Lesson Idea 3
Not Sweet: Sugar, Slaves, and the Triangle Trade

Grade levels 5 and up

Summary
Through experiencing Bandits & Heroes, Poets & Saints: Popular Art of the Northeast of Brazil, students will learn about the transatlantic slave trade and its relationship to the Northeast of Brazil. Students will also consider the economics and ethics of the early history of the sugar industry and slavery by completing a mathematics worksheet to compute statistics related to the slave trade. Mathematic computations can be used to inform and lead classroom discussion.

Objectives
• Students will understand aspects of the transatlantic slave trade.
• Students will use mathematics to calculate statistics related to the slave trade in Brazil.
• Students will understand and reflect upon the ethical cost of the sugar industry.

About the history of sugar production
Sugarcane was domesticated in Papua New Guinea around ten thousand years ago. People picked and chewed on the raw cane for its flavor and stimulation as sugarcane was thought to have medicinal powers. Later sugarcane traveled to Asia and the Arab world where the process of refining it was perfected. Through trade, it became a commodity in demand and by the 1500s was a sought after “spice.” Christopher Columbus on a voyage into the New World in 1493 planted sugarcane in Hispaniola (now the Dominican Republic and Haiti). From there, the Spanish developed sugar plantations in Jamaica and Puerto Rico, and the Portuguese followed by developing a sugar industry in its colony, Brazil. By the 1560s, Brazil was producing 2,500 tons of sugar annually.

Processing sugar involves transforming raw sugar cane into refined sugar. Historically, cane stalks were cut by hand and transported to a mill where they were crushed between rollers to extract the juice. The juice was then boiled and clarified using a series of large metal pans. Lime juice and ash were added and, as the mixture was transferred from one metal pan to another, it eventually reduced and thickened. The thickened mixture (almost crystalline) was then “cured” by pouring it into a conical mold and placing water on top of the mold to run through the cone. The cured cone of sugar was then shipped.

Through colonization, the Portuguese founded two hundred sugar plantations in Northeast Brazil. Many workers were needed to produce such vast quantities of sugar—enslaved indigenous labor
wasn't enough and this labor source was diminished due to the influx of European introduced diseases. Slave labor from Africa was needed to replace and supplement native Brazilian slaves for the growing sugar industry. Sustaining the sugar industry depended on a human cost.

**About slavery in Brazil**
The slave industry was part of a triangle of transatlantic trade based on supply, demand, and a bartering system. Europe wanted sugar. Brazil produced sugar and wanted cheap labor. Africa desired goods (such as Brazilian tobacco and spirits and European fabric and weapons). African kingdoms captured other Africans through means of warfare to trade slaves in exchange for Brazilian and European goods. Slaves were brought to African coasts to trade for supplies. Slaves traveled to Brazil, sugar went to Europe, and goods went back to Africa.

Once slaves were taken from Africa, they were crowded into holds on a ship. Segregated by sex, each ship might hold as many as 400–500 slaves. It was more economical to crowd ships, despite the risk and financial cost of losing human lives on the journey as the mortality rate was high during the often forty-day journey from Africa to Brazilian port towns. Slaves, according to written records, were given three meals a day and water, were inspected by a doctor, and periodically bathed, but the conditions were unhygienic, very crowded, and often to save space, supplies like water and food were lessened to accommodate more bodies. If a slave made it to Brazil alive, they were shown to prospective buyers in the best condition (bodies were cleaned and oiled with palm oil, they were well fed, and teeth and gums were rubbed with an astringent to make them healthy appearing). Once a ship merchant delivered the slaves to the port markets, slaves were sold at public auction or through private sale directly to plantation owners. Ship owners made a profit per head even after subtracting necessary expenses on the voyage such as a doctor’s pay for medical services en route, food, taxes, and commissions.

By 1798, approximately 40% of Brazil’s total population was enslaved. Slave revolts and rebellions in 1835–1844 resulted in concerns from police and the government about large populations of enslaved and freed blacks rising up against the law and established plantation systems. Support for the abolition of slavery in Brazil gained momentum in the 1860s and in 1871 Brazil passed the “Law of the Free Womb,” freeing from that time forward, the children born of slaves. In 1885, Brazil passed the Sexagenarian Law, freeing slaves over sixty-five years of age. Finally, on May 13, 1888, the “Golden Law” abolished slavery with these simple words: “From the date of this law slavery is declared extinct in Brazil.”

