Ryne Paulose, Camp Director

September 5, 2019

What is the Data Detectives Camp?

▶ One-week commuter STEM camp

▶ Focuses on statistics for middle school students

▶ Teaches statistics through a variety of fun, hands-on activities

▶ There is no fee for registering or attending the Camp

What generated the idea?

CDC > David J. Sencer CDC Museum Home

CDC Disease Detective Camp

CDC Disease Detective Camp (DDC) is an educational program started by CDC's David J. Sencer CDC Museum in 2005 as a mechanism for developing a public health camp curriculum for state and county health departments. The camp is open to upcoming high school juniors and seniors and is held at CDC's headquarters in Atlanta, Georgia.

The CDC Disease Detective Camp curriculum is based on contextual and situated cognition learning principles. By learning through hands-on activities and seminars, high school juniors and seniors at the conclusion of the camp will be able to:

- Identify five careers within public health
- Demonstrate an understanding of basic epidemiology terms
- Calculate basic epidemiologic rates given an outbreak scenario and data
- Recognize how infectious and chronic diseases are tracked in the United States
- Understand the role of public health law in protecting the public's health in the United States.

Over the course of five days, campers will take on the role of disease detectives and learn first-hand how the CDC safeguards the nation's health. Teams will probe a disease outbreak using epidemiologic and laboratory skills and report their findings to a group of CDC scientists. Activities may include short lectures by CDC experts, a mock press conference in the CDC press room, and a look behind the scenes of CDC.

The application deadline for 2015 camps has passed. Please check back on December 15, 2015 for information about 2016 camps.

The people who let the idea to grow…

NCHS
- Susan Schneider / Lori Blahnik
- Nat Schenker

CDC Disease Detectives
- Trudi Ellerman, Camp Director

UMD, Joint Program in Survey Methodology
- Rick Valliant, Assistant Director JPSM
- Jody Williams, Program Coordinator

American Statistical Association
- Rebecca Nichols, Director of Education

UMD, School of Public Health
- Jane Clark, Dean

The people who developed the 1st camp...

NCHS

- Ryne Paulose, Lead
- Tunde Akinseye
- Brenda Baker
- Lori Blahnik
- Michele Chiappa
- Meena Khare
- Anthony Lipphardt
- Gladys Martinez

CDC Disease Detectives

- Trudi Ellerman, Camp Director

UMD, Joint Program in Survey Methodology

- Jody Williams, Program Coordinator

American Statistical Association

- Rebecca Nichols, Director of Education
- Donna LaLonde

UMD, School of Public Health

- Mark Brennerman, Director of Facilities
- Xin He, Professor

Our Partners have grown...

NCHS

- Ryne Paulose, Lead
- Martinez, Gladys
- Julianna Huard
- Tunde Akinseye
- Bianca Escobar
- Jennifer Moore

CDC Disease Detectives

- Trudi Ellerman

CDC MUSEUM
Disease Detective Camp

UMD, School of Public Health

- Xin He

UNIVERSITY OF MARYLAND
SCHOOL OF PUBLIC HEALTH

Bureau of Labor Statistics

- Tracy Jack
- Vanessa Newton

BLS

UMD, Joint Program in Survey Methodology

- Jody Williams

JPSM
THE JOINT PROGRAM IN SURVEY METHODOLOGY

American Statistical Association

- Rebecca Nichols
- Donna LaLonde

ASA
AMERICAN STATISTICAL ASSOCIATION
Promoting the Practice and Profession of Statistics

Bureau of Justice Statistics

- Jennifer Bronson

BJS Bureau of Justice Statistics

2017

Our Partners have grown...

NCHS

▶ Ryne Paulose, Lead

▶ Martinez, Gladys

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▶ Rebecca Nichols

▶ Donna LaLonde

Bureau of Justice Statistics

▶ Jennifer Bronson

2018

2019 NCHS Data Detectives Summer Camp

Website Live January 17th

Accepting Applications March 13th

The 2019 Data Detectives Summer Camp
August 5 – 9
NOW ACCEPTING APPLICATIONS!

