



# Data Visualization

Stacey Stearns  
UConn Extension



# Why?

“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

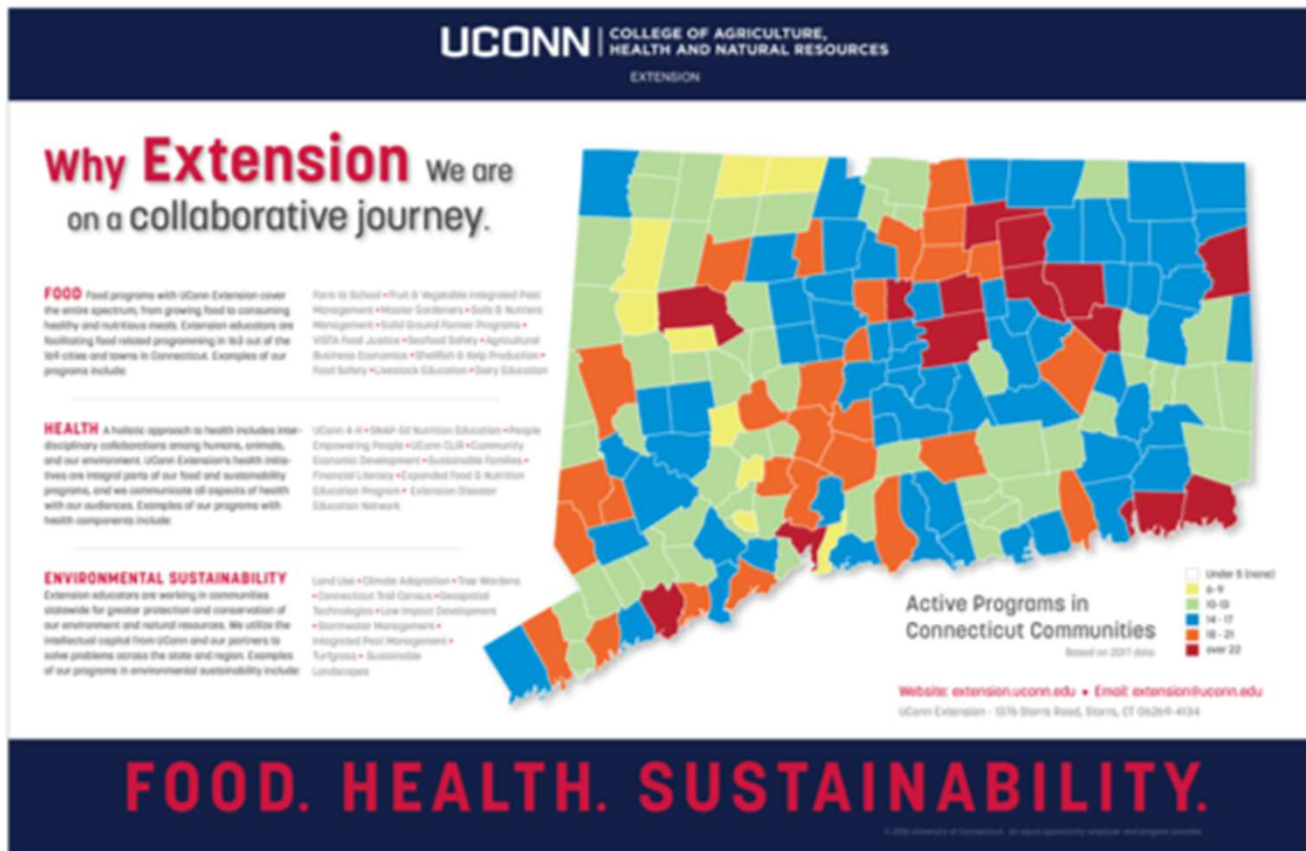


# Telling a Story with Data Visualization





# Telling a Story with Data Visualization





# Telling a Story with Data Visualization



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 in UConn 4-H.

