

TOPIC DESCRIPTIONS

Topic 1: Trends in the Data: Fact or Fiction?

Summary of the Task: Your group will gather samples of how data on immigration have been presented by media outlets. Then create a presentation of the overarching trends, key features of the data that you find, and any misleading representations of data or information.

Key Components:

- Through individual research, compile seven to ten valid and reliable sources that include a variety of quality representations of the data, including graphs, tables, and written descriptions.
- As a group, discuss each source, narrowing the list down to five key sources that include at least three different types of data representation (e.g., you *must* have at least one Cartesian graph, one table, and one written description in your analysis).
- Then, your secretary will lead the group in creating the presentation, which should include an introduction to the summary information and a detailed analysis of each source. Each data representation should be described in detail, including discussion of intercepts; intervals of increasing, decreasing, positive, or negative values; relative maximums and minimums; symmetries; and end behavior. The presentation should also include discussion of the domain of each data set in the real-life context.
- Your group will also choose one data representation and calculate an average rate of change. The chosen average rate of change should be calculated correctly, relevant to the issue, and reveal information that could be beneficial to forming the whole-class action plan to _____.
- To complete the presentation materials, your group will create a summary infographic and divide up the roles in the oral presentation.

Group Roles: In addition to contributing individual research and participating in the oral presentation, groups should assign one member to each role below.

- **Team Leader:** Keep the team focused on key components; facilitate dividing up the tasks so that each group member can contribute
- **Compiler:** Gather the group sources in a central location and in a common format (e.g., PDFs in Google Drive, Dropbox)
- **Time Keeper:** Keep the group aware of time constraints and moving from task to task so that all work is complete by the end of the work period
- **Secretary:** Create the group's presentation while guided by the group members (this student should *not* create the presentation individually but should be the typist while his or her group members provide help and feedback)

Topic 2: Using Regression to Investigate a Growing Problem

Summary of the Task: Your group will gather data on the number of US Border Patrol apprehensions as well as the number of children separated from their families over time. You will then perform a regression, fit a function to the data, and analyze the fit of the function for both scenarios (Apprehensions vs. Time and Separated Children vs. Time).

Group-Specific Materials Needed: Computer program/calculator capable of performing regressions

Key Components:

- Through individual research, locate data for the number of US Border Patrol apprehensions as well as the number of children separated from their families over time (one table or data set for each). Both variables should be quantitative. For example, if data are provided on a monthly basis, choose a starting year and convert the time variable to be the number of months since January 2009.
- As a group, perform a regression for Apprehensions vs. Time. Use technology to calculate the correlation coefficient (if the chosen function is linear), using the information to determine if a linear, quadratic, or exponential fit is the best representation for the data.
- Then, perform a regression for Separated Children vs. Time. Use technology to calculate the correlation coefficient (if the chosen function is linear) or create residuals, using the information to determine if a linear, quadratic, or exponential fit is the best representation for the data.
- Then, your secretary will lead the group in creating a presentation, which should include introductory/summary information and a detailed analysis of each regression. The presentation should include at least three reasons for why the linear, quadratic, or exponential model was chosen, as well as summary information about how the regressions could be used to predict future values relevant to the action plan.
- To complete the presentation materials, your group will create a summary infographic and divide up the roles in the oral presentation.

Group Roles: In addition to contributing individual research and participating in the oral presentation, groups should assign one member to each role below.

- **Team Leader:** Keep the team focused on key components; facilitate dividing up the tasks so that each group member can contribute
- **Compiler:** Gather the group sources in a central location and in a common format (e.g., PDFs in Google Drive, Dropbox)
- **Time Keeper:** Keep the group aware of time constraints and moving from task to task so that all work is complete by the end of the work period
- **Secretary:** Create the group's presentation while guided by the group members (this student should *not* create the presentation individually but should be the typist while his or her group members provide help and feedback)

Topic 3: How to Help: What Do the Shelters Need?

Summary of the Task: Your group will perform research on the shelters providing assistance to children separated from their families. Identify areas of need, including lodging, recreation space, food, water, and medical supplies. In addition, you will optimize the distribution of those resources.

Group-Specific Materials Needed: No additional required materials; however, your group may want to bring in examples of supplies used/needed at shelters for your classmates to observe.