The National Center for Health Statistics (NCHS) Data Detectives Summer Camp is a Science, Technology, Engineering, and Math (STEM) camp that focuses on statistics for rising 6th and 7th grade students. This one-week commuter day camp is an exciting opportunity for boys and girls to learn about statistics through a variety of fun, hands-on activities! Statistics and probability concepts are included in K-12 curriculum standards, in particular the Common Core State Standards. Data Detectives Camp activities specifically cover statistical concepts developed during grades 6th and 7th and help to teach kids to think like a data detective by asking the right question, collecting the needed information, analyzing the data, and determining the answer.

The camp is conducted by the National Center for Health Statistics in collaboration with the American Statistical Association, CDC Museum, Bureau of Labor Statistics, Bureau of Justice Statistics, Joint Program in Survey Methodology and University of Maryland's School of Public Health.

View the 2019 camp flyer [PDF – 1 MB]

Applying to Camp

- If you are interested, please download both forms below.
- Completed forms must be printed and sent via postal mail with a **postmark date no later than April 19th** to be accepted.
- Decisions will be emailed to parent / guardian by May 13, 2019.
- Those who have participated previously should not apply this year.

Camp Information

Dates: August 5 – 9th, 2019

Times: 9:00 am – 4:00 pm daily
Drop off is 8:30 – 9:00 am
Pick up is 4:00 – 4:30 pm

Eligibility: Children entering 6th or 7th grade in the fall of 2019

Cost: There is no fee for registering or attending the Camp

Location: NCHS – Headquarters
(Metro 4 Building)
3311 Toledo Road
Hyattsville, Maryland 20782
Directions

Contact: datadetectives@cdc.gov

CAMP APPLICATION FORM
To be completed by the parent / guardian and the camp applicant.
[PDF - 133 KB]

TEACHER RECOMMENDATION FORM
To be completed by a current math teacher. If this is not possible (e.g., due to home-schooling), please contact us at datadetectives@cdc.gov.
[PDF - 132 KB]

Applications Accepted 3/13/19 – 4/19/19

Application Review Process…Only 30 spots…

- ▸ All applications were reviewed by RP

- ▸ Incomplete and Late applications were excluded

- ▸ Remaining go for Committee Review
  - ▸ 4 NCHS and 1 SPH person
  - ▸ Evaluation based on parent/child responses, teacher recommendation, and best "fit" for camp
  - ▸ If more than 30 selected, all move to random selection

- ▸ Random Selection of 30
  - ▸ Equal distribution by age and gender
  - ▸ Acceptance letters to 30; Remaining on Waitlist

Acceptance Rates

	2016 (n=201)	2017 (n=101)	2018 (n=129)	2019 (n=101)
	%	%	%	%
Accepted	36	43	27	47
No	36	57	38	23
Incomplete	28	0	35	31

Notes:
2016 – accepted 6, 7, and 8th graders; 2017-19 – accepted only 6 and 7th graders
2016 and 2019 - Application included teacher recommendation

Examples of parent responses after acceptance

Hello Datadetectives!!!!
I gladly accept admission for my daughter to attend your camp. Thank you for accepting her and can't wait for her to attend!

Hello Ryne: We were very excited to learn that you have a space for our son in this summer's Data Detectives Camp. He would love to participate! Please let us know what else we might need to do to finalize enrollment.

Yes we live in California. Either my husband or I (or both) will travel with her. We will find a hotel near NCHS to stay and work remotely while she attends the camp. We will tour around Washington DC and surrounding area either before or after the camp. She is very excited and looking forward to this camp!