## 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.

## 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?

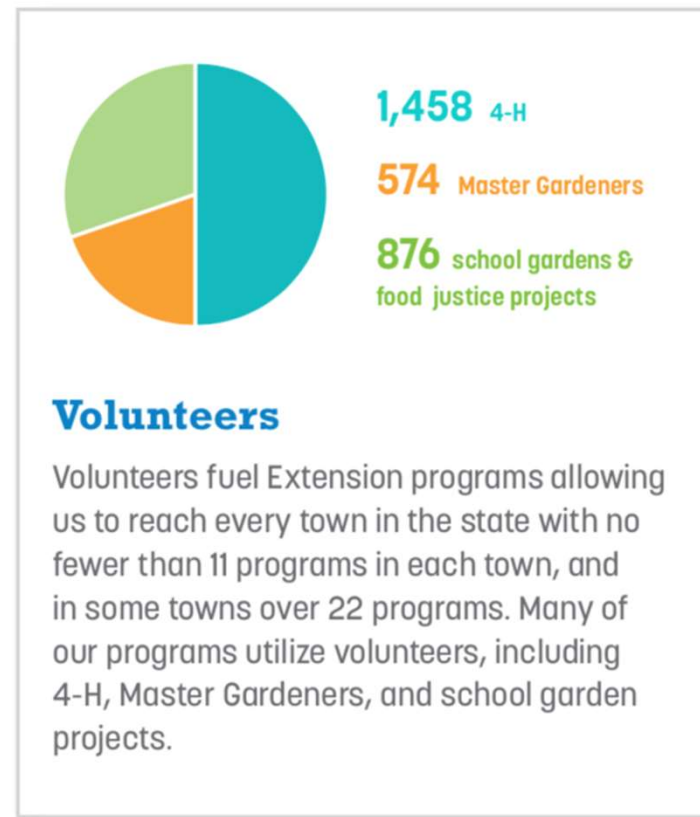
- **Pose questions to youth** to help guide them in making the connections to science and engineering programming at club activities.
- **Make explicit connections** for youth on the components of science and engineering during club activities.

\*This set of questions was only answered by 8th-12th graders





# Examples of Data Visualization





# Examples of Data Visualization





# Examples of Data Visualization

## 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







# Examples of Data Visualization

*"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

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

- PEP participant





# Examples of Data Visualization

## Citizens Engaged

- 15,461 Participants in Food programs
- 20,745 Participants in Health programs
- 40,046 Participants in Sustainability programs



