponential Decay Functions

**Grade Levels:** 9-12, Algebra I

**Duration/Length:** 65 minutes

**Brief Overview:** The focus of this lesson is to allow students to see similarly to being able to grow exponentially, you can also decay at a similar rate. Because nothing in our society remains static, explaining this concept will help students to see the way Detroit has evolved from a prosperous city to what it now displays. Being able to use the exponential function and relate it to what students already can see within their community is the sole purpose of this lesson.

**Lesson Objectives:**

- Students will be able to identify, write, and solve problems within the concept of exponential functions
- Students will be able to distinguish exponential growth models and exponential decay models
- Students will use exponential decay models to solve real-world problems
- Students will analyze why something decays instead of prospers

**Common Core/Michigan Content Standards:**

- A3.2.1-Write the symbolic form and sketch the graph of an exponential function given appropriate information
- A3.2.4-Understand and use the fact that the base of an exponential function determines

- whether the function increases or decreases and understand how the base affects the
- rate of growth or decay.
- A.3.2.5-Relate exponential and logarithmic functions to real phenomena, including half-life and doubling time.

**Materials:**

- Exponential Decay Homework Activity
- (20) Miniature white Boards
- (20) Markers
- Overhead Projector
- Do Now warm-up activity

**Introduction/Engage:**

(10 minutes) Upon arrival students will look at the agenda listed on the board telling them grab a white board and marker before taking their seats to complete their Do Now. There will be three Do Now problems that serve as a way to warm-up their minds for math as well as to tell me whether or not the students understood my previous lesson, as they will be problems that encompass exponential growth functions.

As the students are working on their Do Now's I will walk around to answer any questions as well as monitor their efficiency with completing the problems. The problems are coined: Mild, Medium, and Hot as they are a representation of the difficulty level of each problem.

Once students have completed the three Do Now problems I will call for three volunteers to come to the board to complete one of the problems. Since doing something on your own builds a

greater understanding than having someone give you the answer, this is a way for them to display their understanding and for others to check their answers. After each volunteer has completed their problem and went back to their seats, we go over each problem on the board step by step, to allow everyone to instead of simply seeing the answer and writing it down, have an understanding of the answer; for the next concept will allow them to compare exponential growth functions to exponential decay functions.

**Explore/Enable/Explain:**

(15 minutes) Transition: “So remember yesterday when we went over the concept of exponential growth functions using the white paper that we folded in order to see how the rectangles increased? Now we will explore the concept of exponential decay functions. Similarly, to the exponential growth model, decay represents how something has decreased exponentially by the same percent in each unit of time. (Writes on the board) The exponential decay model is  $y = C(1 - r)^T$ , can anyone tell me what the exponential growth model is and what the difference between this model and the model for exponential decay model is?”

Waits for response such as the growth model is  $y = C(1 + r)^t$  & in the decay model there is a  $(1 - r)$  instead of  $(1 + r)$ .

Transition: “I know many of you are probably thinking that the addition of a plus sign shouldn’t make that much of a difference because “t” is the exponent on the outside, but it does. If I were to give you the problem of  $y = 1(2 - 1)^2$  and  $y = 1(2 + 1)^2$ , although the same numbers are used the addition of the addition sign instead causes the answer in the first problem to be what Sarah?”

Sarah: “One”

While the answer in the second problem is what Bob?

Bob: "Six"

"Bob, how did you get six?"

Bob: "Well,  $2+1$  is 3 and  $3*3$  is 6."

"Yes Bob that is true, but it's asking you to square the answer not multiply it. In doing so what's  $3^2$  equal?"

Bob: "Oh, 9"

Exponentially decay models instead of showing interest or how much something can increase, demonstrates how something depreciates over time. Can someone tell me what the word depreciates means?"

Waits for response of something close to diminishes in value over a period of time

(10 minutes) "Since things don't remain the same forever, we can use exponential decay models to see the change from one year to the next. For instance, let's say we bought a 2015 Ford Focus that cost \$18,000. The car's value over each year will be lower due to depreciation. If our car depreciates at a rate of 12% each year, what will be the value of the car in 8 years?"

Using the exponential decay model  $y = C(1 - r)^t$  what is our  $r$ ?  $c$ ? and  $t$ ?

