



# Developing Research Posters

Roxanna Reyna-Islas

**CEN**

**COLLEGIATE EDU-NATION**



# The great opportunity through Collegiate Edu-Nation (CEN)

There are several ways that teachers, departments, and schools incorporate long-term research projects into the science curriculum. Sometimes starts with a single teacher helping a few ambitious students who perform their research before and after school (through 4-H projects).

**Edu-Nation helps and supports schools to include research components throughout the curriculum so that upon graduating, students have conducted multiple research projects at various levels of difficulty**

# The STEM Research Project through CEN

- One of the components of CEN is the Science Technology, Engineering, and Math (STEM) research through 4-H project-based learning. The projects on the STEM fields can be tested using the **scientific method**, that is an inquiry process used to systematically:

- Study
- Investigate
- Provide explanations for observed phenomenon

By

- Observing
- Measuring
- Testing ideas



# The First Step Is Topic Selection

- Have a general idea of the entity to be investigated is very important!
  - Always select a topic that can be aligned with the specific grade level TEKS
  - Make sure that the studied entity and time of the year are a good combination (growing plants, collecting insects, etc.)
  - Select the place where the actual experiment is going to be performed (a classroom, greenhouse, farm, the playground, etc.).
  - If working with subjects (people), where are they going to be interviewed or participate (the times, in a classroom, always consider safety for the minor)



# General Topic Selection

- Addressed local (county, district, state-level) concerns, activities, and events with students
  - County agents are a great resource (they assess local needs, work with county advisory groups)
  - Use local newspapers, web reports, etc.
- Make a rough expense estimate
- Times to be able to use the entity
  - Are they going to be shipped?
  - Do they have to be a certain height, age, stage, etc.
  - Are they going to be available at that time of the year (season)?



# The Second Step Is Time Management

- Decide how much time is needed and/or available for a specific research project
- Next look at school calendars, time of the year (weather, etc)
- Then establish the deadlines (as with any other unit plan, starts with the end in mind)
  - Together with the deadlines it is essential to identify the location, times and person in charge where the specific task is being performed



APPROXIMATE DATES TO WORK ON	EXPERIMENT	DEPARTMENT
March 20 <sup>th</sup> - 24 <sup>th</sup>	Literature Research	AVID
March 20 <sup>th</sup> – 24 <sup>th</sup>	Experiment/Data Collection	Ag
	<b>PAPER COMPONENTS</b>	
April 3 <sup>rd</sup> – 7 <sup>th</sup>	Writing Introduction	AVID
April 5 <sup>th</sup> – 7 <sup>th</sup>	Work Cited or References	S. Study
April 3 <sup>rd</sup> -7 <sup>th</sup>	Materials and Methods	Science
April 3 <sup>rd</sup> – 7 <sup>th</sup>	Results and Conclusions	Ag
April 3 <sup>rd</sup> – 7 <sup>th</sup>	Graphs and Charts	Math
April 10 <sup>th</sup> -11 <sup>th</sup>	Grammar, Spelling, etc. Check	ELA
April 10 <sup>th</sup> -11 <sup>th</sup>	Abstract	AVID
April 10 <sup>th</sup> -11 <sup>th</sup>	Acknowledgements	Ag
April 17 <sup>th</sup> – 18 <sup>th</sup>	Poster Creation	Science
April 19 <sup>th</sup> – 20 <sup>th</sup>	Poster Editing	ELA
April 21 <sup>st</sup>	Score base on Rubric	Science
April 21 <sup>st</sup>	Poster Final Approval	Ag
April 26 <sup>th</sup>	Poster Printing	Technology
April 24 <sup>th</sup> – 25 <sup>th</sup>	Practice Oral Presentation	AVID
April 27 <sup>th</sup> – 28 <sup>th</sup>	Presentations	

# Sample Timeline



# Sample Experiment Design

**Topic:** Effects of different brooder floor space on chicks 4-8 weeks old

**Main Question:** Does different brooder floor space affects chick weight?

**Relevance:** Importance of poultry industry in Texas (egg production)

**Independent Variables (IV):** Number of chicks per brooder floor space

**Dependent Variable (DV):** Weight gain by chick group (by brooder)

**Data Collection layout:** Each team will be provided with 12 chicks, they will be distributed into 2 brooders, both brooders will have the same floor space (28" X 24"), one brooder will contain 4 chicks and the other will contain 8 chicks. Chicks will be 4 weeks old at the beginning of the experiment, and the observation period will last 4 weeks. Chicks will be weighted (as brooder group) once a week.

## Introduction Key Points

What are layer chickens? (common laying chicken breeds)

Characteristics (physical)

Recommended temperature, humidity environment for 4-8 weeks old chicks

Effects of confined chickens (floor space recommended for adult chickens)

Egg market (Texas production, USA production)

## Materials and Methods (per team)

12 female chicks (Rhode Island Reds)

2 brooders (28" X 24")

Wood shavings

Waterers

Feeders







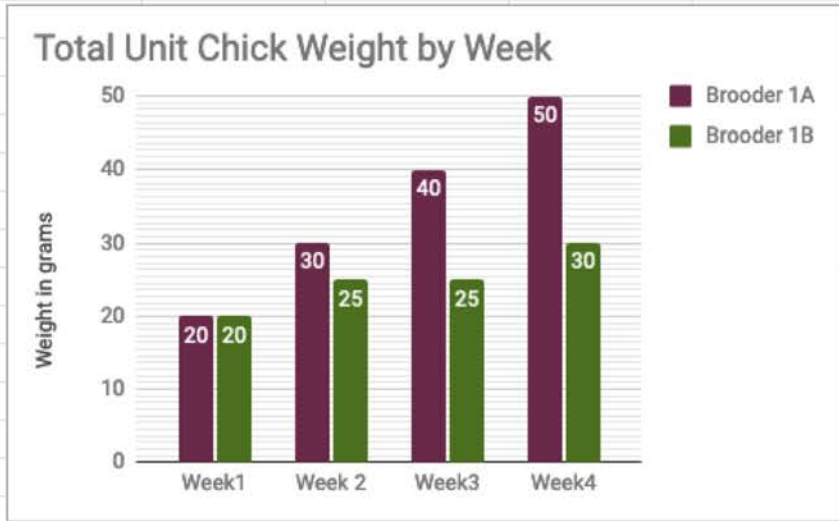
7th Grade Data 2017-2018



File Edit View Insert Format Data Tools Add-ons Help [Last edit was on November 13, 2017](#)

