

Lovings' TGC Unit Plan

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School/Location: All City Leadership Academy, Brooklyn, NY

Subject: Math

Grade: 6th

Unit Title: Using Statistics to Understand Global Issues

Time Needed: 4 – 5 weeks

Unit Summary: In groups of 3-4, students will research and learn about a global issue, such as the effects of climate change, poverty, hunger, water and sanitation, and education. They will collect data and analyze that data through statistical tools like histograms, box plots, line graphs, and bar graphs.

Stage 1 Desired Results

ESTABLISHED GOALS:

Students will

- develop researching skills
- develop statistical questions
- learn about global issues and collect data reflecting a chosen issue
- display numerical data in plots on a number line, histograms, box plots, line and bar graphs
- analyze data and reflect on its meaning

GLOBAL COMPETENCY:

- 1) Investigating the World – Students will choose a global issue and a nation of interest after viewing an introduction video on global challenges. They will ask questions, research information, and collect data that will help them better understand the issue.
 - <https://www.youtube.com/watch?v=YY9nxG2ZQ7w>
- 2) Recognizing Perspective – Through their research, students will gain insight of how others see the world.
- 3) Communicating Ideas – Students will discuss their research, ideas, and data with their group. They will share their final project with their classmates during a presentation week. Other classes and teachers will be invited to view student presentations.
- 4) Taking Action – Students will take an online quiz assessing their global footprint. Students will decide on how they can be effective in our local community through learning how other children have made a difference.
 - <http://www.kidsgoglobal.net/>
 - <http://www.globalfootprints.org/issues/kidsquiz/kidsquiz1.htm>

RESOURCES:

- To discuss and explore the SDGs, students will explore the UN's website.
<http://www.un.org/sustainabledevelopment/education/>
- To research their topics students will use some of the suggested

Transfer

Students will be able to independently use their learning of statistical data application to discuss, present, and analyze global issues.

Meaning

UNDERSTANDINGS

Students will understand that...

- there are issues in other countries that they are affected by.
- statistics represent real world issues and people.
- math can be used to better understand the world.

ESSENTIAL QUESTIONS

- How do you collect data?
- How can you interpret data?
- What kinds of questions can be answered using different data displays?
- How do charts, tables, and graphs help you interpret data?
- How can we understand global issues through numerical data?

Acquisition

Students will know...

- that they are global citizens that have a stake in the world.
- the United Nations 17 Sustainable Development Goals.
- the actions they can take locally to make an impact.
- that statistics is used to analyze and better understand data.

Students will be able to...

- research and discuss global issues.
- develop their own perspective and recognize other's perspectives.
- use critical thinking skills to evaluate evidence to decide what is accurate and relevant.
- develop their ability to think statistically.
- construct different representations of data.
- draw conclusions from data.

<p>sites:</p> <ul style="list-style-type: none"> ➤ http://www.nationmaster.com/ ➤ http://www.infoplease.com/ipa/A0004372.html ➤ http://unstats.un.org/unsd/default.htm ➤ http://www.geohive.com/earth/ 		
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Stage 2 - Evidence

Assessment	Evaluation Criteria (Learning Target or Student Will Be Able To)
<p>Assessments FOR Learning: (ex: kwl chart, exit ticket, observation, draft, rehearsal)</p>	<p>Exit Tickets: Students will receive paper exit tickets to assess their understanding of creating statistical tools. Also, they will complete exit tickets, through Plickers, on their understanding of analyzing data.</p> <p>Journal: Students will keep an online journal of their progress, including what they've learned, what questions they have, and what they've found surprising.</p> <p>Observation: Students will be observed in discussions with their groups regarding their research, ideas, and data.</p>
<p>Assessment OF Learning: (ex: performance task, project, final paper)</p>	<p>Project: Students, with their groups, will present their culminating project to the class. Students will demonstrate learning through an explanation/history of their chosen global issue, posing their statistical questions, and sharing their statistical tools and data analysis. Students will choose the format of their projects: project boards, PowerPoint, Prezi.</p>

Stage 3 – Learning Plan

Summary of Key Learning Events and Instruction (Make this a useful outline or summary of your unit, your daily lesson plans will be separate)

Instruction for this unit will occur daily with five 45-minute class periods per week.

Week One: Week one will focus on an introduction SDGs and global challenges through videos, discussions, and independent student research. Students will begin their online journal.

Week Two: With their groups, students will begin researching and exploring their chosen topic. Students will learn how to recognize and create good statistical questions.

Week Three: Students will continue their research. Students will learn how to create and analyze line graphs, bar graphs, box plots, and histograms.

Week Four: Students will focus on their presentations: organizing their data and information, creating data displays, and practicing their presentations.

Week Five: With their groups, students will present their projects to the class and invited guests.

**adapted from Understanding by Design Model*