  = 1,000

16,362 youth participated in 4-H programs

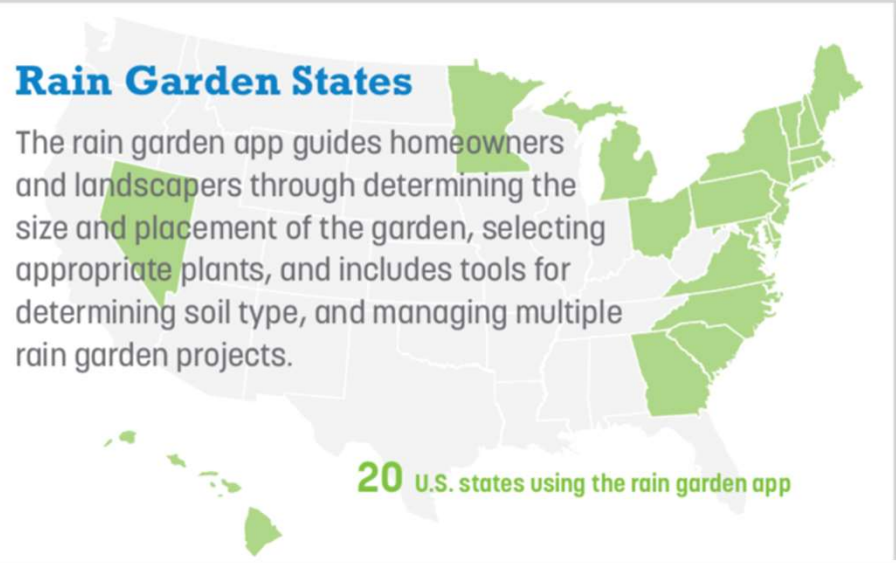




# Examples of Data Visualization

## 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.



## 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.

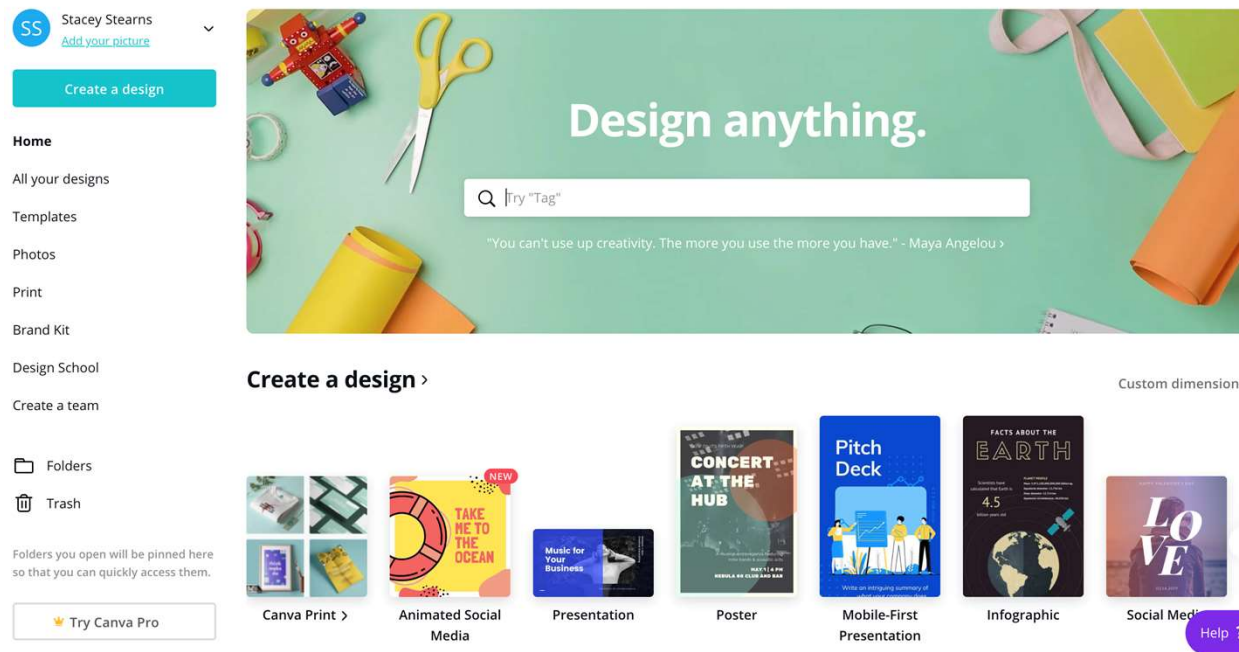


**1,500** land use decision makers

**4,500** tree wardens

# Help! I'm not a designer.

- Neither am I...meet Canva.com



# 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.



# Examples of Data Visualization

## SUSTAINABILITY

**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

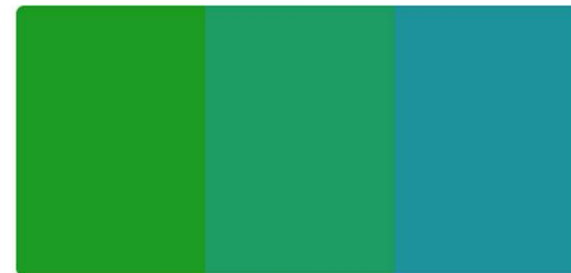


# Color Palettes

- 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](http://webaim.org))
- Good news on green – it's trending



