



#### **Data Visualization**

Stacey Stearns UConn Extension





"Humans process visual scenes about 60,000 times faster than they do text, and people only read about 28% of the text on web pages." - Canva

Why

Photo: Bart Everson





#### Telling a Story with Data Visualization







#### Telling a Story with Data Visualization



EXTENSION

#### Why Extension we are on a collaborative journey.

F000 Food programs with UCone Extension cover the antire spectrum, from growing food to consuming Horsgoment +Houter Eardeners +Solt & Nutrient hashing and nutritious masts. Extension advectors are Microspiniser + Solid Ground Romer Programs -Realitating flood related programming in 163 out of the VIETA Final Justice +Sectload Safety +Apricultural toll actives and towns in Connectious. Examples of our Business Economics • Shellfull & Hulp Production.• proprieta includer

decipitrary collaborations among humans, animals, Empowering People +UCares Cull +Contenantly and our environment, UCane Extension's health Initia- Economic Development + Sustainable Paralles + tives are integral parts of our load and sustainability Financial Utanizy Copanded Find & Nutrition programa, and we communicate oil aspects of health Education Program.+ Extension Disconter with our audiences. Examples of our programs with Education Network hallth components include

HEALTH A heliete approach to health includes inter- UCount 4 if + DAAP- 6d Numitors Education +People

Food Safery -Creentrick Education - July Education

Form to School Whit & Incomplete Integrated Peer

ENVIRONMENTAL SUSTAINABILITY Land the + Climite Adaptation + Tree Mordane Extension educators are working in communities

-Connectious Insi Consus.-Geospotial statewide for greater protection and conservation of Inclusinging +Low impact Development our environment and natural resources. We utilize the + (community Homogeneric+ intelligeth and compiled freem (Conversion) and any portionals to intercented lives) intercenteries aske problems serves the state and region. Examples Turtyroon - Sumirvative of our programs in environmental austainability include: Landacapers



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FOOD. HEALTH. SUSTAINABILITY.

Design: Kara Bonsack





#### Telling a Story with Data Visualization



**UConn 4-H Common Measures:** Year One Summary



in UConn 4-H.

In 2018, UConn 4-H began collecting annual statewide data about the impact of our programs on 4-H youth participants ages 7-19. During this pilot year our team learned a great deal and we anticipate learning more as we develop these efforts. Below is a synthesis of the 2018 findings. Together, we will work to collectively ensure that we are providing the best possible programs to youth engaged

#### Career and College Readiness\*

#### Key Findings:

96% of respondents stated that 4-H has helped them identify things they are good at.

76% reported that 4-H has helped them explore future career options.

What is UConn Extension doing as a result?

In the coming years, our 4-H team will continue to support programs that help youth identify their strengths and determine what career options are available to them. We will encourage youth participants to visit college campuses and reflect on their future career goals.

#### What can you do to help?

- Bring your 4-H members to a College campus! UConn Campuses host a number of statewide 4-H activities annually. Keep an eye out for these opportunities.
  Provide feedback to youth when they excel in a skill
- that may encourage them to explore a specific career opportunity.

"this set of questions was only answered by 8th-12th graders

Science and Engineering

#### Key findings: 82%

stated that at 4-H, they learned new things about science.

42% indicated that at 4-H, they learned new things about engineering.

#### What is UConn Extension doing as a result?

Youth may not realize that they are participating in programs related to science, technology, engineering, and math (STEM). Therefore, we plan to work with the UConn 4-H team and 4-H volunteers to better communicate the science and engineering focus of our 4-H programs.

#### What can you do to help?

 Pose questions to youth to help guide them in making the connections to science and engineering programming at club activities. · Make explicit connections for youth on the components

of science and engineering during club activities



#### **Design: Sean Flynn**







active UConn 4-H volunteers



#### Volunteers

Volunteers fuel Extension programs allowing us to reach every town in the state with no fewer than 11 programs in each town, and in some towns over 22 programs. Many of our programs utilize volunteers, including 4-H, Master Gardeners, and school garden projects.







Design: Kara Bonsack





# by the **Hours**

9,414 hours of intensive invasive plant training sessions • 2,304 hours of instruction by the CLEAR Extension educators in the UConn Climate Corps class • 1,527 hours of instruction in our CLIR Lifelong Learning program • 1,101 hours of training in Ornamental and Turf short courses • 350 hours of instruction by Master Gardener volunteers







"I learned about portion size, how to defrost meats and seafood, check the products' labels and that we should exercise for at least 30 minutes every day and that children should exercise 1 hour a day. I also learned how to check the amount of sugar in drinks."
EFNEP participant "Thanks again for an amazing workshop! There really are very few workshops that both provide you with immediately usable units for the class AND teach you things you didn't know... yours did both! It was extremely enriching!"