Key Components:

- Your group will perform individual research to determine an estimate of the number of children and/or families affected by immigration policy (you may want to coordinate with groups working on Topic 2 for this information).
- Then, research the amounts of resources necessary for housing this number of children (listed above), what is currently being provided for the children, and conditions in shelters today.
- Once the amounts of resources necessary are found, your group should choose one of the resources (for instance, water) and create a summary plot (dot plot, histogram, or box plot) that illustrates amounts of this resource needed for children of different age groups.
- Then, locate a floor plan for a current shelter (your teacher can provide you with an example) and come up with a detailed plan for optimizing distribution of these resources (for example, if twenty-five children can be housed in an area with a certain square footage, could this area be divided more efficiently to house more children? What amounts of food should be distributed over time to each child?).
- Then, your secretary will lead the group in creating a presentation, which should include introductory/summary information and a detailed description of the distribution of each resource. The presentation should also include suggestions for problems in shelters today as well as pictures of shelters.
- To complete the presentation materials, your group will create a summary and divide up the roles in the oral presentation.

Group Roles: In addition to contributing individual research and participating in the oral presentation, groups should assign one member to each role below.

- **Team Leader:** Keep the team focused on key components; facilitate dividing up the tasks so that each group member can contribute
- **Compiler:** Gather the group sources in a central location and in a common format (e.g., PDFs in Google Drive, Dropbox)
- **Time Keeper:** Keep the group aware of time constraints and moving from task to task so that all work is complete by the end of the work period
- **Secretary:** Create the group's presentation while guided by the group members (this student should *not* create the presentation individually but should be the typist while his or her group members provide help and feedback)

Topic 4: Breaking Down the Problem by Region

Summary of the Task: For this topic, your group will research the number of US Border Patrol apprehensions and number of children separated by region. Compare and contrast features of the regions that may contribute to lower or higher rates of apprehensions/separations.

Key Components:

- Your group will perform individual research to determine the number of US Border Patrol apprehensions and number of children separated in multiple regions of the southern United States.
- Then, identify three main regions to compare and contrast. Determine factors that contribute to lower or higher rates of apprehensions/separations in each of the three regions, which your Compiler should gather into a list of five to seven main factors.
- Once your group has identified five to seven factors, research the magnitude of each factor existing in all three regions (for example, if the number of schools in a region is a contributing factor, how many schools are in each of the three regions?).
- Then, your secretary will lead the group in creating a presentation, which should include introductory/summary information and a detailed description of each region and the factors present in each region. The presentation should also include commentary on why each factor was viewed as significant.
- To complete the presentation materials, your group will create a summary infographic and divide up the roles in the oral presentation.

Group Roles: In addition to contributing individual research and participating in the oral presentation, groups should assign one member to each role below.

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- Compiler: Gather the group sources in a central location and in a common format (e.g., PDFs in Google Drive, Dropbox)
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- Secretary: Create the group's presentation while guided by the group members (this student should *not* create the presentation individually but should be the typist while his or her group members provide help and feedback)

Topic 5: Community Comparison

Summary of the Task: Your group will primarily focus on performing research at the national level as well as at the local level to make the problem relatable to your own community. For example, if you live in a town of 5,000 residents, you would use a proportion to calculate and describe the magnitude of the problem in terms of how many would be affected in your own community.

Key Components:

- Your group will perform individual research on the general problem of children at the border to find out what you are interested in.
- Then, discuss your findings and narrow down your interests to three to five main aspects of the problem that will have a value associated with them (for example, your group may be interested in the number of children separated who are between the ages of fifteen and seventeen because they are in the same age range).
- For each of the aspects chosen, do research to identify the associated values. Your group will also do research to identify the population of the United States as well as the population of your hometown/county. Then, perform an analysis to compare national values to local values. (For instance, if there were 47,017 children apprehended at the border between October and May of 2013 when there was a US population of 316.2 million, this would equate to 404 children for Chicago's population of 2.719 million in 2013).
- Then, your secretary will lead the group in creating a presentation, which should include introductory/summary information and a detailed description of each aspect of the problem analyzed. The presentation should also include commentary on why each aspect was chosen and on any surprising values you may have found.
- To complete the presentation materials, your group will create a summary infographic and divide up the roles in the oral presentation.

Group Roles: In addition to contributing individual research and participating in the oral presentation, groups should assign one member to each role below.

- **Team Leader:** Keep the team focused on key components; facilitate dividing up the tasks so that each group member can contribute
- **Compiler:** Gather the group sources in a central location and in a common format (e.g., PDFs in Google Drive, Dropbox)
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