## The Penny Project

In what year was a typical penny minted?

## Materials

You get out

- Lined Paper
- Pencil
- Ruler
- Calculator

I will give you

- Graph Paper
- Blue Mat Paper
- 50 pennies in a cup


## Rules

- Teams in 2 s or 3 s .
- MUST have 50 pennies in the cup at the end of the period.
- Each person must have all graphs and answers. I will select one paper from the group to grade. That grade will be given to all group members.


## Prediction

USE COMPLETE SENTENCES on Liner Paper

1. Predict the year the typical penny currently in circulation was minted.
2. Determine how old the typical penny would be.

## Dot Plot

- Make a dot plot of the years of pennies on your graph paper.


## Question

(USE COMPLETE SENTENCES, on Lined Paper )
3. What can you say about the typical penny and its minting year or age from looking at the dot plot?

## Measures of Center

## USE COMPLETE SENTENCES AND ANSWER ALL QUESTIONS IN ONE PARAGRAPH.

1. What is the mean of the minting dates of your pennies?
2. What is the median of the minting dates of your pennies?
3. Where do you see the mean and median on the dot plot?
4. What do these tell you about pennies currently in circulation?
5. Which do you think is the best measure of center and why?

## Measures of Variability

USE COMPLETE SENTENCES AND ANSWER ALL QUESTIONS IN ONE PARAGRAPH.

1. What is the interquartile range?
2. What does this tell you about pennies currently in circulation?
3. Do you think this interquartile range is the best measure of variability and why?

## Dot Plots

USE COMPLETE SENTENCES AND ANSWER ALL QUESTIONS IN ONE PARAGRAPH.

1. What patterns do you see in the heights on the dot plot?
2. What do the patterns tell you about these pennies?

## Box Plot

- Make a box plot of your stack of pennies


## Box Plot Analysis

USE COMPLETE SENTENCES AND ANSWER ALL QUESTIONS IN ONE PARAGRAPH.

How much of the boxplot is made of just the box?
What fraction of the pennies does the boxplot represent?
3. Why is half the data filling much less than half the plot?
4. Did you have any outliers?
5. How do the two whiskers of the plot compare in length?
6. What fraction of the pennies does each whisker represent?
7. Since the whiskers are different lengths but represent the same amount of data, what does that tell you about the pennies in the longer whisker?
8. Summarize what the box plot tells you about the minting dates of pennies.