"C" is what our initial amount is,  $r$  is our rate, while  $t$  is the time period"

Well our "r" is the rate our rate is in a percentage, but we must change it into a decimal form, which will cause it to be what Sean?

Sean: ".12"

Yes, and what would our “c” represent Kate?

Kate: “18,000”

Tony, what is the time period we are investigating?

Tony: “The next eight years”

“Using our model  $y = C(1 - r)^t$  we now have everything that we need to solve for our y, so let’s put everything that we know into our equation”

(15 minutes) After modeling the first example with students I will allow them to use the same steps that I did to get to the answer. Instead of simply allow them to go free to complete a guided practice I want to ensure that they have a well understanding. I will do so by giving them two more exponential decay problems, that cover the price of books in the past as compared to today as well as the price of cell phones, and ask that they complete them on their white boards.

“Now using your white boards, I would like for you to use the exponential decay model to solve this problem on your own, once you are finished flip your board over to wait for the rest of your classmates to finish. Once everyone’s board is flipped over indicating that they we are all done, at the count of three I would like you to hold your board up high to reveal your answer and your process of getting there. Ready, set, go!”

The purpose of the white boards is to allow students to independently practice their understanding while at the same time having someone there to guide them if they get the answer incorrect. Because the objective of learning is not only to learn by oneself, if students get the answer incorrect but others get it correct, we will go through the problem step by step to make sure everyone has a clear understanding. I may even allow students that got the answers correct

to explain their process to their classmates as a way to assess whether they themselves know what they are doing. Not only does using white boards assess student's understanding it will also cause them to participate within the activity.

**Enact/Evaluate:**

After completing the lesson, I will devote the last fifteen minutes to asking the students how confident they feel about the information that they were presented with. Although this time period may not allow each student to be able to address what they do and don't understand, as an exit ticket I will have them write how they felt the lesson and white board activity went and what I can change as a teacher to best suit their learning needs. Since this will only tell me what I need to change from now on, to provide an accurate understanding I will have students turn in their Do Now's the next day since its purpose is to reiterate what was previously taught.

**Extend:**

As an extended activity, students will be given a guided practice activity sheet along with a cup holding 50 pennies that gives them a fun way of understanding exponential decay, if they don't already. This activity will be graded on accuracy and completeness as a way to make sure that all of my students' have an understanding of the activity. If I find that many of them are getting incorrect answers, it will tell me what I need to revisit to ensure complete understanding.

**Differentiation:**

My lesson is differentiated in many ways. Throughout the lesson I recapped on different concepts from the past to make sure that students remembered them. Instead of simply talking at them the entire time, to serve the interest of students at this age level, giving them white boards and markers helped them to get involved different from that of just taking notes. Since notes are

an essential part of learning, I did use the white board to write down the different formulas as well as when I completed the questions with students. This type of learning served the auditory learners as well as the visual learners. Because each student has a cell phone, one of the additional questions asked about the depreciation of cell phones. This serves to show them that although this may be a thing that this “in” right now it can be changed over time.

Where I am intending on going in the day following this lesson is looking specifically at the graphs of exponential growth and decay and then integrating one aspect of the Cody Rouge community that we as a class will explore. Although the students may be weary of why are doing so, I will seek to explain it to them, while at the same time allowing them to wonder about what is yet to come.

**“Do Now”**

Mild: Solve  $-5(x - 2) = 15$

Medium: You deposit \$1200 into your bank account that pays 5% interest compounded yearly.

Find the balance for the 4 years.

Hot: Graph the exponential growth function mentioned in “Medium”

## Homework Activity

**ACTIVITY 8.6**  
Investigating Exponential Decay

Group Activity for use with Lesson 8.6

**QUESTION** Can an exponential decay model show a decreasing amount?

**EXPLORING THE CONCEPT**

- Make a table to record your results.

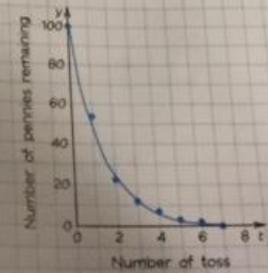
Number of toss	0	1	2	3	4	5	6	7
Number of pennies remaining	?	?	?	?	?	?	?	?

- Place the pennies in the cup. Shake the pennies in the cup then spill them onto a flat surface. Remove all of the pennies that land face up. Count and record the number of pennies remaining.