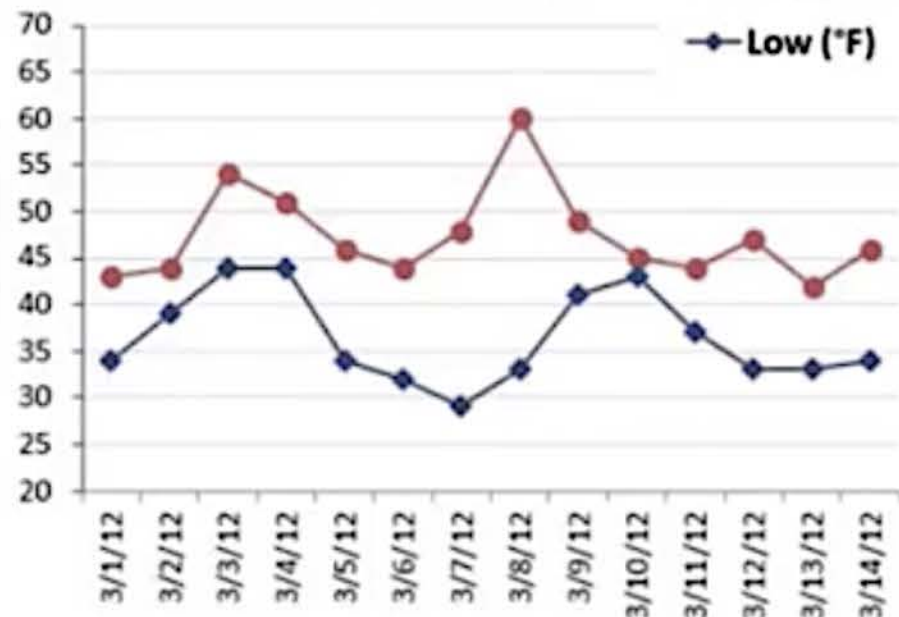


	A	B	C	D	E	F	G	H	I	J
1										
2						Week1	Week 2	Week3	Week4	
3					Brooder 1A	20	30	40	50	
4					Brooder 1B	20	25	25	30	
5										

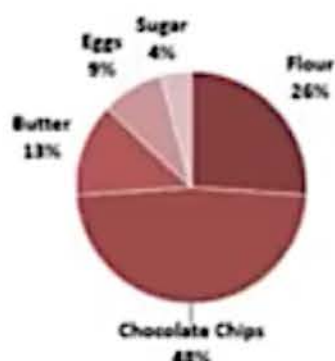


### Temperature in Seattle (March 2012)

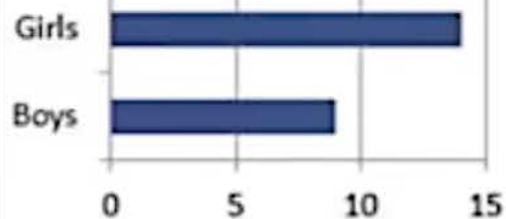
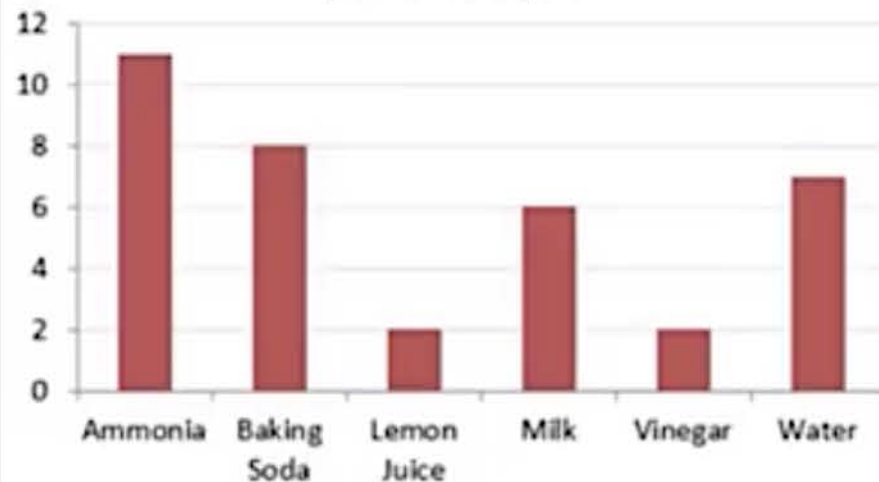
● High (°F)  
◆ Low (°F)



