I designed this activity to give my Algebra I student an opportunity to explore data from the department of correction.   This activity includes the NC Standard Course of Study as well as standards from the National Council of Teachers of Mathematics.

My planned approach included several important concepts. Students had the opportunity to build on their previous mathematical understanding while learning new concepts. This approach helped the students to become progressively more aware of the connection among various mathematical topics and how it relates to our state correctional system.   Students modeled mathematical representations while using technology. Students could view and capture mathematical relationships from different perspectives.   Students explored conjectures using data tables and graphs relationships. Students then made inferences to predict future data.

To ensure fairness, equity and access to learning for all my students in my class I did several things. First, I arranged the desks in small group format to encourage student interaction. This gave students an opportunity to learn to respect individual and group differences. Secondly, I made sure all students had access to a TI-83 or TI-84 Silver Edition calculator and the web. Lastly, students were exposed to several methods to model mathematical arguments.

As I analysis this lesson students had the opportunity to communicate their ideas with confidence and I was able to give immediate feedback as soon as students made discoveries. Students evaluated their own process of thinking and the method they chose as compared to the one chosen by another student. Student success was immediate and students realized that misunderstanding is part of the learning process. Students explored a range of options and methods to foster their understanding of mathematics. Students gain through this lesson a wide variety of data representations. These representations support different ways of thinking mathematically. Students gained the ability to reason to make conjectures, justify their reasoning and communicate with their peers about the correctional system.

In the future I will be adding the use of excel and power point as part of this activity.   I will also be adding a piece for Discrete Mathematics students. Students will explore the dynamics of population growth, statistics and probability as it relates to the correctional population.

OBJECTIVE:

1. Students will research data provided by the state department of corrections.
   http://statelibrary.dcr.state.nc.us/iss/ncdataresources.html

This web page provides subject specific reports back to 1993 about various categories of crime. Releases tend to run a year or two behind the current one. Different years' data are presented differently. Also, while PDF files are the usual release formats, Excel files are available for some reports in some years. Annual Summary Reports list crime index data for all counties as well as rates for specific crimes for selected cities and counties. (This data is reported from North Carolina as part of the FBI's Uniform Crime Report Separate report covers delinquency arrests. Different specific crime indexes provide statewide data and ten-year trend reports. For instance, the most recent year's crime indexes include murder, property crime, rape, robbery, aggravated assault, burglary, larceny, motor vehicle theft, arson and simple assault.

2. Students will collect data to make graphs.
3. Students will analyze collected data and their graphs.
4. Students will make conjectures about the future as it applies to their collected data.

TOPICS:
Here are a few samples.
Who is entering the prison system?
Teens in prison
Women and Crimes
How many prisons should be built in the future?
Why are prisons overcrowded?
Drugs and Jail
Life of an inmate
Salary of an inmate
Crime Clock and future jobs in NC
Where is the money

Essential Idea: North Carolina Crime and the Society

Task 1:
Choose an area of interest.
Research the area.
Collect data
Task 2:
Using the information collected make a graph, make predictions and conjectures about future crimes and job possibilities in the state. Write an essay reporting your findings. Be sure to cite your sources. Make sure you answer the how, why, who, when, what and what next.