# Mathematics Class Slides

## Bronx Early College Academy

Chris Huson

15 October 2019

BECA / Dr. Huson / IB Math Unit 2

2.1 Intro to statistics 11 Oct

2.2 Deltamath: statistics 15 Oct

2.3 Descriptive statistics measures, 17 Oct

2.4 Descriptive statistics measures, 18 Oct

2.5 Frequency tables of continuous variables 21 Oct

2.6 Revise Excel analysis summary page 22 Oct

2.6 Histograms and box plots 23 Oct

2.7 Cumulative frequency tables and graphs 24 Oct

2.8 Revise Excel analysis summary page 25 Oct

2.9 Cumulative frequency tables and graphs 28 Oct

2.10 Revise Excel analysis summary page 29 Oct

2.11 Review cumulative frequency tables and graphs 30 Oct

2.11 Bivariate data 30 Oct

2.11 Exploration project paper schedule 31 Oct

2.12 Cumulative distribution practice 1 Nov

2.13 Linear regression practice 4 Nov

2.14 Linear regression practice 6 Nov

2.15 Cumulative distribution practice 7 Nov

2.16 Cumulative distribution application, quiz 8 Nov

# GQ: How do we collect and organize data?

CCSS: HSF.IF.C.7 Analyze functions 2.1 Friday 11 Oct

## Do Now Handout: Analyze chart on p 45

1. Income vs Health of the world's nations
2. Answer the questions

Lesson: Statistics concepts and vocabulary pp 44-50
Homework: Problem set: Organizing data 2A p. 50

# GQ: How do we quantify central tendency and dispersion?

CCSS: MP5 attend to precision 2.2 Tuesday 15 Oct

## Using spreadsheets for data, calculations, and display

1. Boot up laptops, log in to email and Google Drive account
2. Download Excel "Simple Calculator" (explore)
3. Early finishers: model problem #5, p. 56

Deltamath practice

Homework: Complete Deltamath problems, 10:00PM deadline

# GQ: How do we quantify central tendency and dispersion?

CCSS: MP5 attend to precision

2.3 Thursday 17 Oct

## Laptops: Statistical analysis in Excel

1. Create a one-page report answering problem #5 p.56
2. Replicate the "raw data table" with modifications for Excel
3. Use Excel functions for the required statistical calculations
4. Include text to answer the question with a short justification
5. Format in Excel (including MLA header) and "print" as pdf
6. Email Excel and pdf to me by 10:00pm today
7. Early finishers: Deltamath

# GQ: How do we quantify central tendency and dispersion?

CCSS: MP5 attend to precision 2.4 Friday 18 Oct

## Laptops: Statistical analysis with a handheld calculator

1. Enter in your calculator problem #5 p.56
2. Compare results to your Excel report
3. Prepare to discuss comparison of Excel to a handheld calculator

Review Excel analysis and reporting
Lesson: Continuous data and and using frequency tables p 57

Homework: Practice exercises 2B & 2C p. 55-56, 58 (class time tomorrow)

# GQ: How do we collect and organize data?

CCSS: HSF.IF.C.7 Analyze functions 2.5 Monday 21 Oct

## Do Now: #13 P2, p 78

1. Work on loose leaf paper you can turn in
2. Use a calculator
3. Use the definition of outlier on page 53
4. Draw the plot accurately

Exploration paper scoring criterion: Personal Engagement
Review Excel analysis
Lesson: Continuous data and and using frequency tables p 57
Homework: Rework Excel file

# GQ: How do we communicate statistical results?

CCSS: MP5 attend to precision 2.6 Tuesday 22 Oct

## Using spreadsheets for data, calculations, and display

1. Boot up laptops, log in to email and Google Drive account
2. Download your saved Excel model of Mr. Jones club scores
3. Complete and improve your analysis
4. Email the Excel file and a pdf version (1 page)

Deltamath practice

Homework: Complete Deltamath problems, 10:00PM deadline

# GQ: How do we display data?

CCSS: HSF.IF.C.7 Analyze functions 2.6 Wednesday 23 Oct

## Do Now: #3 p. 75

1. Work on loose leaf paper you can turn in
2. Use a calculator
3. Explain (in writing) why your answers are estimates

Real world, pseudo real world, & pure math problems; implications
Birthday data analysis
Lesson: Box plots and histograms p 59-62

Homework: Textbook exercises 2D p. 62

# GQ: How do we display and interpret cumulative data?

CCSS: HSF.IF.C.7 Analyze functions 2.7 Thursday 24 Oct

## Do Now: #4, p 75, continued on p. 76

1. Work on loose leaf paper you can turn in
2. Use a calculator for calculations and to replicate the plot
3. Clearly answer parts #4d.i and #4d.ii