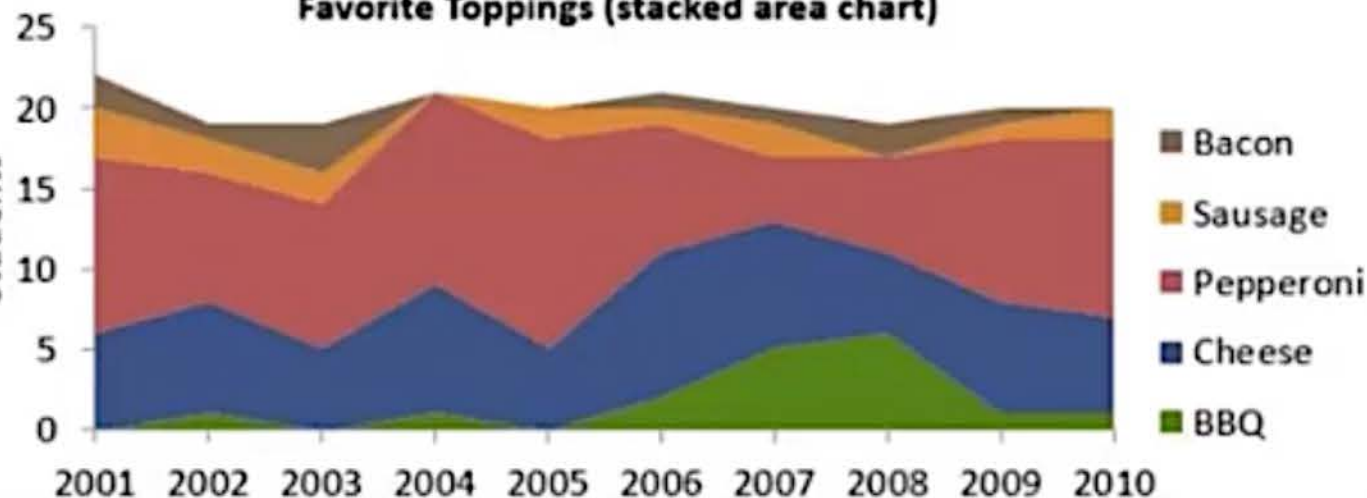
### Preferred Missing Ingredient



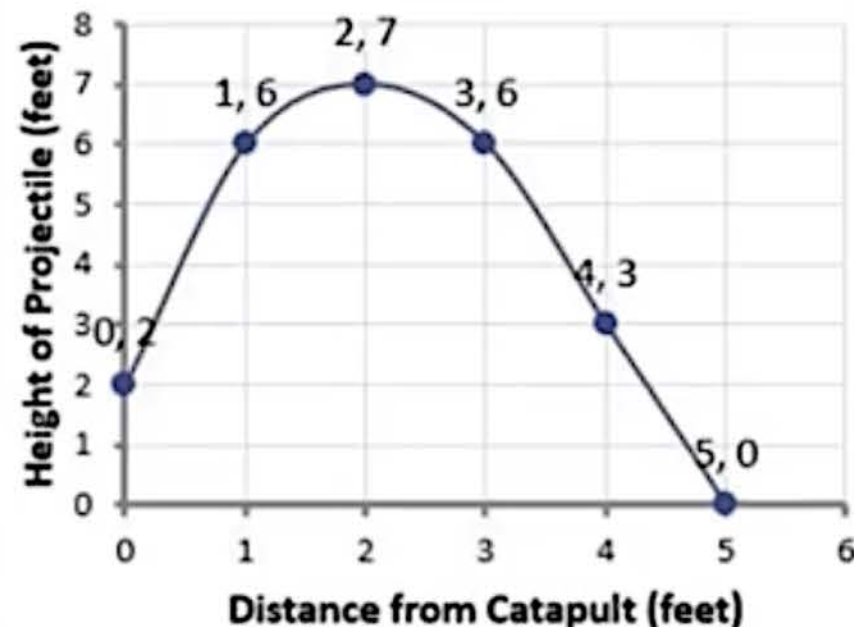
### pH Level of Liquids



### Favorite Toppings (stacked area chart)



### Catapult Projectile Height over Distance



# 3 Kinds of Input

Time

Every 5 minutes

Every day

Random times  
during day

Numerical

Distance away

Depth

Hours of  
sunlight

Categorical

Different  
liquids

People

Soil conditions

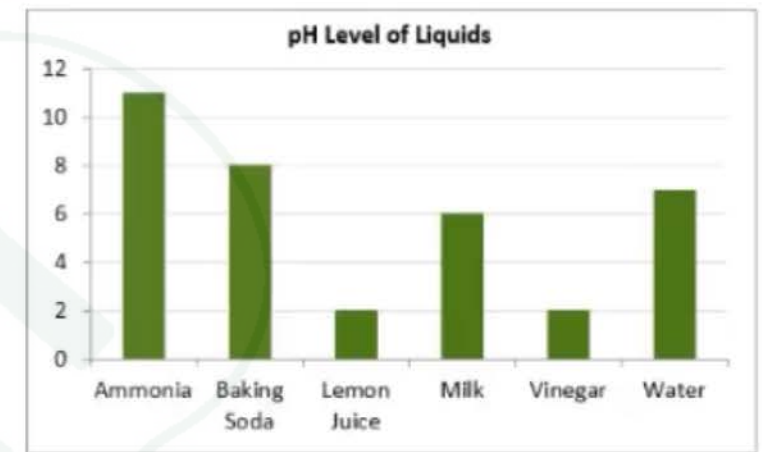
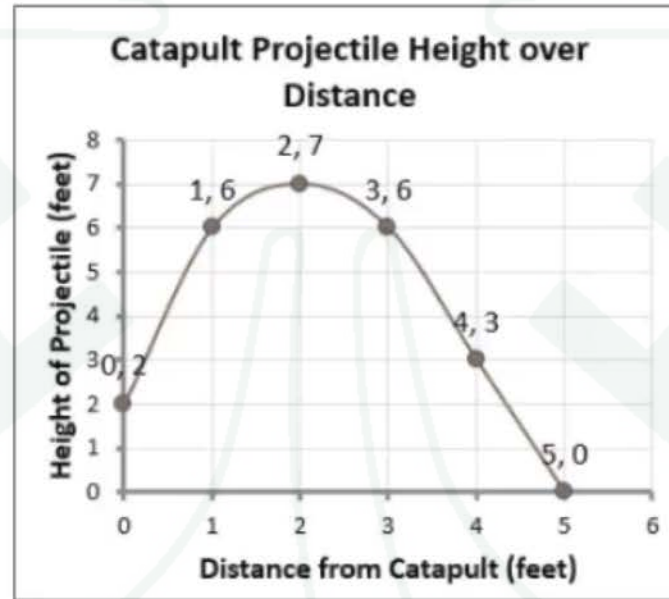
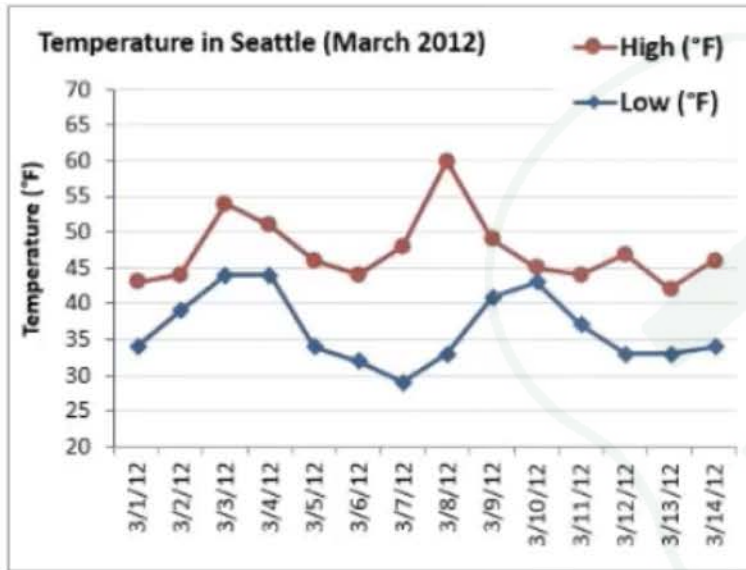
# 3 Kinds of Input