Complementary Color



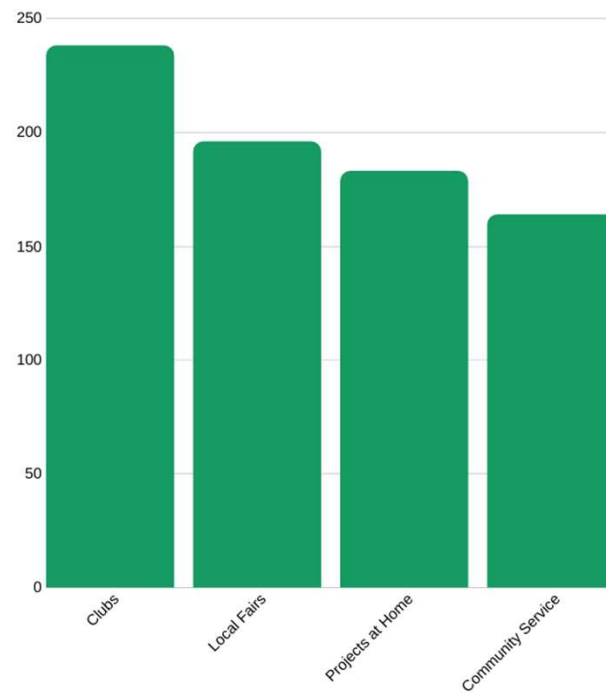
Analogous Color





# Basic Chart Example

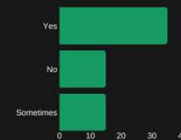
**Youth Involvement in 4-H**



# LEADING A HEALTHY LIFESTYLE WITH 4-H

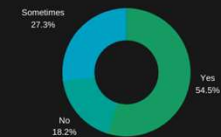
Youth consume healthy foods such as: vegetables, fruits, whole grains, fat-free or low-fat milk and milk products, seafood, lean meats and poultry, eggs, beans and peas, and nuts and seeds due to information they learned in 4-H.

## EXERCISE REGULARLY



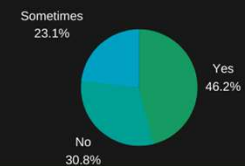
*As a general goal, youth should aim for at least 60 minutes of physical activity daily.*

## DRINK LOTS OF WATER



*Aim for 8-10 glasses of fluid per day*

## YOUTH EATING FRUIT



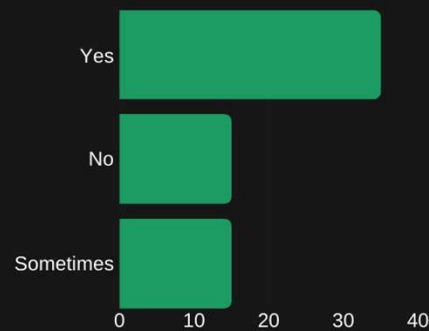
*4-H Makes a Difference.* Youth experience positive outcomes and lead a healthy lifestyle through 4-H.

# Infographic Example



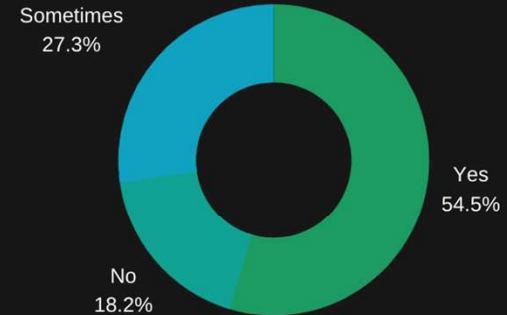
# Infographic Example

## EXERCISE REGULARLY



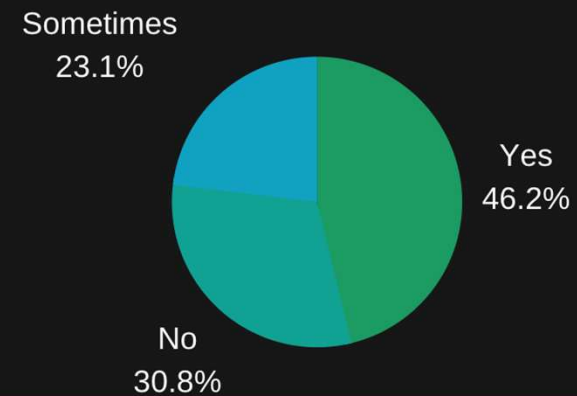
*As a general goal, youth should aim for at least 60 minutes of physical activity daily.*

