# 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 2s or 3s.
- 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 Analysis

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

- 1. How much of the boxplot is made of just the box?
- 2. 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.