- Repeat Step 2 until there are no pennies left in the cup.
- Make a scatter plot of the data you have collected.

Number of toss	0	1	2	3	4	5	6	7
Number of pennies remaining	100	54	23	12	7	3	2	0



**DRAWING CONCLUSIONS**

- Describe any patterns suggested by the scatter plot.
- Look at your data and scatter plot to complete the following statement.

Each time the cup is emptied, the number of pennies you remove is about  $\frac{1}{2}$  of the number in the cup.

- Write an exponential equation to model this situation.
- Compare your equations and graphs with those of other groups. Describe any patterns you see.

## Reference

Larson, R., Boswell, L., & Stiff, L. (2004). *Algebra 1 Applications Equations Graphs*. Evanston, Ill.: McDougal, Littell.

**Type of Instruction:** Inquiry

**Title:** What Makes a Community?

**Grade Level:** 9-12<sup>th</sup> Grade

**Duration:** 55 minutes

**Brief Overview:** The focus of this lesson is to allow students to explore what the components of a community are, but specifically what make a healthy, happy just community. Since the focus of the unit is how we can make Cody Rouge a more just community, becoming knowledgeable about the fact that there are many communities that are different from our own can allow us to bring into perspective how these communities are thriving in ways we could never imagine. As we continue to be so focused on technology and other advancements, other societies such as the Ladakh people rather enjoy each other and their home lives, which can be more enriching than focusing on the next best thing. In this case you will never have to worry whether people or things are going to steer you wrong for you have known them your entire life.

**Lesson Objectives:**

- Students will explore societies that are different from their own
- Students will identify how the people of Ladakh have prospered over the years in spite of their financial circumstances
- Students will be made aware of the three components of a community: just, inclusive, and sustainable

- Students will be challenged to see how the values that Americans have can be both assets and destruction for the society

**Common Core/Michigan Standards:**

K1.8

Apply social studies concepts to better understand major current local, national, and world events, issues, and problems

CCSS.ELA-Literacy.SL.9-10.1.c

Propel conversations by posing and responding to questions that relate the current discussion to broader themes or larger ideas; actively incorporate others into the discussion; and clarify, verify, or challenge ideas and conclusions.

CCSS.ELA-Literacy.SL.9-10.1.d

Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented.

**Materials:**

- 2 short articles, one about the Black community and their values, the other about people from Ladakh and their society and values
- Guided Practice Sheet
- Computer for Ted Talk
- Do Now warm-up activity

**Introduction/Engage:**

(5-7 minutes) Upon arrival students instead of being given math problems to solve, on the board students will find three questions that are vague yet they encompass so much complexity that it causes them to have to pull from their prior knowledge. Since we are now leaving the concept of exponential functions and segueing into the next part of our intended unit, the questions are related to what we will be focusing on during this week: community. At the beginning of the year, students went on a walk in the park at the Cody Rouge Park that allowed them to explore aspects about the park that are often overlooked. Since the ninth grade essential question is “What can do to make Cody Rouge a more just community?” we first must know what the term community entails. Because the term ‘community’ is so broadly used within our society, by breaking down the components within community we will be able to see ways that we can make it more just. By giving the students 5-7 minutes to complete the question and using that as the start of our lesson, I will be made aware of their thoughts and feelings pertaining to the term community.

During the time allotted for students to answer the three community questions, I will place a timer on five minutes as a way for them to know that this is a serious topic and I want to monitor their understanding.

Transition: “I know that this is different from our normal Do Now’s, but we are moving on to the next part of our unit. I would like for you all to think about these questions in relation to your own life and jot down any important factors you believe helps you to answer the questions. You will be given five minutes to complete the 3 questions, but at around the 4-minute mark I will check in to see where everyone is at and if we need more time. Does anyone have any questions?”

(Waits for any hands to go up) Ok, with that being said at the count of three I would for you to begin on your mark, get set, go!”

**Enable/Explore/Explain:**

(4 minutes) When students have answered the three questions, they will pair up with the person sitting next to them to discuss for two minutes their answers about the three questions. While this is occurring, I will walk around to listen to the thoughts and opinions of my students. Then as a class I will use the method of popcorn to allow people that want to share their answers to share. Since assessing what students know within a context, is different from knowing concepts within mathematics, I will not be so harsh as to knowing the ‘right’ answer, but instead knowing that students are doing their best to understand the topic. Like with anything as time goes on their understanding will also deepen.