Time

Numerical

Categorical



COLLEGIATE

The main Google Apps we are using during our Research Projects or PBL are:

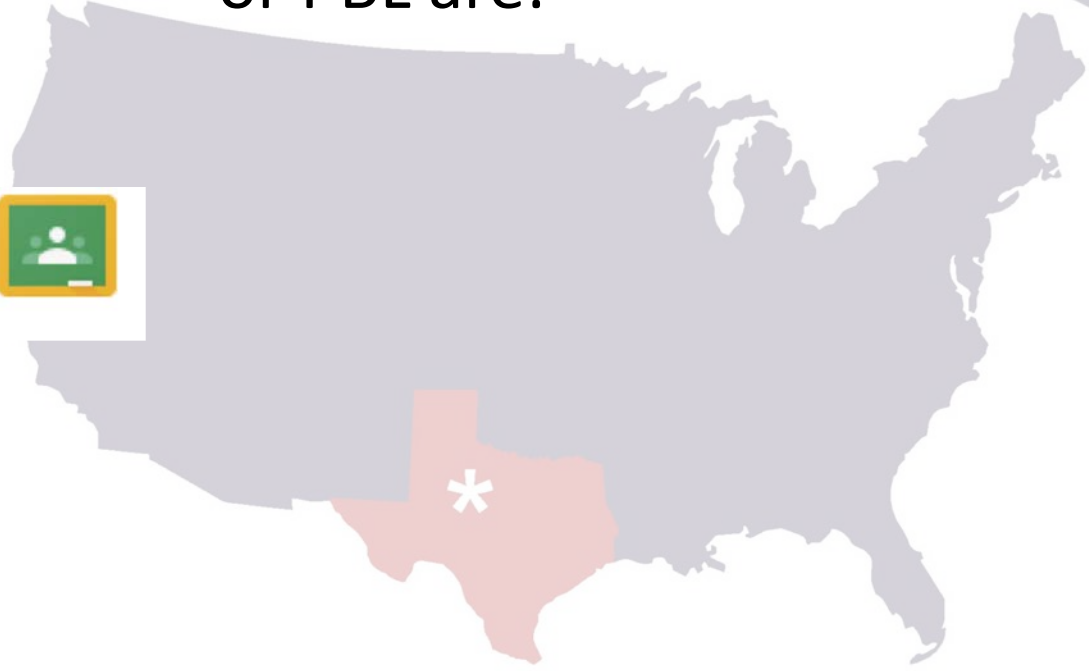
• Google Drive 

• Google Classroom 

• Google Docs 

• Google Slides 

• Google Sheets 

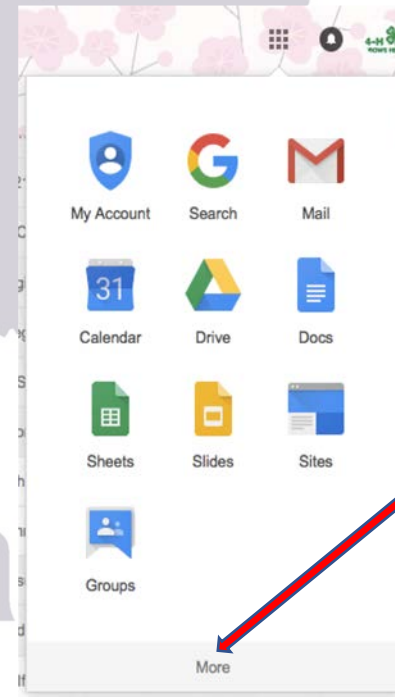
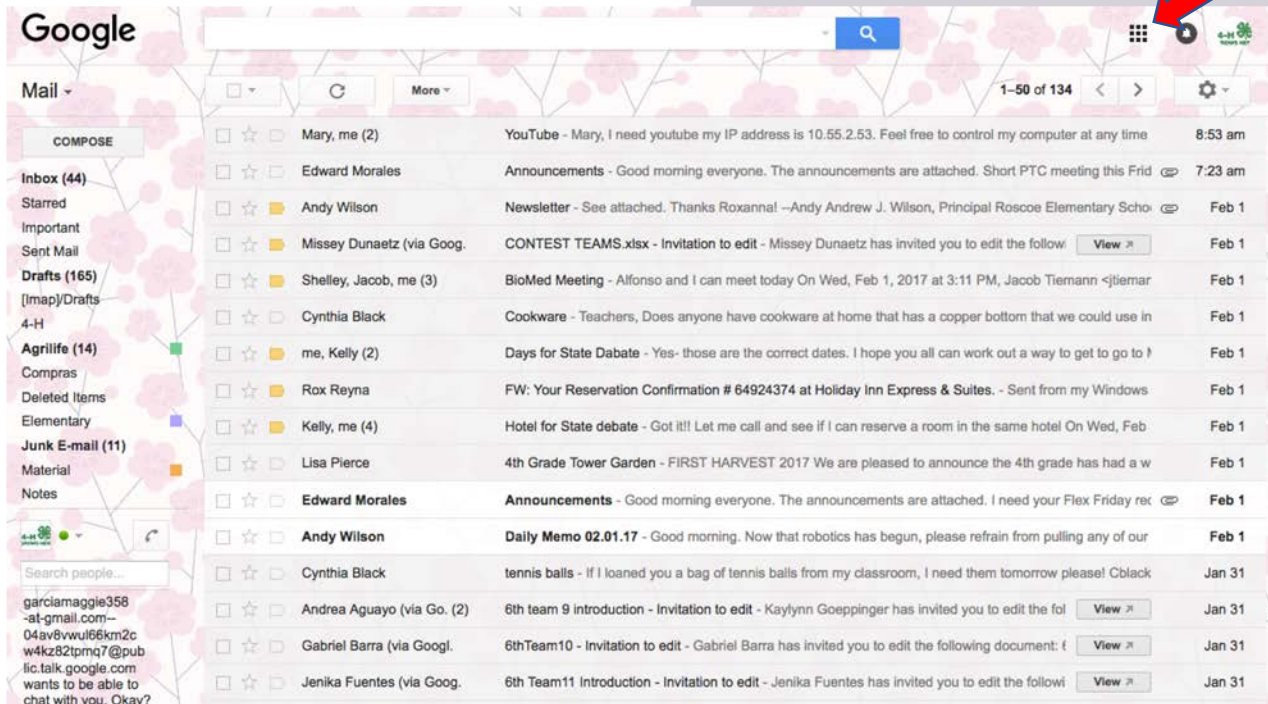


