

LChaney_Global Temperature_Grade 9

DATA:

Global Temperature

LATEST ANNUAL AVERAGE ANOMALY: 2019 

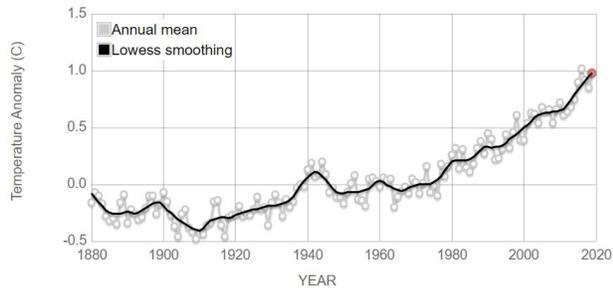
0.98 °C | 1.76 °F

DOWNLOAD DATA

This graph illustrates the change in global surface temperature relative to 1951-1980 average temperatures. Nineteen of the 20 warmest years all have occurred since 2001, with the exception of 1998. The year 2016 ranks as the warmest on record. (Source: [NASA/GISS](https://climate.nasa.gov/vital-signs/global-temperature/)). This research is broadly

GLOBAL LAND-OCEAN TEMPERATURE INDEX

Data source: NASA's Goddard Institute for Space Studies (GISS).
Credit: NASA/GISS



<https://climate.nasa.gov/vital-signs/global-temperature/?fbclid=IwAR1KLweJ-c3yqSZqfC-aLosY2L9Tv0Iz00a0moFKNIBtUh0NTLF-ztzBcPk>

ENGAGING CONTEXT:

This resource is an excellent use of real world data incorporated in the Algebra classroom. Math is addressed by using the data to calculate the rate of change and the equation of a line of best fit. This equation will then be used to make a prediction of the global temperature for future years. This is also an excellent lesson to teach students how to use the graphing calculator to find a line of best fit. I also like that the resource shows the data in a graph.

MEASURABLE OBJECTIVES:

Students will be able to compare data using the Global Climate Change graph and create a table of values with 100% accuracy.

Students will be able to identify the rate of change in at least 5 intervals, and use an average to write an equation of a line of best fit that accurately relates to the data for those intervals.

Students will be able to draw conclusions about climate change for future years based on the data and present their conclusions in their literary document.

STANDARDS:

KY.HS.A.12 Create equations and inequalities in one variable and use them to solve problems. MP.1, MP.4

KY.HS.F.3 Understand average rate of change of a function over an interval. a. Calculate and interpret the average rate of change of a function (presented symbolically or as a table) over a specified interval. b. Estimate the rate of change from a graph. ★ MP.2, MP.4

EVIDENCE:

Students will work in their small group to find the equation of a line of best fit for their assigned interval. They will then use the equation to make a prediction of the change in Earth's climate in 10, 20, and 30 years.

I plan to collect evidence by observing students while they are working with their group members, and also by looking over their work. I will be looking for students correctly completing the components of the assignment, and showing their understanding by engaging in meaningful discussions with the members of their groups. I will also create an exit slip that the group will turn in as they leave class. The exit slip will include questions that will show their understanding of the content, as well as their understanding of the use of the graphing calculator. Some sample questions are below:

1. What does the slope of your equation represent?
2. What does the y-intercept of your equation represent?
3. List three facts you have learned about global temperature change?
4. List the steps to input your data into the graphing calculator?

I want to give students time to discuss the exit slip questions with their group members. Their answers to these questions will show me any misunderstandings that I need to address at the beginning of the next days' lesson. Allowing time for discussion of the questions in their groups will also lead to students enhancing their understanding of the concepts.