(15 minutes) Once those students that want to share have, we will then watch a Ted Talk on “What Makes a Community?” Since this will be the spark to our class discussion, students will be asked to pay attention to how the term community is presented.

Once the Ted Talk is over, I will ask students what they thought about the video as well as Rob’s personal account. Since no one is the same, understanding his outlook of community is just one account, but it should not be evaluated as the only account.

Transition: “Within the video Rob mentions the concepts of sustainability, just, and inclusiveness within a community, can anyone tell me what any of those concepts mean?”

(Waits for response, but receives nothing)

(5-7 minutes) “Ok, so looks like we need to first define these words to be able to build onto the concept of community. I would like for you all to go to the back of the room and grab one dictionary for you and your partner to share. As you are navigating through the dictionary I would like for one of you write down the definition, while the other come partner comes up with a sentence, then switch roles.”

This is a way for them to not only increase their vocabulary, but in the process build up to understanding the term community on a narrow scale.

(2 minutes) As students finish defining the terms I will have them quiz each other by either defining the word or by having one partner say the definition and the other have to use it in a sentence.

This technique can allow students to assess their own understanding without me having to do it for them. However, with our next activity calling for students to use the three concepts as a way to understand the values of different societies, reiterating their meaning to the entire class can help.

After conducting a small discussion about the words, students will count off by two's in order to get into a groups for the upcoming reading. The articles will be used to symbolize the way the Ladakh community is similar/different from an African American community. Since one group will be given information about African American society and the other about people of Ladakh, while reading students will be asked to identify specifically how does the society that they are reading about promote just, sustainable, and inclusive communities.

Coming back as a class we will compare the two societies and seek to answer the previous question, by going around the circle as a way for everyone to voice their input. In doing so no

one is exempt from speaking, allowing the students that didn't read one reading to be able to have an understanding of what that reading was truly about.

### **Whole Class Discussion:**

Since there is no way to depict the way the questions to the answers will go, after revealing one by one as a big group we will seek to explore our initial question "What makes a community?" by having the students add input from their personal lives as well as the lives of the Ladakh people. The specific questions we will explore are:

- If you were to tell someone who wasn't in this class about the people of Ladakh, what would you use to compare the two?
- How are communities a reflection of values?
- What would you add to each community to make it more just?

### **Enact/Evaluate:**

As students' understanding begins to flourish, they will then be asked to return back to their seats and flip their Do Now's over in order to complete the sheet titled *Change of Mind*, this will symbolize how as they have been provided with insight from the readings as well as from the Ted Talk, their understanding of What Makes a Community has not only been altered, but has become more complex. The *Change of Mind* activity has the exact same questions as the Do Now, but since it was completed before the lesson the students only were able to rely on their previous knowledge. Having the students complete and turn it in after the lesson is over allows me to see what they initially said to compare it to their new understanding.

Since there are many things that go into making a community what it is, making them aware of the complexities will allow them to appreciate the different aspects within their own community.

Had it not been for the complexities their lives would be different from what they typically display today.

**Differentiation:**

There way I differentiated my lesson so that all students could learn is by using the Ted Talk for my auditory learners, inquiry questions for my logical learners, and reading of the articles for my visual learners. Since the subject of the readings were about African Americans, it gave students something that they could relate to, but also seek to get away from.

**References**

5 Ways Materialism Is Killing The Black Community - Urban Intellectuals. (2014, January 15).

Retrieved December 17, 2015, from <http://urbanintellectuals.com/2014/01/15/5-ways-materialism-killing-black-community/>

Peaceful Societies. (n.d.). Retrieved December 17, 2015, from

<http://www.peacefulsocieties.org/Society/Ladakhis.html>

Name:

Date:

Do Now

1. Based off the walk in the park, how does a place relate to community?
2. Who belongs to a community? And why?
3. What is a community?