2016 & 2017 Venue – UMD School of Public Health

SPH-Gym-Exterior-Exit-Pickup-Dropoff.jpg
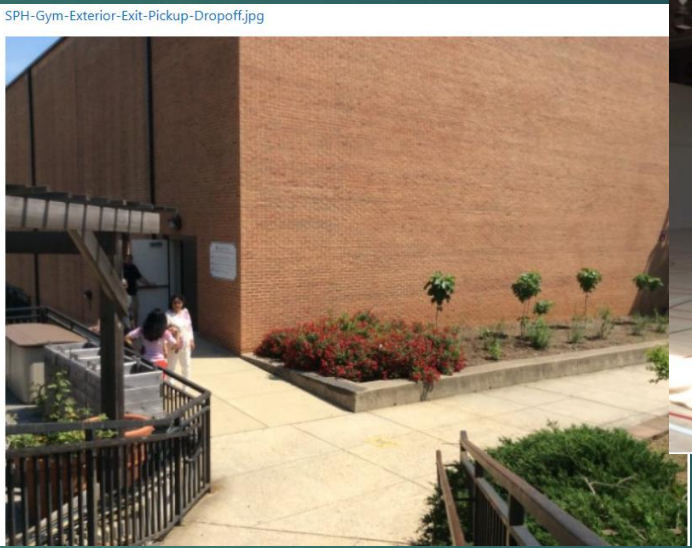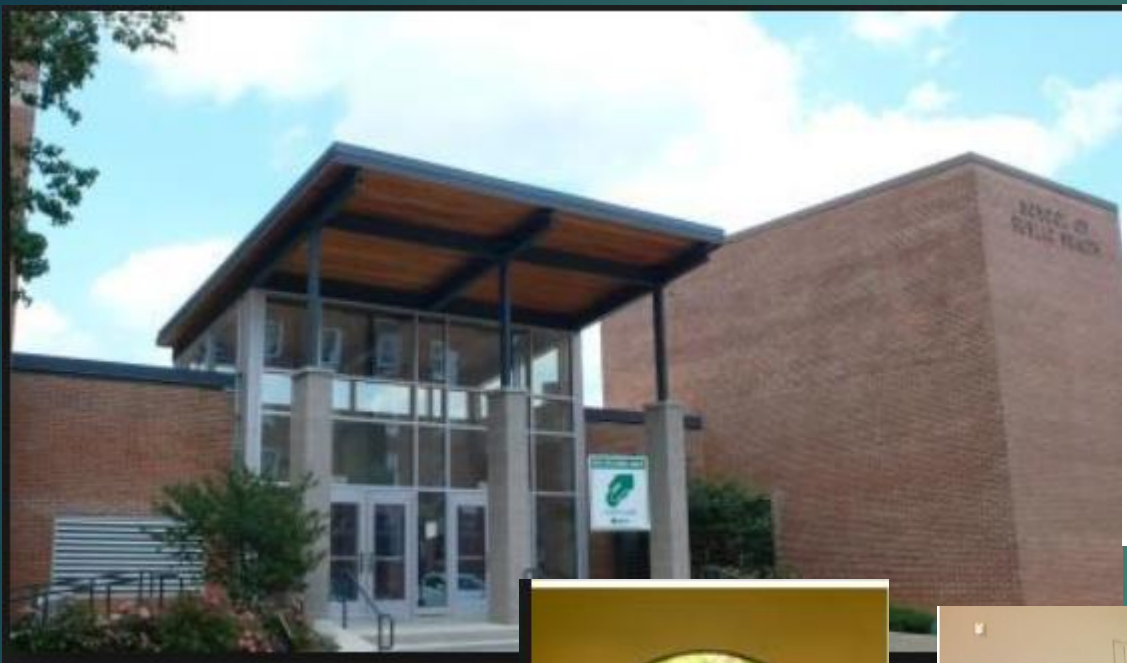
2018 & 2019 Venue – National Center for Health Statistics

Statistical Activities

▶ Based on **Common Core Standards[1]** for Middle School

  ▶ Grade 6 – Distributions / Statistical Variability

  ▶ Grade 7 – Comparing Populations / Random Sampling

  ▶ Grade 8 – Bivariate Associations

▶ Use **Guidelines for Assessment and Instruction in Statistics Education (GAISE)[2]** for every activity

  ▶ Formulate statistical question

  ▶ Collect the necessary data

  ▶ Analyze data

  ▶ Interpret data

1. www.corestandards.org (refer to end of slides for more detail)
2. http://www.amstat.org/education/gaise/index.cfm (refer to end of slides for more detail)