Edu\*Nation

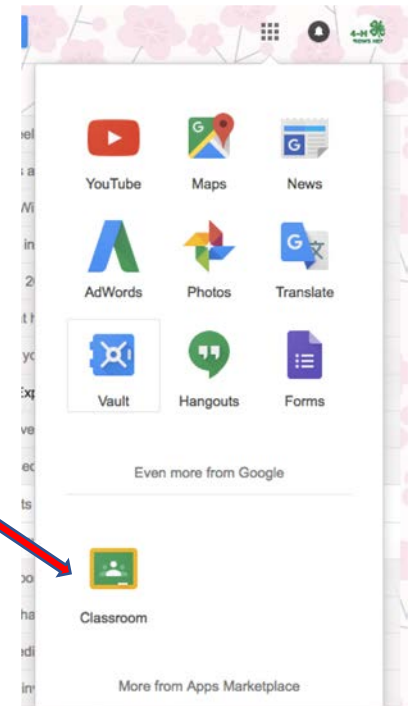
# Access to Google Apps

- Login to your roscoe.esc14.net email (Teachers and Students)

- Then click on the google apps and you will see the list of apps



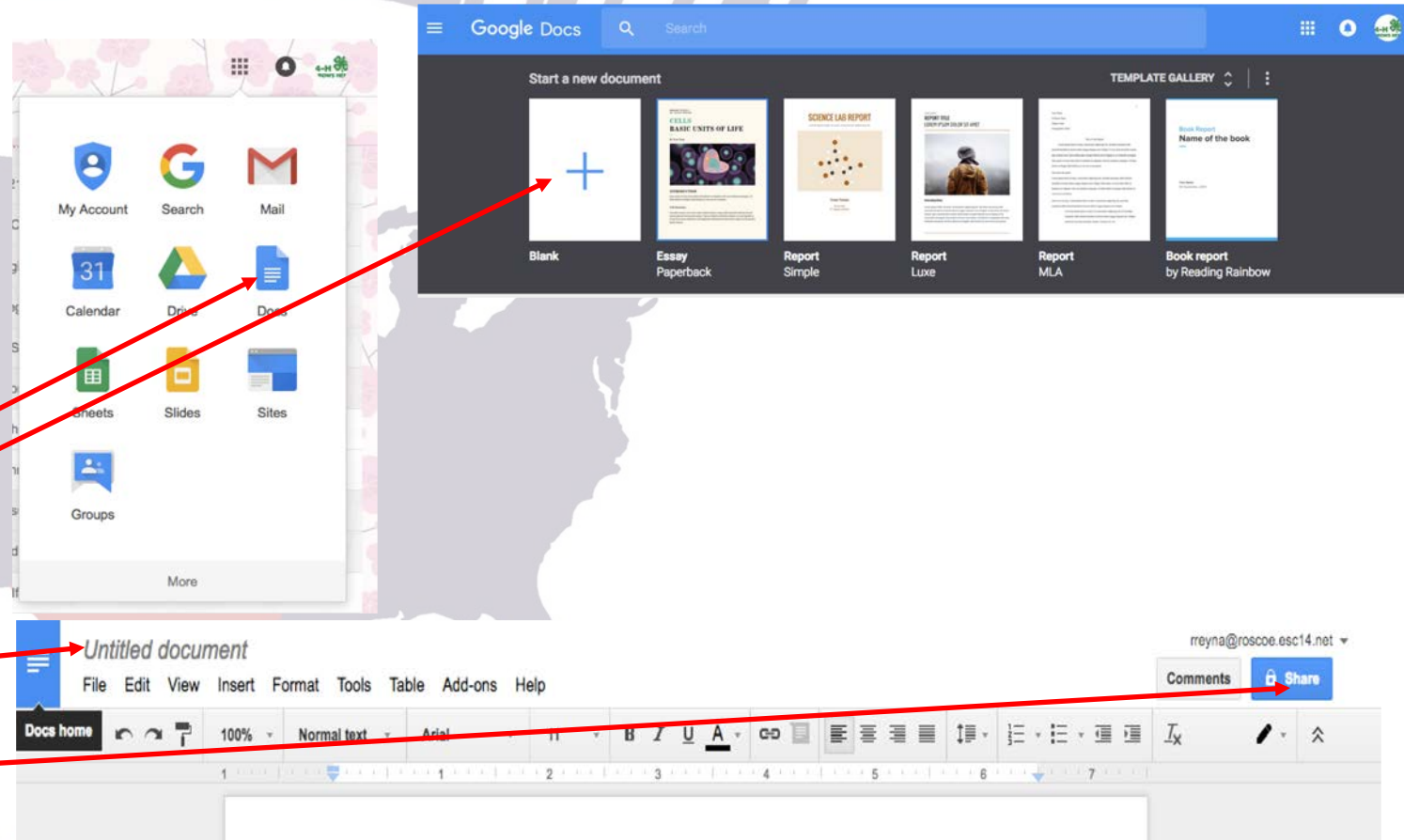
If you click on More. Other apps will appear, including Google Classroom



# Creating a google document


- Google Docs can be used to create Introductions, Materials and Methods, written results, conclusions, acknowledgements, References , etc.