Name:

Date:

*Change of Mind*

4. Based off the walk in the park, how does a place relate to community?
  
5. Who belongs to a community? And why?
  
6. What is a community?

# Peaceful Societies

## *Alternatives to Violence and War*

### Ladakhi

**Location.** The people of Ladakh live in very high mountain valleys between the Himalaya and Karakoram ranges in the northern Indian state of Jammu and Kashmir. Ladakh is divided into the primarily Muslim district of Kargil and the primarily Buddhist district of Leh, which is the focus of most of the literature on Ladakhi peacefulness. The 2001 census counted 117,000 people in Leh District. The Kargil District is also considered to be quite peaceful, according to a [report in 2012](#).



Ladakhi Woman

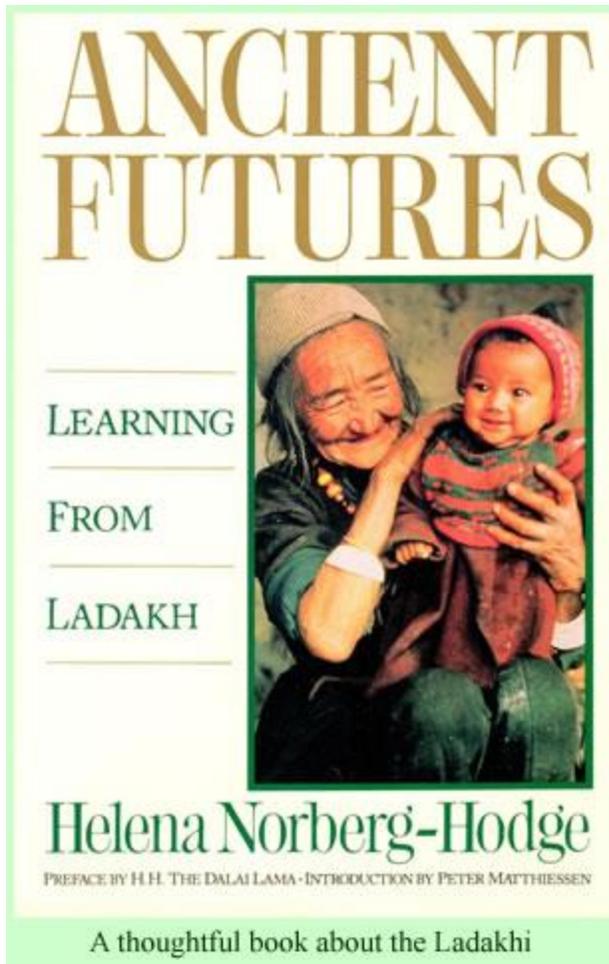
UN photo / F Charton from Fotopedia, Creative Commons license

**Economy.** The Ladakhi economy has traditionally been based on small farms and on herding, but since the 1970s, tourism and other outside sources of income have also become available. These economic changes have tended to weaken traditional patterns of village cooperation, causing difficulties for farmers who have a hard time paying for assistance.

**Beliefs that Foster Peacefulness.** While some scholars such as [Harvey \(1983\)](#) argue that Ladakhi peacefulness rests primarily on inner resources and calmness, personal characteristics that are fostered by their Buddhist beliefs, [Pirie \(2007\)](#) disagrees. She maintains that the monks and religious practices in the villages are quite disconnected from the political, social, and moral order. In the village she studied, the Ladakhi strongly disapproved of public displays of anger, disharmony, or discontent. They idealized a peaceful, united, harmonious community, free of conflict and anger. Conflict, they felt, is a manifestation of a society that is degenerate—though they recognized the failings in their own community.

**Avoiding and Resolving Conflict.** One feature of their social life that often serves to prevent conflicts from occurring is that third party observers to economic dealings—people who just happen to be nearby—will usually act as arbiters, intervening to assist two parties when they make an agreement. When conflicts do arise between villagers, they are resolved by the elected head of the village, called the *goba*, who listens to both sides of the case and makes a decision as to which of the parties may have to pay a fine or make restitution. If the *goba* can't resolve a conflict, the matter is passed along to a *yulpa*, a meeting of the village men. While they may vote, they rarely do so, since they are normally able to reach consensus decisions. Part of their reason for trying to settle disputes locally is their desire to avoid outside interference in village affairs. The people of Zanskar, a valley in Ladakh, are especially eager to settle disputes among themselves, according to a book published [in 2015](#).