**Materials Needed**
- A map of the transatlantic slave trade
- Facts about the slave trade and sugar industry
- Math worksheet
- Pencils
- Paper
- Calculators
Lesson Time

- One class period for visiting the exhibition *Bandits & Heroes, Poets & Saints: Popular Art of the Northeast of Brazil*.
- One class period to share information about the history of sugar production, plantation slavery, and facts about the slave trade in Brazil for mathematically computing statistics.
- One class period for in class discussion.

Lesson Procedures

**Step 1**
Spend time in the exhibition, and learn about Brazil's African diaspora and slave owning past by sharing context and facts provided in this lesson. Discuss the African impact on Brazilian culture, then discuss the history of sugar plantations in Brazil and how the slave trade worked.

**Step 2**
Use the math discussion handout to compute and analyze statistics related to the slave trade to better understand its scope and impact.

**Step 3**
Use the handout and the discussion questions to talk about slavery in Brazil and engage students to share their opinions.

Questions for Leading a Class Discussion

Portugal abolished slavery in 1761. England’s slave trade act of 1807 abolished the slave trade in the British Empire and in 1833 the Slavery Abolition Act in England made it officially illegal. Slavery was abolished in the United States in 1865. **Why do you think it took so long (until 1888) for Brazil to abolish slavery?**

Slaves in Brazil and elsewhere were handled and treated like livestock not as human beings. **Why do you think slave traders did not consider the Africans they transported (despite doing economic business with many sophisticated African leaders and traders) to be their equals or even human men and women?**

Abolitionists in Europe called attention to sugar consumption and slavery by likening one pound of sugar intake to consuming two ounces of human flesh as a way to get the message across about slavery being used to make a substance people consumed (and consumed a lot). Sugar consumption was high and cost human lives. In 1800s England, the common man ate approximately eighteen pounds of sugar annually and by 1870, the same man ate forty-seven pounds. One of the messages English abolitionists promoted to get the message across that sugar took human lives was “If eight families in England abstained from five pounds of sugar a week, they might save one hundred African lives.”
Would this message make you think twice about using sugar? Why or why not? What would you do to stop slavery in Brazil? What messages would you share to make people think about the “human cost” of slavery?

Approximately 5,000,000 slaves were taken to Brazil by boat and 500,000 slaves were taken to North America. Do you think the history of slavery in North America is more well known and understood than that of South America? Why or why not? Consider how many African lives were lost in transit before ever arriving in North or South America—statistically speaking an additional 15-20% of African captives on each ship died before reaching land. Do you think people account for the African lives lost on the ship in thinking about the number of people enslaved? Why or why not?

How can someone affix a dollar amount to a human life? Do you think money or economics can measure your life? Why or why not?

Slavery created vast amounts of wealth in the Americas which had a huge impact on the overall economy of nations. If slavery hadn’t happened, do you think our society would be different? In what ways?
Math Discussion Handout:
The Slave Trade in Brazil

Complete these story problems, share more context as a group, and discuss this topic further to better understand aspects of the slave trade.

In the 1700s, most Portuguese slave ships brought between 400-500 African slaves to Brazil on each ship in the decks below. Humans were confined into small spaces roughly three feet high on slave ships. Men were in one compartment of the ship, women and children in another. Often the journey from Africa to Brazil (depending on which port they were sailing to) took 40 days. The mortality rate was high—approximately 15–20% of the captives on ships died.

**COMPUTE AND DISCUSS LIMITED TRAVEL SPACE**

12 inches=1 foot
one square foot=144 inches

1. If the dimensions of a men’s ship compartment was 40 x 20 linear feet, how many square feet is this?
   
   ____  ____  ________________________________  ____  ____  ___________

   How many square inches is this space?
   
   _______________________________________________________________________

   If there were 336 men in this compartment, how many square inches were available per person?

   _______________________________________________________________________

2. If the women’s ship compartment was 16 x 18 linear feet and there were 288 women and children in it, how many inches were allowed per person in this space (imagining that the width and length of each woman’s space was the same, a perfect square)?

   _______________________________________________________________________

African captives transported to Brazil had very little space in which to travel. Based on this fact, what do you imagine could happen?

Read this excerpt from Alexander Falconridge’s account circa 1788 of the slave trade and discuss as a class your reactions to the conditions of confinement.