## DRINK LOTS OF WATER



*Aim for 8-10 glasses of fluid per day*

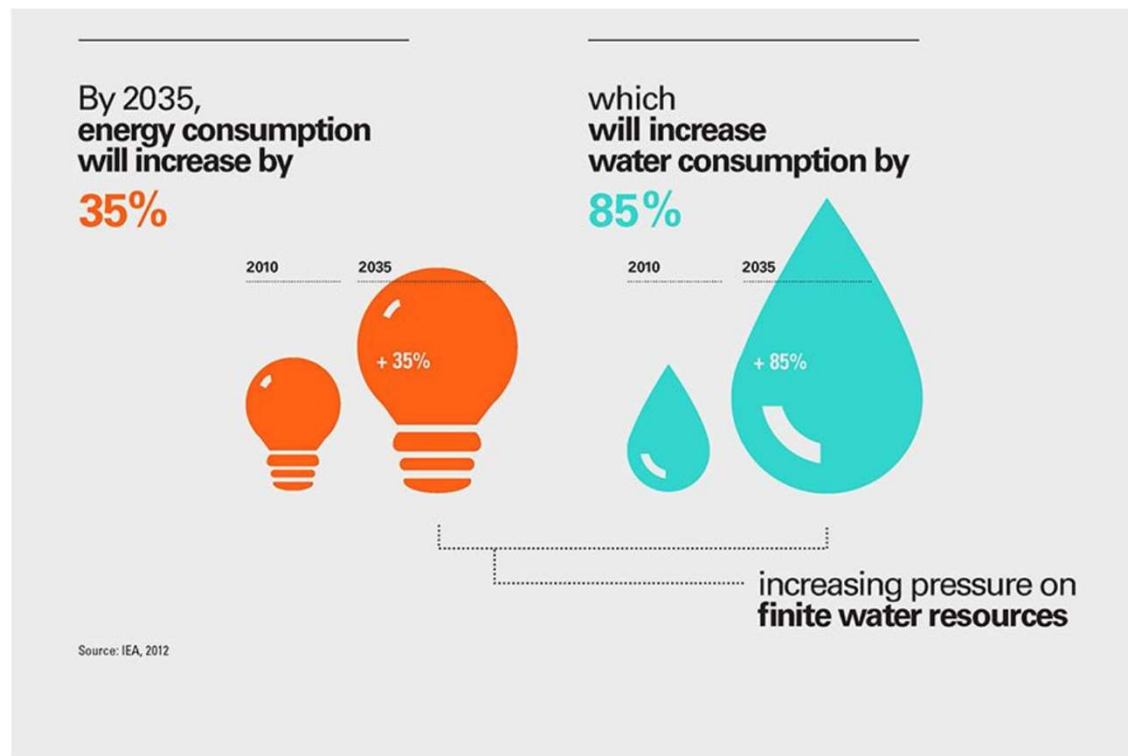
## YOUTH EATING FRUIT







# Limit Text





# Example

**25%**

INCREASE IN COLLEGE APPLICANTS  
FROM 2018 TO 2019

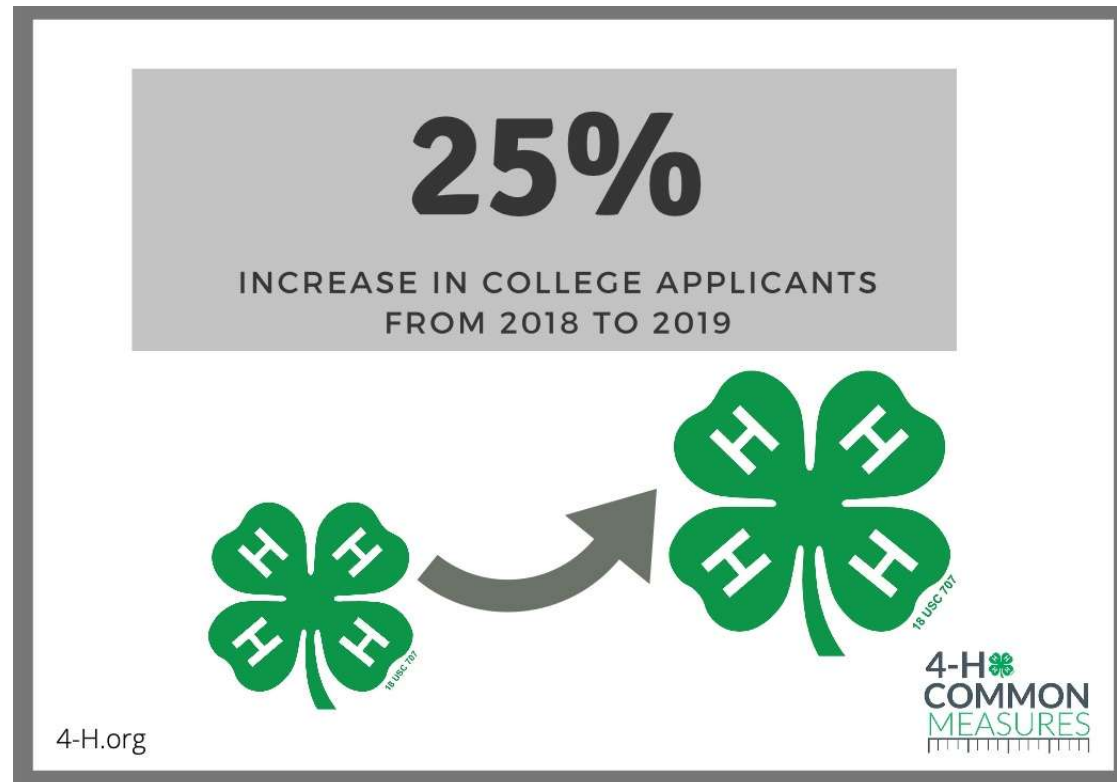


4-H.org

4-H  
COMMON  
MEASURES



# Example





# Social Media Post Example



# Poster Example

*look forward to a*

# BRIGHTER FUTURE

## EXPLORE CAREER OPTIONS WITH 4-H

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

JOIN US AT [4-H.ORG](http://4-H.ORG)






# Social Media Post Example

4-H.ORG

## 62% OF 4-H YOUTH VOLUNTEER

Youth contribute to their peers, families and communities

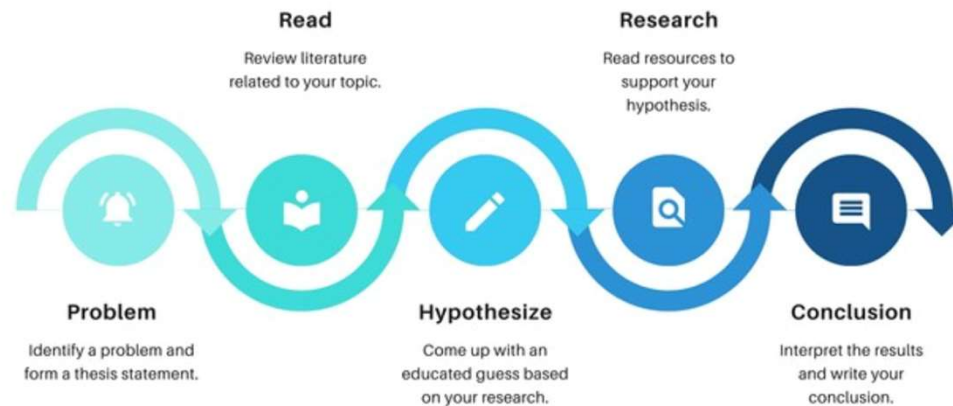
A photograph of six young people in a huddle, with their hands stacked in the center. They are wearing various colored shirts (orange, grey, green). The photo is taken from a low angle, looking up at the group.

4-H COMMON MEASURES

# 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

### Activity

Practice some font pairing principles in this activity.

**LEARN**  
When pairing fonts, remember that opposites attract.

**TALL**  
**SHORT**

**DO**  
Change the font of the two words below to better reflect their meaning.

Playful + Serious

Start activity



## Design Time

- Pull out your data, and work on your own design at [Canva.com](https://www.canva.com)



## Questions?

Stacey Stearns

Program Specialist, UConn Extension

860-486-9228

[Stacey.Stearns@uconn.edu](mailto:Stacey.Stearns@uconn.edu)