**Gender Relations.** Husband and wife relations are characterized by cooperation and affection. Though the husband is usually the dominant partner, the couple may easily separate and divorce. In traditional Ladakhi society the oldest son would inherit the house of the parents; younger brothers, in order to gain a share of the inheritance, could also marry the wife of their oldest brother. Each man was equally responsible for all of the children, jealousy was rare, and the adults loved all the children equally. The practice of polyandry, and management of the household economy, gave a lot of power and satisfaction to the wives. But traditional patterns of polyandry have mostly disappeared in Ladakh today, and women are being marginalized by modernization. That said, however, the reporter for a news story [in 2012](#) observed a very strong sense of gender equality and strength of the women in remote villages of Ladakh and another [in 2015](#) described a woman who founded a trekking business staffed by rural Ladakhi women. Furthermore, Ladakhis have a long history of harmonious, peaceful inter-faith marriages and good community relations between Buddhists and Muslims, a tradition, however, that is fraying as articles [in 2011](#), [2012](#) and [2014](#) have suggested.



**Raising Children.** Ladakhi babies are cared for constantly and lovingly, mostly by the mothers but also by others in the family. As children grow older, they are involved with all activities and are rarely separated from the family. Adults are infinitely patient with children, suffering their interruptions without complaint. Despite the constant affection and attention that children receive, they do not appear to become spoiled. They grow up as part of a giving and receiving system of human relationships, and while they are still quite young they will share their own food spontaneously with their peers.

**Sense of Self.** The Ladakhis normally seem to be irrepressibly happy—they do not retreat into themselves due to sorrows, fears or insecurities. They have a strong sense of self and a deeply-rooted self-respect, combined with a noticeable lack of pride. They also have a strong sense of their place on earth, a bond developed through daily contact with their natural environment, and an equally firm feeling for their place in human society. Their traditional society has consisted of extended families, small, interconnected communities, and mutual interdependence. Their contentment and peace of mind do not rest on external circumstances, but rather on their own inner resources and calmness.

**Cooperation and Competition.** Because of the harsh mountain environment of Ladakh, helpfulness and cooperation among families is essential for survival. The Ladakhis establish cooperative groups called *phasphuns*, in which several unrelated families maintain alliances of friendship, cooperation, and helpfulness. If both parents in a family would die, other adults in the *phasphun* would adopt the young children. If a family separates, the other members of the *phasphun* make a fair division of the property. The families in the *phasphun* usually live in the same village, participate in group religious ceremonies, and worship a common god, though they are not necessarily neighbors and are often not related. The mutual cooperation is carried out under the aegis of the ruling deity, who provides the link for the six to ten families in the group.

**Social Control.** When individuals violate social norms or threaten the life of the community, the ultimate form of social control is ostracism, though it is very infrequently used. If the person does not cease the offending behavior, the lamas may stop serving the religious needs of the offender, which is highly demoralizing to the Ladakhis. No one may visit the offender; no one will help the offender or the family in any endeavor; no one offers or accepts food from the offender; and there are no possibilities of marriage alliances with other families. This harsh punishment can only be relieved when the offender seeks the pardon from the village civil and religious leaders.



Map of Ladakh  
Based on Aggarwal 2004

### **Strategies for Avoiding Warfare and Violence.**

The Ladakhis are known for their patience, tolerance, honesty, and truthfulness with one another. They similarly tend to deal with outsiders in a straightforward, peaceful manner. However, the [massive presence](#) of the Indian Army in Ladakh may harm the traditional nonviolence of the district.

**But How Much Violence Do They Really Experience?** The Buddhist Ladakhis are normally very peaceful: major crimes are unknown, aggression and arguments rare, and traditional social systems minimize deviant behavior such as lying, stealing, and back-biting. One long-time observer and resident in Ladakh, Helena Norberg-Hodge, indicates that, in one village, people told her that “there has been no fighting in the village in living memory.” (1991 p.46) The 1979 political division of Ladakh into the Muslim Kargil and Buddhist Leh

districts, plus the subsequent insensitivity in handling Muslim and Buddhist difficulties, led to some inter-community Muslim-Buddhist violence between 1989 and 1993. Since then the rifts appear to have healed. An article [in 2014](#) analyzed in more detail the strife between the Buddhist and Muslim communities in Ladakh.