Guidelines for Assessment and Instruction in Statistics Education (GAISE)
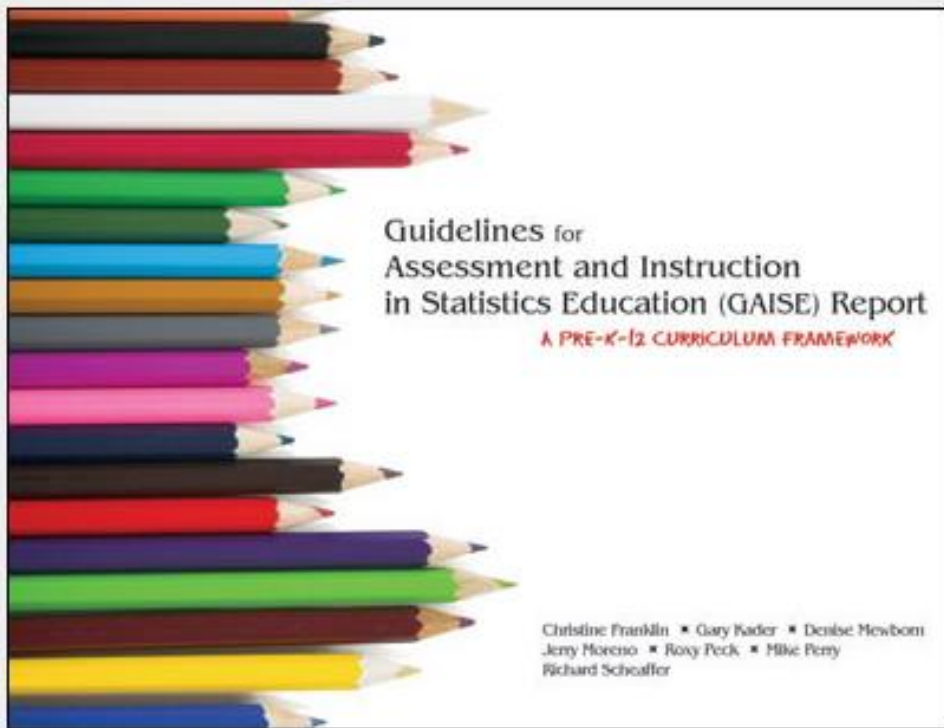
Guidelines for Assessment and Instruction in Statistics Education (GAISE) Report

A PRE-K-12 CURRICULUM FRAMEWORK

Christine Franklin • Gary Kader • Denise Mewborn
Jerry Moreno • Roxy Peck • Mike Perry
Richard Scheaffer

I. Formulate Questions

→ clarify the problem at hand

→ formulate one (or more) questions that can be answered with data

II. Collect Data

→ design a plan to collect appropriate data

→ employ the plan to collect the data

III. Analyze Data

→ select appropriate graphical and numerical methods

→ use these methods to analyze the data

IV. Interpret Results

→ interpret the analysis

→ relate the interpretation to the original question

http://www.amstat.org/education/gaise/index.cfm

Morning Statistical Activities

► Continuous Data – foot length, jump distance,

► Solving a case using data

MONDAY: Distributions	TUESDAY: Comparing populations	WEDNESDAY: Bivariate association	THURSDAY: Probability
Activity: The footprint on the sidewalk **Formulate Q:** Have class ask questions @ arm span. [Discuss how to ask a statistical question]. **Collect Data** Have each group determine how they will collect data on foot size.	Recap of previous day's activities (5 mins) **Activity:** Continue with Gymkana activity from Monday - Time on Balance beam and Time hanging from parallel bars (Formulate Q and Collect Data already done). (30m) **Analyze and Display Data:** Each group will	Recap of previous day's activities (5 mins) **Activity: Foot Length & Time on parallel bars (45m)** **Formulate Q:** have class pose questions @ relationship btn arm span & time. E.g., does longer arm span mean longer time? [Discuss	Recap of previous day's activities (5 mins) Introduction of simple probability concepts: Describe basic concepts (15 mins) Question(s) of the day (?) Activity: ask students to determine the