_The men Negroes, on being brought aboard the ship, are immediately fastened together, two and two, by handcuffs on their wrists and by irons riveted on their legs. They are then sent down between the decks and placed in an apartment partitioned off for that purpose. The women also are placed in a separate apartment between decks, but without being ironed. An adjoining room on the same deck is appointed for the boys. Thus they are all placed in different apartments._

_But at the same time, however, they are frequently stowed so close, as to admit of no other position than lying on their sides. Nor will the height between decks, unless directly under the grating, permit the indulgence of an erect posture; especially where there are platforms, which is generally the case. These platforms are a kind of shelf, about eight or nine feet in breadth, extending from the side of the_
ship toward the centre. They are placed nearly midway between the decks, at the distance of two or three feet from each deck. Upon these the Negroes are stowed in the same manner as they are on the deck underneath. In each of the apartments are placed three or four large buckets, of a conical form, nearly two feet in diameter at the bottom and only one foot at the top and in depth of about twenty-eight inches, to which, when necessary, the Negroes have recourse. It often happens that those who are placed at a distance from the buckets, in endeavoring to get to them, rumble over their companions, in consequence of their being shackled. These accidents, although unavoidable, are productive of continual quarrels in which some of them are always bruised. In this distressed situation, unable to proceed and prevented from getting to the tubs, they desist from the attempt; and as the necessities of nature are not to be resisted, ease themselves as they lie. This becomes a fresh source of boils and disturbances and tends to render the condition of the poor captive wretches still more uncomfortable. The nuisance arising from these circumstances is not infrequently increased by the tubs being much too small for the purpose intended and their being usually emptied but once every day. The rule for doing so, however, varies in different ships according to the attention paid to the health and convenience of the slaves by the captain....

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COMPUTE AND DISCUSS THE SLAVE POPULATION IN BRAZIL

3. In the year 1798, there were approximately 3,248,000 people living in Brazil. At this time, 49% of the total population was enslaved. Compute how many people were slaves in Brazil.

4. By the year 1835, in the city of Salvador, 42% of the city’s population of 65,500 people were slaves. Compute how many enslaved people lived in Salvador in 1835. _________________

African-born slaves were roughly 65% of the enslaved population at this time. How many African-born slaves were living in Salvador in 1835? ____________________________

By 1885, approximately 1,777,000 people were slaves in Brazil. How do you think slaves fit into the society as a whole?

Why were so many needed?

Read and then discuss this excerpt from Bahia, Brazil, 1798: The Revolution of the Black Jacobins (www.blackagendareport.com/bahia_brazil_revoltion) to better understand the history of Bahia’s social hierarchy.
As in the rest of the colony, Bahia’s society was organized in social classes. At the top of the pyramid were the big plantation owners and the merchants; at the bottom were thousands of captives. Every year, lots of Africans were shipped to Salvador. The slave community was heterogeneous, since it was divided between prisoners born in Brazil, of different skin colours and trades, and Africans of several cultures and languages.

In between the slave-traders and the slaves, there were the free, of poor men of the colony; with few possibilities of social mobility, but with “clean blood.” They were the managers, cashiers, farmers, sailors, shop keepers or were part of the lower clergy and lower ranks of the civil service and the military. They also competed with waged slaves and those that hired themselves as artisans. All positions of prestige were reserved for those of Portuguese birth.

Even though slavery ended in Brazil in 1888 and ended in the United States in 1864, slavery does exist in places around the world today.

Discuss and share stories and evidence you can find related to contemporary slavery in today’s news around the world that may remind you of the slave trade history in Brazil.
Resources:

https://futureboy.us/fsp/dollar.fsp?quantity=1&currency=dollars&fromYear=1860

http://www.antislavery.org/english/slavery_today/what_is_modern_slavery.aspx

http://www.blackagendareport.com/bahia_brazil_revolution

http://www.slavevoyages.org/tast/index.faces

https://www.youtube.com/watch?v=RGGQJZsCog4


answers to math problems:

1. 800; 115,200; 342.85
2. 12
3. 1,581,520
4. 27,510; 17,881.50
Connections to Common Core Standards
Mathematics Standards
(example standard for grade five)

Number and Operations in Base Ten
Perform operations with multi-digit whole numbers and with decimals to hundredths
- Fluently multiply multi-digit whole numbers using the standard algorithm.
- Find whole-number quotients of whole numbers with up to four-digit dividends and two-digit divisors, using strategies based on place value, the properties of operations and/or the relationship between multiplication and division. Illustrate and explain the calculation using equations, rectangular arrays, and/or area models.
- Add, subtract, multiply, and divide decimals to hundredths, using concrete models or drawings and strategies based on place value, properties of operations, and/or the relationship between addition and subtraction; relate the strategy to a written method and explain the reasoning used.

Measurement and Data
Convert like measurement units within a given measurement system.
- Convert among different-sized standard measurement units within a given measurement system (e.g., convert 5 cm to .05 m) and use these conversions in solving multi-step, real world problems.