Exploration paper scoring criterion: Personal Engagement
Review student birthday survey data & analysis
Lesson: Cumulative frequency tables and graphs p 63-5

Homework: Textbook exercises 2E p. 64-5

# GQ: How do we communicate statistical results?

CCSS: MP5 attend to precision 2.8 Friday 25 Oct

## Mini Exploration: What is the best route to school?

1. Based on Excel model of commuter data (math.huson.com)
2. Complete statistical calculations and written analysis
3. Email the Excel file and a pdf version of spreadsheet & paper (three attachments)

Homework: Complete your paper, Sunday 10:00PM deadline

# GQ: How do we display and interpret cumulative data?

CCSS: HSF.IF.C.7 Analyze functions 2.9 Monday 28 Oct

## Do Now: Handout IB exam problems (paper 2, with calculator)

1. Work on loose leaf paper you can turn in
2. Frequency distribution (table)
3. Box plot interpretation

Peer review of draft of subway commute analysis
Lesson: Cumulative frequency tables and graphs, handout

Homework: Statistics exam problems handout

# GQ: How do we communicate statistical results?

CCSS: MP5 attend to precision 2.10 Tuesday 29 Oct

## Mini Exploration: What is the best route to school?

1. Based on Excel model of commuter data (math.huson.com)
2. Complete written analysis
3. Email the Excel file and a pdf version of spreadsheet & paper (three attachments)

Homework: Complete your paper, today 10:00PM deadline

# GQ: How do we display and interpret cumulative data?

CCSS: HSF.IF.C.7 Analyze functions

Wednesday 30 Oct

## Do Now: Handout IB exam problems (paper 2, with calculator)

1. Work on loose leaf paper you can turn in
2. Frequency distribution (table)
3. Cumulative distribution interpretation

Lesson: Cumulative frequency tables and graphs, handout

Homework: Brainstorm exploration topic, complete statistics exam problems handout

# GQ: How do we employ mathematics to explore a topic?

CCSS: MP5 attend to precision

Thursday 31 Oct

## Do Now: Mr. Price's students, page 66

1. Enter the data in the table on page 66 into your calculator
2. To graph the data pairs, what values for $x$ and $y$ are needed?
3. Plot the data on graph paper
4. Interpretation the graph

Mind map / brainstorming an exploration topic p. 743
Lesson: 2.4 Comparing two sets of related quantities

Homework: Make at least one topic mind map (due tomorrow)
Exercises 2F, p. 71-72 (due Friday, share data for extra credit)

# GQ: How do we employ mathematics to explore a topic?

CCSS: MP5 attend to precision

Thursday 31 Oct

## Exploration: Schedule and deadlines

1. Topic selection - Monday November 4th
2. Complete paper for peer review - Friday November 22nd
3. Complete paper for grade - Wednesday December 6th
4. Final paper - Wednesday December 20th

# GQ: How do we display and interpret cumulative data?

CCSS: MP5 attend to precision

Friday 1 Nov

## Do Now: Problem 1d Classwork 28 Oct

1. Answer the questions
2. Interpretation the graph
3. complete the table

Lesson: Cumulative distributions

Homework: Exploration topic due

# GQ: How do we display and interpret bivariate data?

CCSS: MP5 attend to precision 12.13 Monday 4 Nov

## Do Now: Problem 10 page 77

1. Plot the data and interpret the graph
2. Answer the questions *including* the outlier at first
3. Interpretation the graph
4. Organize and write the summary statistics near the plot

Lesson: Linear regression applications

Homework: Deltamath regression practice.
Read example exploration paper (link).
Begin outline of your exploration topic.

# GQ: How do we display and interpret bivariate data?

CCSS: MP5 attend to precision 12.14 Wednesday 6 Nov

## Do Now: Problem 17 page 79

1. Plot the data and interpret the graph
2. Answer the questions
3. Interpretation the graph
4. Organize and write the summary statistics near the plot

Discuss subway platform exploration

Lesson: Linear regression applications

Homework: Deltamath regression practice.
example exploration paper (link).

# GQ: How do we display and interpret cumulative data?

CCSS: MP5 attend to precision

Thursday 7 Nov

## Do Now: Handout problem set

1. Answer the questions
2. Interpretation the graph
3. complete the table

Lesson: Cumulative distributions

Homework: Develop exploration topic

# GQ: How do we display and interpret cumulative data?

CCSS: MP5 attend to precision

Friday 8 Nov

## 2.16 Do Now Quiz: IB problems handout

1. Write down your exploration topic
2. Summarizing frequency table data
3. Interpreting box plots

Lesson: Comparing quantitative data in Excel, an exploration
Make your own analysis of subway platform crowding versus delays. (use the raw data file on math.huson.com)

Homework: Write up analysis. Email Excel, Word, & pdf files. Due 10:00 Sunday