Afternoon Statistical Activities

- Categorical data – Food Preferences
- Creating a food menu for middle school aged children
- Use Census@School to examine state variation
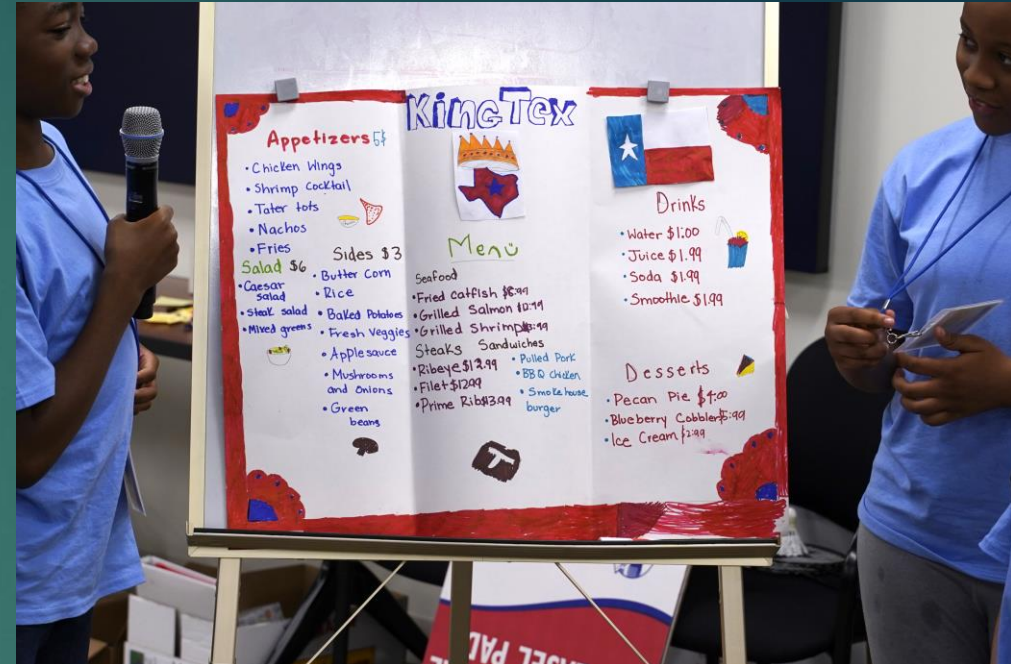
MONDAY: Distributions	TUESDAY: Comparing populations	WEDNESDAY: Bivariate association	THURSDAY: Probability
Activity: FOOD PREFERENCE **Formulate Q:** Have class ask questions @ food preference. [Discuss how to ask a statistical question; discuss the variables; how do response options differ from morning]. **Collect Data** Have each group determine how they will collect data on food preference [Discuss using a our numbers have	**Activity:** Repeat with Vegetarian status, if time permits. **Activity:** Each group colors their map on the top 3 foods for their states	**Activity: Describing relationship by exploring other factors)** **Formulate Q:** What factors are related to the differences seen in food preference by state? **Analyze & Display data:** Posterboard with columns for categories of explanatory variable (Demographic regional cultural)	Recap of previous day's activities (5 mins) **Activity:** Restaurant menu **Formulate Q:** have class brainstorm on what they've learned that could be used to develop the ideal menu for middle schoolers **CHALLENGE:** Job (should you choose to accept) is to design menu with expanding

Extra Activities 2016 - 2019

- ▶ **Modified Gymkana**
  - ▶ Ben Prescott, Assistant Director and coach, had campers obtain measurements on timed planks, standing jumps, and grip strength

- ▶ **NHANES Exam Center**
  - ▶ Infectious Disease Epidemiologist, Dr. Geraldine McQuillan talked to students about NHANES ; NHANES Engineer, Vera Osidach provided tour of mini-MEC

- ▶ **Graphic Artists**
  - ▶ NCHS Office of Information Services (Tommy Siebert / Dottie Day) showed how the NCHS graphic artists develop posters and other visuals for scientists

- ▶ **Toastmasters**
  - ▶ Toastmasters member and Research Scientist, Renee Gindi, presented on tips to orally present your work

- ▶ **Farm at College of Agriculture & Natural Resource**

Last day of camp…

Team Practice
Presentations
PIZZA PARTY
Presentations
ICE CREAM SOCIAL
Awards
Certificates and photos
Signing T-shirts
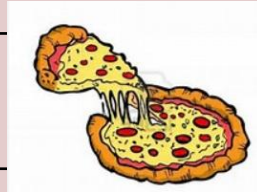
Newsletter replaced with Parent Webpage