 CLEAR Teacher Professional Learning Workshop attendee

111

"I was pushed beyond my comfort level by joining PEP and allowing myself to be vulneable among a group of strangers who quickly became friends and teammates."

PEP participant





#### **Citizens Engaged**

15,461 Participants in Food programs20,745 Participants in Health programs40,046 Participants in Sustainability programs

1 = 1,000

16,362 youth participated in 4-H programs







#### **Rain Garden States**

The rain garden app guides homeowners and landscapers through determining the size and placement of the garden, selecting appropriate plants, and includes tools for determining soil type, and managing multiple rain garden projects.

20 U.S. states using the rain garden app

#### Training

Local land use commissioners and tree wardens make decisions that can affect citizens for generations. Our programs have provided advanced training to over 6,000 local officials to provide tools to make better decisions.



Design: Kara Bonsack





### Help! I'm not a designer.

Neither am I....meet Canva.com

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# Start with Design Thinking

- Empathy
- Experimentation
- Expansive thinking







# How to Communicate Your Data

- Develop a style and stay consistent
- Tailored for any situation
- Create a plan
- Easy to understand
- Persuasive
- Creative
- Ask a question





#### Data Visualization 101: Start with a Goal

- What is the purpose of your design?
- What is one key takeaway?
- Who is going to see this design?
- In what context?
- In what medium?





# Your Project

- Pick the dimensions
- Use existing templates
- Customize
- Balance
- Use negative space





# **Best Management Practices**

- Fonts
- Shapes, icons & illustrations
- Color palettes
- Limit text
- Organize your content
- Keep it simple
- Get inspired
- Ask for feedback





### Fonts

- Two fonts
- Don't settle
- Contrast and complement
- Adjust the weight of one font
- Font size, style and placement lead the viewer
- Confused? Canva has a guide to font pairing.







**29,269** unique users to the Connecticut Environmental Conditions Online (CT ECO) mapping website.

438 plants analyzed at the Plant Diagnostics Lab.

2,494 soil samples analyzed from 186 Connecticut towns and 21 U.S. states.



"The Climate Corps courses are the central reason why I chose to pursue urban planning. The lectures and guest speakers enticed me to research the job more on my own. I might never have realized this career path was an option without your help." - Amanda, Climate Corps Student





# Shapes, Icons, Illustrations

- Transparent shapes
- Use free stock choices
- Upload your own



Design: Canva





### **Color Palettes**

- 3-4 colors maximum
- Pick one color that will convey the idea or emotion
- Match your font color to your design
- Use the color contrast analyzer to make sure your colors are accessible (webaim.org)
- Good news on green it's trending





Complementary Color

Analogous Color





#### **Basic Chart Example**

#### Youth Involvement in 4-H





# Infographic Example



#### LEADING A HEALTHY LIFESTYLE WITH 4-H

4-H

Youth consume healthy foods such as: vegetables, fruits, whole grains, fat-free or low-fat milk and milk products, seafood, lean meats and poultry, eggs, beans and peas, and nuts and seeds due to information they learned in 4-H.





#### DRINK LOTS OF WATER



Aim for 8-10 glasses of fluid per day

#### YOUTH EATING FRUIT



4-H Makes a Difference. Youth experience positive outcomes and lead a healthy lifestyle through 4-H.

Learn More: 4-H.org





# Infographic Example



#### DRINK LOTS OF WATER



Aim for 8-10 glasses of fluid per day

#### YOUTH EATING FRUIT







#### Limit Text



Design: Canva





#### Example

25%

INCREASE IN COLLEGE APPLICANTS FROM 2018 TO 2019



4-H.org





### Example







### Social Media Post Example





### Poster Example

# look forward to a BRIGHTER FUTURE

COME

#### EXPLORE CAREER OPTIONS WITH 4-H

77% of 4-H youth explored future career options through 4-H

JOIN US AT 4-H.ORG







### Social Media Post Example

#### 4-H.ORG 62% OF 4-H YOUTH VOLUNTEER

Youth contribute to their peers, families and communities







### Organize Your Content

#### THE STAGES OF RESEARCH

**Miss Jones Science Class** 









# **Consistency Matters**

- Keep it simple
- Get inspired
- Ask for feedback





#### Resources

- A Step by Step Guide to Design from Scratch (Canva)
- 5 Tips from Canva Designers on Creating Better Looking Designs
- Color Trends in 2020 (Canva)
- The Ultimate Guide to Font Pairing (Canva)
- Design Thinking in Three Steps (Think With Google)
- How to Design Infographics (Canva)





### **Design School**

Design School > Courses > Graphic Design Basics

#### **Graphic Design Basics**

🚖 🚖 🚖 🚖 🕺 17,562 students





Practice some font pairing principles in this activity.







# **Design Time**

Pull out your data, and work on your own design at Canva.com





### **Questions**?

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