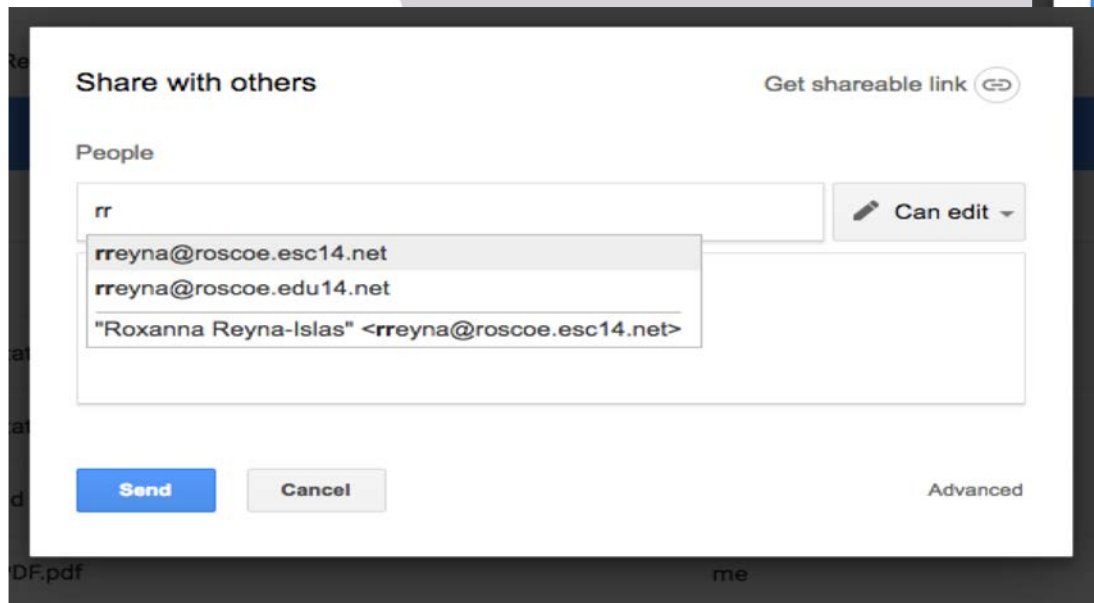
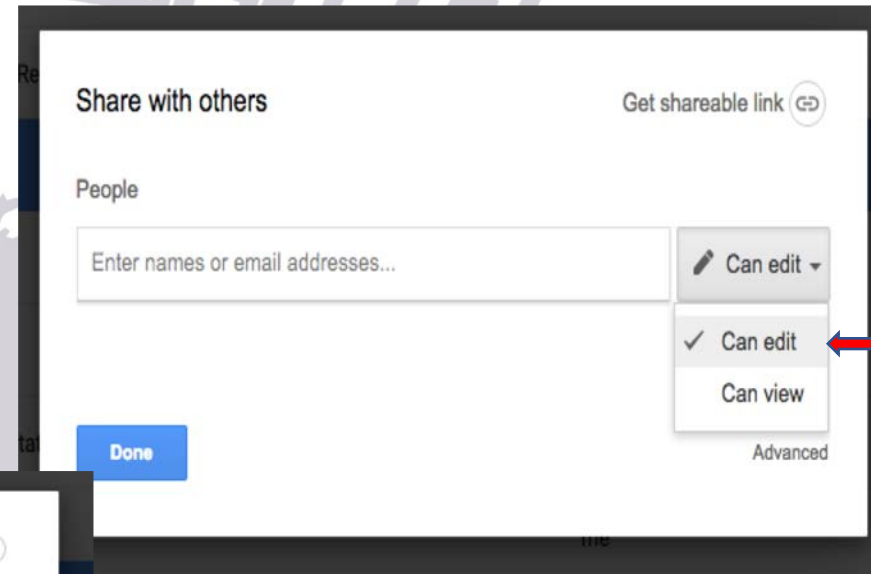
1. First go to Docs
2. Select Blank
3. Title your document
4. Share you document (with teachers and teammates)



The screenshot illustrates the steps to create a new Google Document. It shows the Google Docs homepage with a 'Start a new document' section. A red arrow points from the 'Docs' icon in the Windows Start menu to the 'Blank' document option in the 'Start a new document' section. Another red arrow points from the 'Blank' option to the 'Untitled document' title bar. A third red arrow points from the 'Share' button in the top right corner of the document editor to the 'Share' button in the list of steps.