The 2019 Data Detectives Summer Camp

Wednesday, August 7

3311 Toledo Road, Hyattsville, MD | datadetectives@cdc.gov | 301-765-4801

Note that during camp, if you need to contact me, please email me at rnp0@cdc.gov. The Emergency phone number during Camp is (301) 765-4801. Any notifications regarding changes to camp pick up or camper attendance should be texted to 301-765-4801.
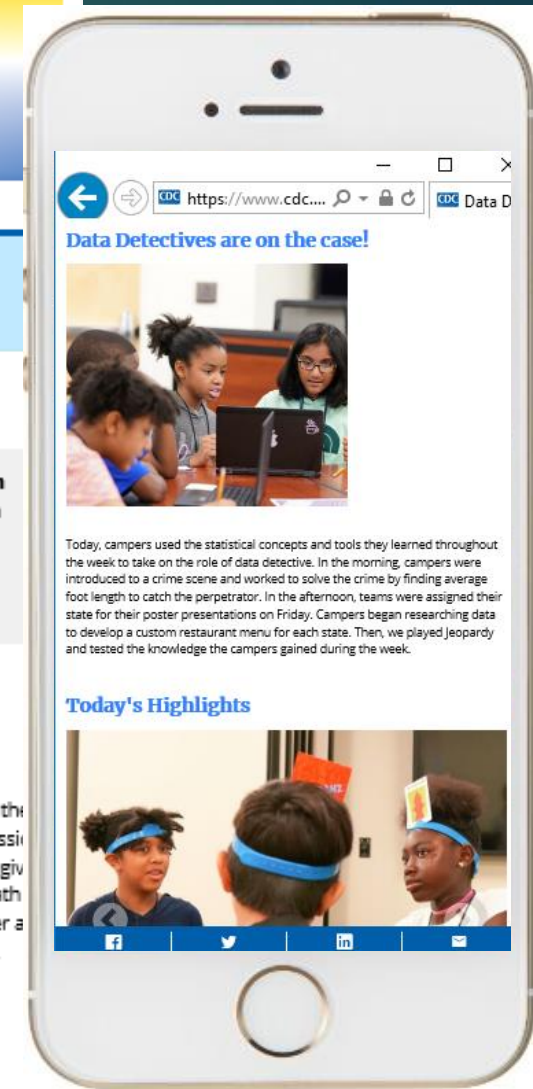
Parent Reminders

We are nut and chocolate free zone!	Campers should bring water, lunch and 2 snacks daily.	Remember your child's 4-digit code for pick up.	Drop off is 8:30 - 9:00 am Pick Up is 4:00 - 4:30 pm
		4444	

Whole Lotta Graphin' Goin' On!

Today, our campers started the morning by exploring the concept of correlation, investigating methods of of displaying relationships (e.g., ice cream sales vs. temperature) using scatter and fitted plots. Teams worked competitively to match the most variable pairings with the appropriate scatterplot indicating positive, negative, or no correlation. For the second session of the day, campers developed relative frequency tables, calculating the percentage of vegetarians and non-vegetarians given common food preference (e.g. bread, meat). In our afternoon activities, campers had gym time with Tyler Colomb, a Heath Fitness Coordinator at CDC Lifestyle Fitness Centers, learned how to make Origami with Leah Chiappa, a rising 6th grader a learned how to present data via public speaking from Dr. Renee Gindi a Statistician who is also a Toastmasters Member.

Today's Highlights

Data Detectives are on the case!

Today, campers used the statistical concepts and tools they learned throughout the week to take on the role of data detective. In the morning, campers were introduced to a crime scene and worked to solve the crime by finding average foot length to catch the perpetrator. In the afternoon, teams were assigned their state for their poster presentations on Friday. Campers began researching data to develop a custom restaurant menu for each state. Then, we played Jeopardy and tested the knowledge the campers gained during the week.

Today's Highlights

2016

2017

2018

What's next?

- ▶ Heading back to SPH
- ▶ Possibility of having 2 classes running concurrently
  - ▶ A beginners and an advanced class
- ▶ Having a new Director with new ideas