

Essential Questions:

- How do we get kids to visualize and organize data?
- How could students code a program to highlight statistical data found in their research?

Questions for further exploration:

- What are the first steps?
 - Could we create a site to multi-step lessons for students (visually appealing). Sample: [Digital Research Site from BiblioTech](#) /
- How is this assessed?

Kids learn from

- Video Tutorials

Can you embed Pencil Code into another program? (can you place the code / finished product in Prezi, Google Presentation, Wix, etc.)

How do we introduce students to coding?

- Provide Instructional videos for each step (simple)
- Create multi-step structured lessons to help students scaffold skills with coding.
- Use Pencil Code to maintain samples of the work they have done (they will save each lesson in a “library” so that they can reference their examples once they work on the final product)

Resources

[Pencil Code Activity for Students](#)

[Quick Reference Sheet](#)

END PRODUCT - Coded program which shows a visual of research statistics, digital images and _____

Coding Elements

- Visual representation which shows the data (based on student research)
- bar graph / line graph / pie chart (coded product will be student choice)
- images - put a “face” to the statistics
- Save an image of the final product

Skills students will need to learn (Students will demonstrate each task using Pencil Code / save program)

Tasks

- Introduction to Drawing ; [Drawing your own initials](#)
- How do you move the turtle? Movement - pick-up and put down the turtle
- How do you draw? Drawing a line (different width, height, color)
- Create labels (title, x and y axis, labeling data points)
- Moving labels
- Practice (Bar Graph / Pie Chart / Line)
 - Bar Graph to title, 2 data points
 - ie:
 - 42,000 people migrated from Puerto Rico to the United States in 1920-1930
 - 18,000 people migrated from Puerto Rico to the United States in 1930-1940
- Images
 - Insert a digital image which connects to the topic

[Daniel's Pencil Code](#)

[Yolanda's Pencil Code](#)