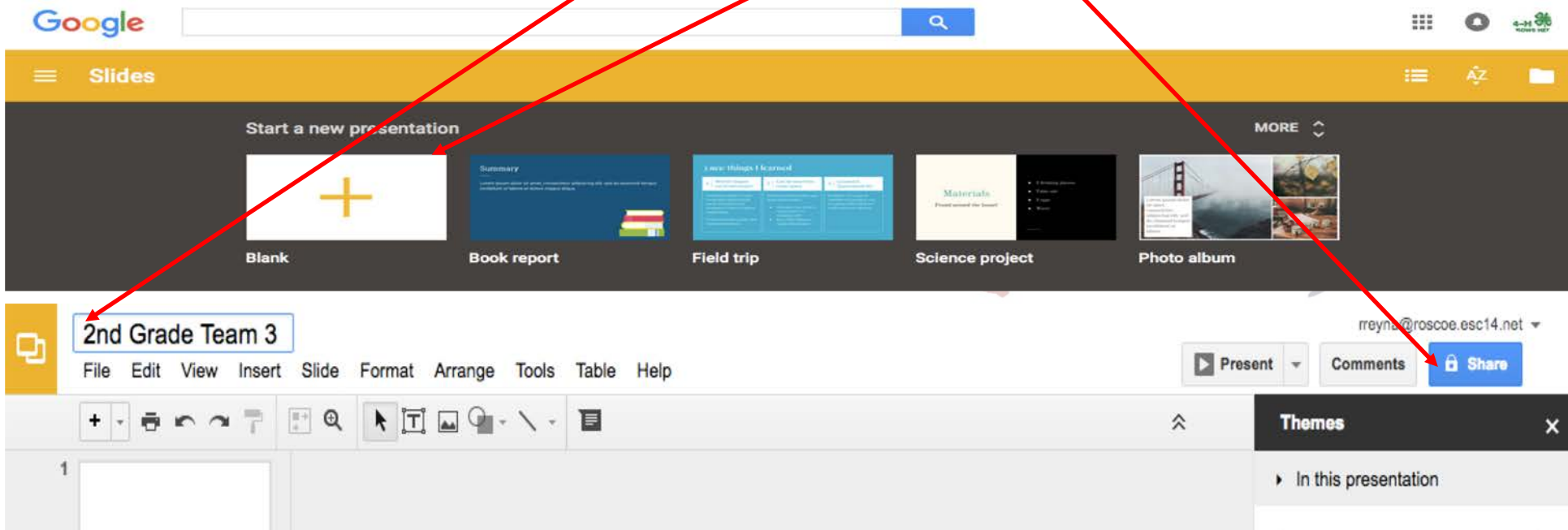
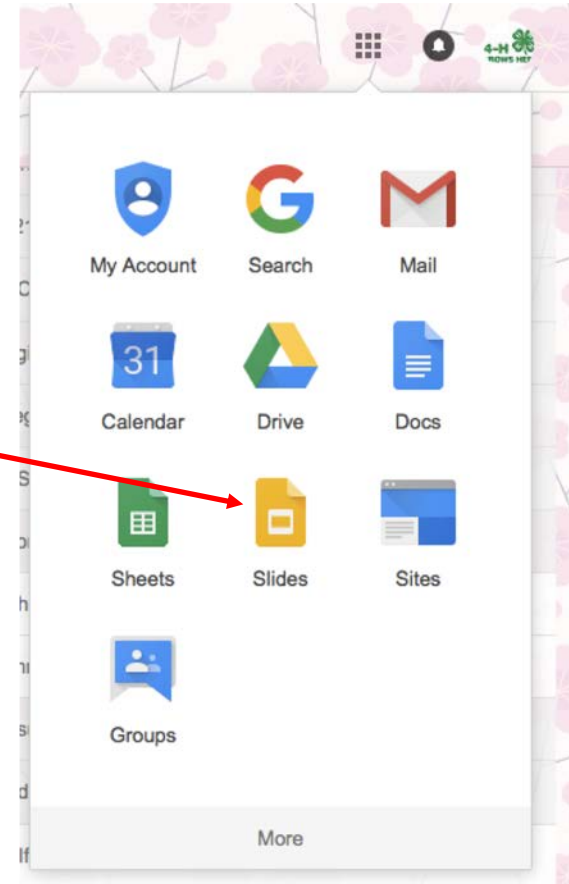
After clicking on the  button this box will appear, select can edit. Then, type the e-mail addresses of your teammates and teachers.




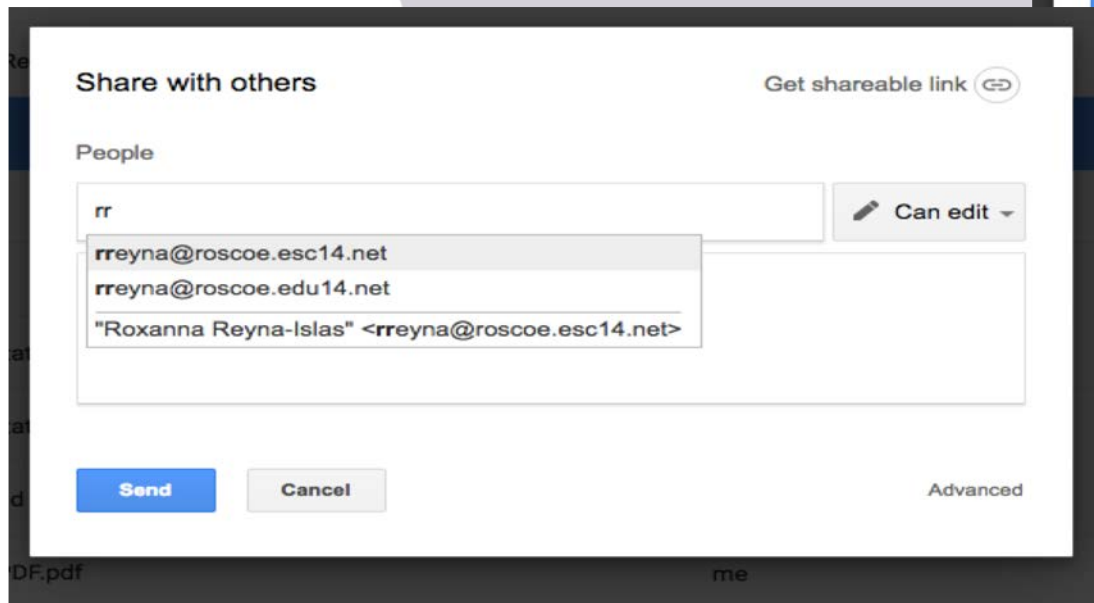
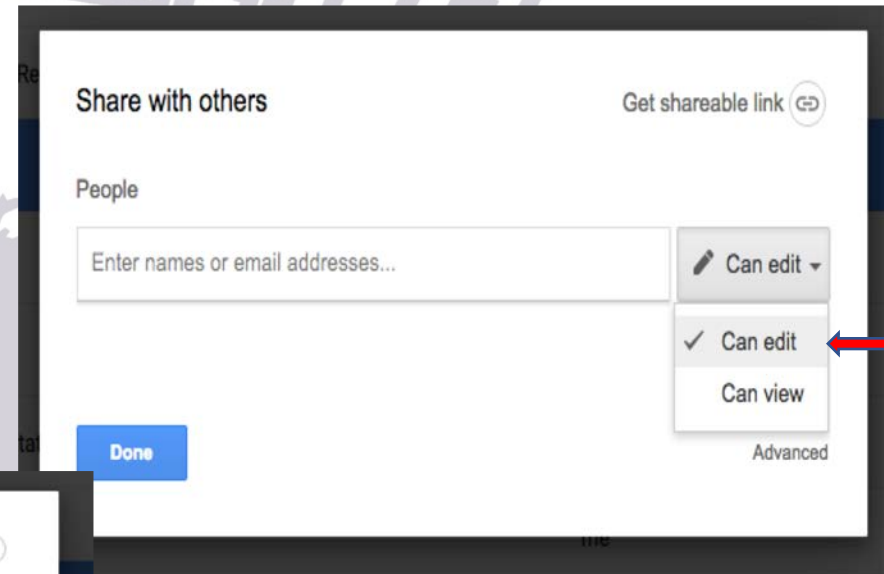
Click send, and the person will received an email invitation to see the file.