### **More Resources in this Website:**

- The excessive consumption of [alcohol](#) threatens Ladakhi society.
- A [tourist festival](#) celebrates traditional Ladakhi harmony and peacefulness.
- The intangible cultural heritage of Ladakh is being preserved by [museums](#).
- Ladakhis are taking a strong interest in utilizing solar energy, as articles [in 2013](#) and [2014](#) demonstrate.
- A Ladakhi man tried to counteract the effects of global climate change with [artificial glaciers](#), but another man develops [ice stupas](#) instead.

**Sources in Print:** Aggarwal 2004; Harvey 1983; Hay 1999; Mann 1972, 1986; Norberg-Hodge 1991; Pirie 2007; Rizvi 1996

**Sources on the Web:** [Official Website of the District of Leh \(Ladakh\)](#); [Wikipedia \(English Version\)](#); [The Ladakh Project](#); [Facebook Ladakh page](#)

### **Updates—News and Reviews:**

#### **Selected Recent Stories**

[December 17, 2015](#). [Boycott in Ladakh](#)

[September 10, 2015](#). [Ladakhi Village Electrified](#)

[May 7, 2015](#). [Progress among the Ladakhis](#)

[March 26, 2015](#). [Is Baltistan Peaceful?](#)

#### **All Stories**

All stories in this website about the Ladakhis are listed in the [News and Reviews Subject Listing](#)

# 5 Ways Materialism Is Killing The Black Community

By Furious -  
January 15, 2014  
1  
865

There is no doubt the black community is full of materialistic consumers. Despite being only 13% of the population in the United States, we are large consumers of smart phones, flat screen televisions and other non-essential gadgets and gizmos that give us "status and credibility" in our circles. We spend over \$1 trillion dollars annually on our basic needs, but mostly on our materialistic impulses.



It is crazy. We are the most backwards people on the planet, in my opinion. Many say this is because of the conditions we find ourselves in this country are making us this way. Regardless of the reasoning, it is happening, so we need to figure out how to get ourselves out of this hole.

## 5 Ways Materialism Is Killing The Black Community

However, before we discover how we are going to get out of this situation, let's discuss how materialism is killing the black community. Here are my five reasons. I'm sure there are many more and look forward to hearing your take at the end of the article.

### Erosion of the Family Structure

It doesn't take a genius to figure out the more you are into materialism, the greater the need for money. This means we are working longer and harder than ever before at the expense of family time. It doesn't matter if it is a single or two household families. Everyone is working and spending less time with the children. To compensate for this, we are just buying them things and turning them into materialistic consumers of the future.

## Creating Spoiled, Entitled Children

Perhaps most important result of our materialism, we are creating rotten, spoiled children. Seems like the more monetary ladders we climb, the more our kids develop an insatiable appetite for more and more material goods. Everything from smart phones, tablets, video games, clothes, shoes, and other assortment of unnecessary mess are included in their basic list of "needs".

It is a shame to monitor some of the social media feeds or talk with kids these days to see how frustrated they are over their parents not buying them the right pair of shoes, the purse, or something else. It is sad, but our community is sick in this manner.

## Creating Children with Delusional Career Ambitions

If you have spent any time in a school volunteering or mentoring and speaking with the children, you will quickly find out the days of career ambitions being doctor, lawyer, business owner are over. Everyone wants to be a famous entertainer, rapper, singer, or sports athlete. It is crazy because i'm serious.

Obviously, this depends on the area you are in and the school, but there is a large segment of our population that is drowning in the materialism hunt. The kicker is no one wants to work for it. They all feel entitled by birth and access because they are special.

## Economic Mis-Direction: Commodities Over Assets

There is nothing wrong with being a consumer, but we are consuming the wrong things. Our materialism has us blinded to the great picture of economics and the importance of sharing the wealth around the community. We just want to buy things that are pretty, carry status and make us feel better. We are purchasing depreciating commodities that are not providing any future economic support for our families instead of assets.

If we were buying assets with this \$1 trillion dollar in annual spending or supporting our fellow black business owners, then our community would be in a great position, but we are not. We are buying depreciating commodities that make everyone else rich and us poor. Something must change.

## Elevating the Wrong Role Models for Our Youth

Role models are very important to every young child and adult. They use to be found in the home, but those days seem to be over for most families. Today, our role models are discovered on television, in social media and are the big ballers in the community. These are the people that have our ideal lives full of every materialist desire we can fix on our minds.

