

Group Members: _____

Predicting A Catastrophe

Check out the data below; it shows the population of a country and how many people it can feed based on their agricultural production for each year.

Year	Population (number of people)	Food Production (number of people)
1975	2,993,876	6,400,000
1980	3,365,441	7,000,000
1985	3,799,550	7,100,000
1990	4,312,246	8,100,000
1995	4,274,819	9,400,000
2000	4,564,297	7,500,000
2005	5,658,379	9,600,000
2010	6,458,720	10,000,000
2015	7,237,025	10,400,000
2016	7,396,190	10,700,000
2017	7,557,212	10,800,000
2018	7,719,729	10,500,000

Take some time to look at the data and graph it on the grid provided. What do you notice?

What do you wonder?

Can you show this relationship in another way?

Do you think the model you have created accurately represents the data? Why or why not?

Student Self-Assessment

Curricular Competency Reasoning and Modelling	Task Specific Evidence
I analyzed the data to look for a pattern	<ul style="list-style-type: none"><input type="checkbox"/> I considered how the data changed with respect to time.<input type="checkbox"/> I noticed that one relation increased faster.<input type="checkbox"/> I was able to use the term 'rate of change' when describing the data.
I considered multiple ways to show the data	<ul style="list-style-type: none"><input type="checkbox"/> I considered describing the data in words, an equation and/or a graph.<input type="checkbox"/> I was flexible in my thinking and listened to my group members' ideas.
I created multiple models to show the data	<ul style="list-style-type: none"><input type="checkbox"/> I have a function, equation and/or graph that represents the data.<input type="checkbox"/> I have a model that is scaled to fit the data.<input type="checkbox"/> I considered the domain to reflect this real-world scenario.
I made a prediction based on my model	<ul style="list-style-type: none"><input type="checkbox"/> I have a model that was scaled appropriately to make a prediction.<input type="checkbox"/> I recognized the intersection of the functions was a solution to the problem.<input type="checkbox"/> I was able to describe the limitations of my model.

Core Competency Reflection:

1. What parts of this activity did you find interesting? Surprising?
2. What did you find went well in this activity?
3. What did you find challenging?
4. Was it helpful to work in a group? Why or why not.
5. What would you do differently in a future activity to improve?