What does Cotton have to do with it?

Presenters:

michelle.mikes@cobbk12.org

ashley.clody@cobbk12.org

"My Cotton Boll Data"

State Task in 8th Math: Unit 6

www.georgiastandards.org

Georgia Standards of Excellence

Standards: 8.SP.1-3; S.ID.6

Brain Dump

COTTON

Already Know

What you want to Know

Did you experience today…

Georgia Cotton Commission

Beginning of Cotton

- 7,000 yrs. old-Mexico
- 3,000 B.C. found in Pakistan, Egypt
- 1492 found in Bahama Islands
- 1500 all over the world

- Main countries: US, China, & India
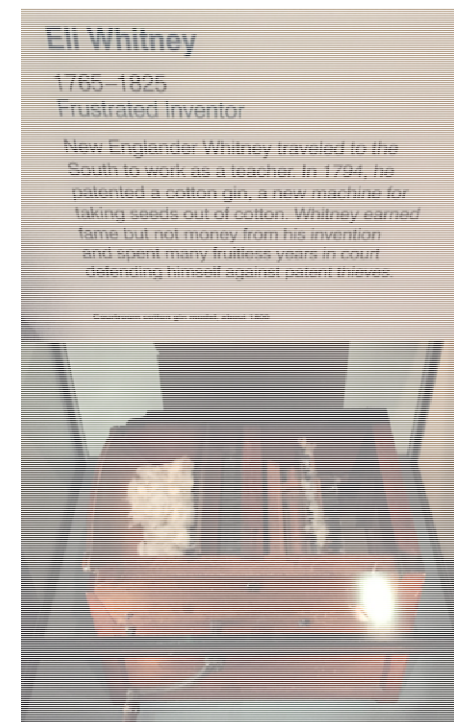- U.S.: AL, AK, AZ, CA, FL, KS, LA, MI, MS, NM, NC, OK, SC, TN, TX, VA

The Resilient Food & Fiber Crop

- Levi Strauss & the Gold Rush
- Civil War almost wiped out the cotton, 1865 back in business
- Boll Weevil Eradication Program 1987

Innovations of Cotton

- Cotton Gin 1793-Eli Whitney, but Hodgen Holmes developed the saws over the wires
- Biotechnology-good insects fight bad insects
- Rotations to break the disease cycle
- Conservation tillage
- Seeds are coated for insect protection and purity

Eli Whitney
1765–1825
Frustrated Inventor

New Englander Whitney traveled to the South to work as a teacher. In 1794, he patented a cotton gin, a new machine for taking seeds out of cotton. Whitney earned fame but not money from his invention and spent many fruitless years in court defending himself against patent thieves.

Sample Cotton Products

- Cosmetics
- Ice Cream
- Plastics
- Explosives
- Snacks
- Fertilizer
- Gum
- Maple Syrup

- Mattresses
- Light Bulb
- Magic Cord for tires
- Gun Powder
- Paper Currency
- Fire Retardant
- Smartphone/computer screens
- Livestock Feed
- Mayo & Dressings
- Margarines

VALUE PACK 10 BARS

PER BAR
140 CALORIES | 2g SAT FAT | 90mg SODIUM | 10g SUGARS | 9g FIBER

FIBER One
Chewy Bars

Oats & Chocolate
NATURALLY FLAVORED

Whole oats and chocolate delicious chocolate flavor

10 - 1.4 OZ (40g) BARS   NET WT 14

Milano
Rich Chocolate, Exquisite Texture

BIG BAG
RITZ bits
Peanut Butter
NET WT 3 OZ

Necco
Mary Jane
Peanut Butter Kisses
Made with REAL PEANUT BUTTER
MADE IN THE USA
GLUTEN CANDY
150 CALORIES

triple berry muffin mix
IMITATION BLUEBERRIES, BLACKBERRIES AND RASPBERRIES, ARTIFICIALLY FLAVORED
Betty Crocker
makes 6 muffins

WONKA
Laffy Taffy
HELP KIDS READ WIN!

Pringles
Original

Lay's
Stax
ORIGINAL

Nutter Butter
Real Peanut Butter

Goal

Identify an equation to determine the relationship between cotton lint weight and the number of cotton seeds to determine the value for farming profit.

Let's Get Some Facts

1) Pull the cotton out of the bur.

2) Weigh your cotton in ounces.

Cottonseed Prediction

Predict how many seeds you think is in your cotton and compare to your tablemates predictions.

Separating the lint from the seeds

Separate the Lint from the Seeds

1) Separate the seeds from the lint and record the number of seeds produced.

2) Weigh the cotton without the seeds in ounces & record.

The Story of Cotton

https://www.youtube.com/watch?v=AAUQNMldp_Y

Collect the Data

- Independent Event: weight of the cotton lint
- Dependent Event: produced cotton seeds

The number of cotton seeds is determined by the weight of the lint.

If the weight of the lint increases, then the number of cotton seeds produced increases.

MS Standards vs. HS Standards

8th Grade Standards

- Scatter plots with eyeball correlation
- Line of Best Fit by eyeball

High School Standards

- Scatter plots with correlation coefficient (r)
- Linear Regression

Linear Regression with a TI84

http://mathbits.com/MathBits/TISection/Statistics2/linear.htm

Cotton Statistics

https://www.cotton.org/econ/cropinfo/costsreturns/usa.cfm

Contextual Interactive Lessons

- Research the topic-context to the why of the mathematics
- Provide a story/facts
- Consult with the community
- Skype with experts
- Create open-ended problems that can result in PBL's

- Examples: Mineral Task; Pythagorean Theorem

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