Inspiring Greatness

ISD

INDEPENDENCE SCHOOL DISTRICT

Computer Science Virtual Learning

PLTW Computer Science Principles

May 14, 2020

INDEPENDENCE SCHOOL DISTRICT

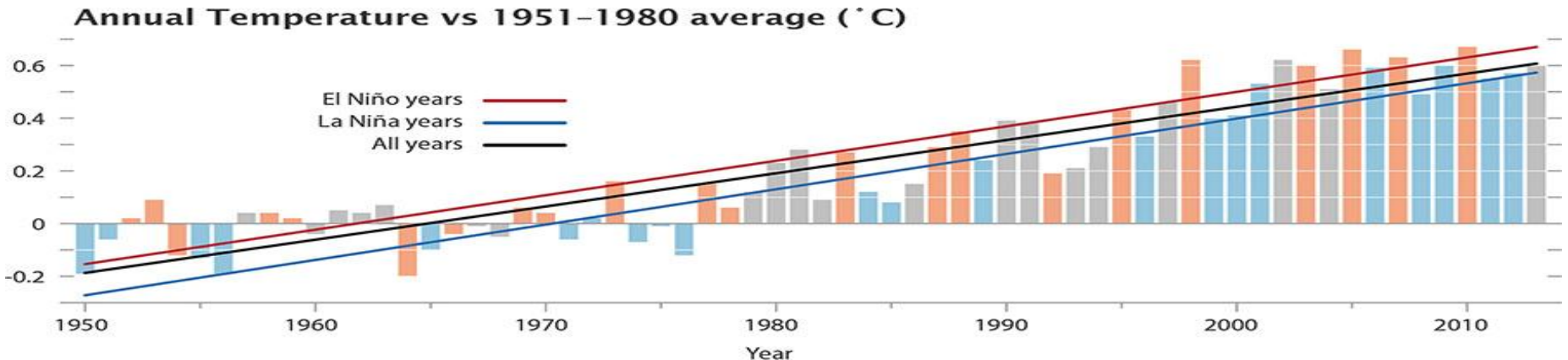
Lesson: May 14, 2020
Finding Trends With Visualizations

Learning Target:

The goal of this lesson is for students to be able to create visualizations to analyze sets of large data and to meaningfully interpret the patterns they uncover. They draw conclusions about themselves from relevant data, including local weather, the economics of their community, and naming trends.

Introduction

Yesterday we started to look at the ways big data is changing lots of fields. Today we're going to start looking a little more closely at what we can learn from data. In particular, how can we use data to learn or "tell a story".



Introduction

Watch this video about Google Trends

Practice:Exploring Trends

Using Google Trends

Google Trends is a tool which visualizes data taken from Google search histories all around the world from the past several years.

- **Click here and make a copy of the Activity guide**
- **Students will work individually to identify topics they wish to examine in greater detail.**
- **They should spend some time just exploring the tool, but eventually they will need to choose a single topic or set of topics that they will use to answer the questions that appear on the bottom of the activity guide.**

Tell a Story

Students should find a trend or set of trends they think is particularly interesting or personally relevant and try to tell a story from the data they see. Students will write down in their Computer Science notebook:

- **A description of what they were trying to look for**
- **An accurate description of what the visualization is showing**
- **A plausible explanation of why that trend might have happened.**

Practice:Exploring Trends

Share Data Stories-Wrap Up!

Once students have developed their charts and responded to the questions, they should share their "data stories."

Each individual should take a minute or two present their chart and story, to their friends or family, after which family and friends might ask questions or add their own interpretations of the chart. Good questions include:

- **Is the story the student told supported by the chart?**
- **Are there other ways to interpret the chart?**
- **Are there additional terms you'd also like to see shown on the chart?**

Additional Resources

For Further Exploration on Google trends, Here are a few articles you should review:

- What We Can Learn From the Epic Failure of Google Flu Trends
- Google Flu Trends: The Limits of Big Data
- When Google got flu wrong
- Google's Flu Project Shows the Failings of Big Data
- Google Flu Trends' Failure Shows Good Data > Big Data