It doesn't matter how these people get their wealth, access or material goods. It just matters that they have them. Many of these people are found in the hip hop community and are not teaching our young people the right morals, values and community minded mentality we need for the future.

**Type of Lesson:** Cooperative

**Title:** The Impact of Voice

**Grade Level:** 9-12<sup>th</sup> grade

**Duration:** 55 minutes

**Brief Overview:** The focus of this lesson is to teach students about the impact of voice. Since the lessons preceding the big presentation act as a learning tool to provide them with insightful information, the task of this lesson is to identify whether or not voice serves a purpose. As the ninth grade students are pondering with the essential question of “What role can the Rouge Park play in making Cody-Rouge a more just community?” In order to answer this question, we must not only explore different aspects within the community, we must also explore our internal thoughts and feelings. Since the community alone cannot advocate for itself, if students intend on creating a just community they must be willing to voice their concerns for their surrounding area, as a way to create change.

**Lesson Objectives:**

- Students will be asked to identify an issue and promote change on social media
- Students will participate within a class discussion that causes them to identify why they believe voice does or doesn't have an impact
- Students will see change occurring as they watch a short clip of students standing up for themselves

**Common Core Standards**

P2.3

Know how to find and organize information from a variety of sources; analyze, interpret, support interpretations with evidence, critically evaluate, and present the information orally and in writing; report investigation results effectively.

### P3.2

Deeply examine policy issues in group discussions and debates (clarify issues, consider opposing views, apply democratic values or constitutional principles, anticipate consequences) to make reasoned and informed decisions.

### CCSS.ELA-Literacy.SL.9-10.1.d

Respond thoughtfully to diverse perspectives, summarize points of agreement and disagreement, and, when warranted, qualify or justify their own views and understanding and make new connections in light of the evidence and reasoning presented

### CCSS.ELA-Literacy.SL.9-10.5

Make strategic use of digital media (e.g., textual, graphical, audio, visual, and interactive elements) in presentations to enhance understanding of findings, reasoning, and evidence and to add interest.

### **Materials:**

- Cell phones
- Computer (to display Stereotypes video)
- Do Now warm-up activity
- White Board

### **Introduction/Engage:**

(5 minutes) Upon arrival on the board students can find their Do Now question that serves to ask them a debatable question “What impact can voice have on your ability to be heard?”

Because students will soon be immersed into an environment where they will have to defend not only their perspective, but also their community, this question challenges them to think about their upcoming presentation and whether voicing their concerns will lead to a change within their society.

(10 minutes) After the students write out their opinion on the Do Now, they will do a think-pair-share where they will be encouraged to share their understanding with a partner respectfully.

Since this question is so debatable I want students to understand that they do not have to agree with everything others are saying, but they must instead respect them. I will serve as a model demonstrating to students the correct and incorrect way to actively listen. Because a big part of who I am comes from my willingness to give others the same respect they give me, I want to reiterate our classroom norms as a way for students to provide themselves with a self-check if they realize they are getting out of line.

### **Enable/Explore/Explain**

(6 minutes) As we navigate from our discussion of classroom norms we will watch a video about stereotypes. This video does not only display the ways in which stereotypes hurt, but the reason it has the biggest impact is because it’s from the standpoint of students. The students on the video voice their outrage with stereotypes as a way to make people aware of how they can make others feel.

Based on the video, students will be asked the question of whether or not they felt the video was impactful and as a class we will create a Venn diagram that has outlooks from the Yes

perspective as well as the No perspective. This activity will allow us to bring up various reasons why we do or do not believe that voice has purpose. Although students already may have their own assumptions they will be challenged to see both perspectives because when I assign them to a certain view they may not be able to defend their initial side.

Students will be given a choice of how they would like to defend their side. This could be creating a haiku, math equation, or concept map to depict the side they are supporting. By leaving their way of defending their side specifically up to them, it gives them the ability to see that in the same way that their voice should matter, their choices also matter.

(15 minutes) As an engaging activity for students they will then use their means of defense within the soldier line. The soldier line is an opportunity for students defend their side, but our way will have an additional twist because of the depictions. Since students creatively built their supporting mechanisms, given one minute they will face someone of the opposing side to defend their argument and once that minute is up, the other person will go. When both sides have both expressed their views the “Yes” line will shift to the right to once again defend their view and the process continues until all of the people on the “for” side have navigated through all of the opponents.