# Creating the Poster

- The app used to create the poster is Google Slides
- After selecting Google Slides click on Blank
- Then title your document
- After that, share it by clicking the  button



After clicking on the  button this box will appear, select can edit. Then, type the e-mail addresses of your teammates and teachers.



Click send, and the person will received an email invitation to see the file.



18 USC 707

reyna@roscoe.esc14.net

# 1. Change the slide layout to blank

The screenshot shows the Google Slides interface for a presentation titled "2nd Grade Team 3". The "Slide" menu is open, and the "Apply layout" option is selected. The layout selection panel is visible, showing various slide layouts. The "Blank" layout is highlighted with a green arrow. The main slide area shows a blank slide with a blue border.

2nd Grade Team 3

File Edit View Insert Slide Format Arrange Tools Table Help All changes saved in Drive

Present Comments Share

New slide (Ctrl+M)  
Duplicate slide  
Delete slide  
Change background...  
Apply layout  
Change theme...  
Change transition...  
Edit master  
Move slide up (⌘↑)  
Move slide down (⌘↓)  
Move slide to beginning (⌘+Shift+↑)  
Move slide to end (⌘+Shift+↓)  
Next slide (Pg-Down)  
Previous slide (Pg-Up)  
First slide (Home)  
Last slide (End)

Layout selection panel:

- Title slide
- Section header
- Title and body
- Title and two columns
- Title only
- One column text
- Main point
- Section title and description
- Caption
- Big number
- Blank



# 2.A Change the Page Setup



2nd Grade Team 3 ☆ ■

File Edit View Insert Slide Format Arrange Tools Table Help All changes saved in Drive

Present Comments Share

Background... Layout Theme... Transition...

- Share...
- New ▶
- Open... ⌘O
- Rename...
- Make a copy...
- Move to...
- Move to trash
- Import slides...
- See revision history ⌘+Option+Shift+H
- Language ▶
- Download as ▶
- Publish to the web...
- Email collaborators...
- Email as attachment...
- Document details...
- Page setup... ←
- Print settings and preview
- Print ⌘P

Click to add notes

# 2.B Change the Page Setup selecting Custom



The screenshot shows the Google Slides interface for a poster template. The main slide area is a light purple color with a grid of sections: Logo Roscoe, Title Test (A. Isias, R. Reyna, R. Smith, F. White), Logo 4-H Logo, Abstract, Materials and Methods, Conclusions, Introduction, Acknowledgments, and References. A 'Click to add notes' box is at the bottom. The 'Layout' menu is open, showing options: Standard 4:3, Widescreen 16:9, Widescreen 16:10, and Custom (highlighted). The right sidebar shows the 'Themes' panel with options: Simple Light, Simple Dark, and Material. The top menu bar includes File, Edit, View, Insert, Slide, Format, Arrange, Tools, Table, Help, and a status bar indicating 'All changes saved in Drive'.

## 2.C Change the Page Setup to custom 36 X 24 inches



A screenshot of a Google Docs interface showing a poster template. The document title is "[Template] Poster Template". The menu bar includes File, Edit, View, Insert, Slide, Format, Arrange, Tools, Table, and Help. The toolbar shows various editing tools. The main content area is a light purple poster template with sections for "Logo Roscoe", "Title Test" (with authors A. Islas, R. Reyna, R. Smith, F. White), "Logo 4-H Logo", "Abstract", "Materials and Methods", "Conclusions", "Introducti", "References", and "Acknowledgments". A "Page setup" dialog box is open in the center, showing "Custom" as the page type, with dimensions set to "36" x "24" inches. The dialog has "OK" and "Cancel" buttons. At the bottom of the screen, there is a "Click to add notes" button.



### 3. Add subtitles to the slide

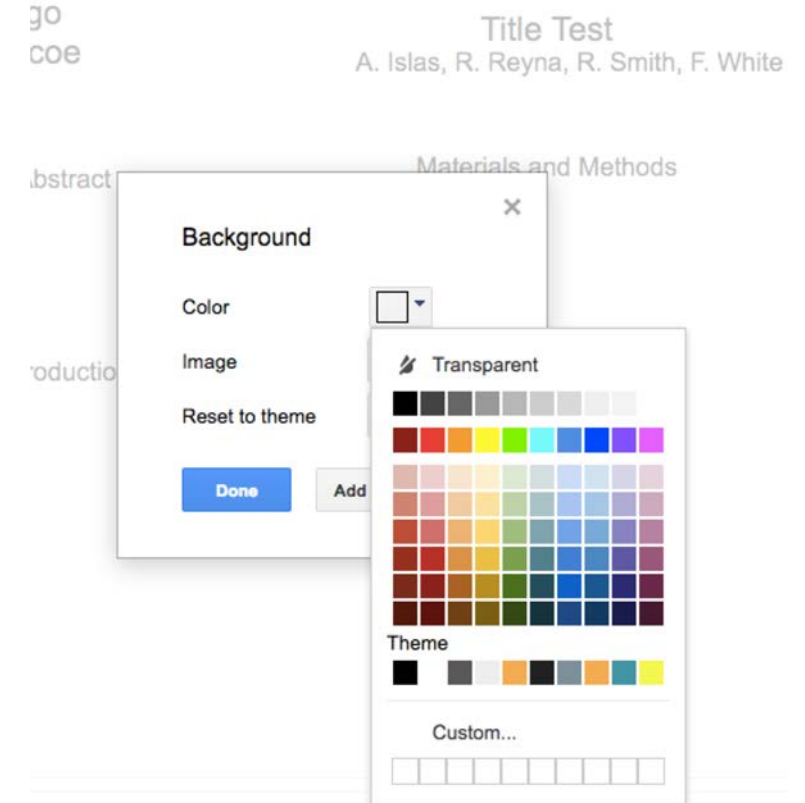
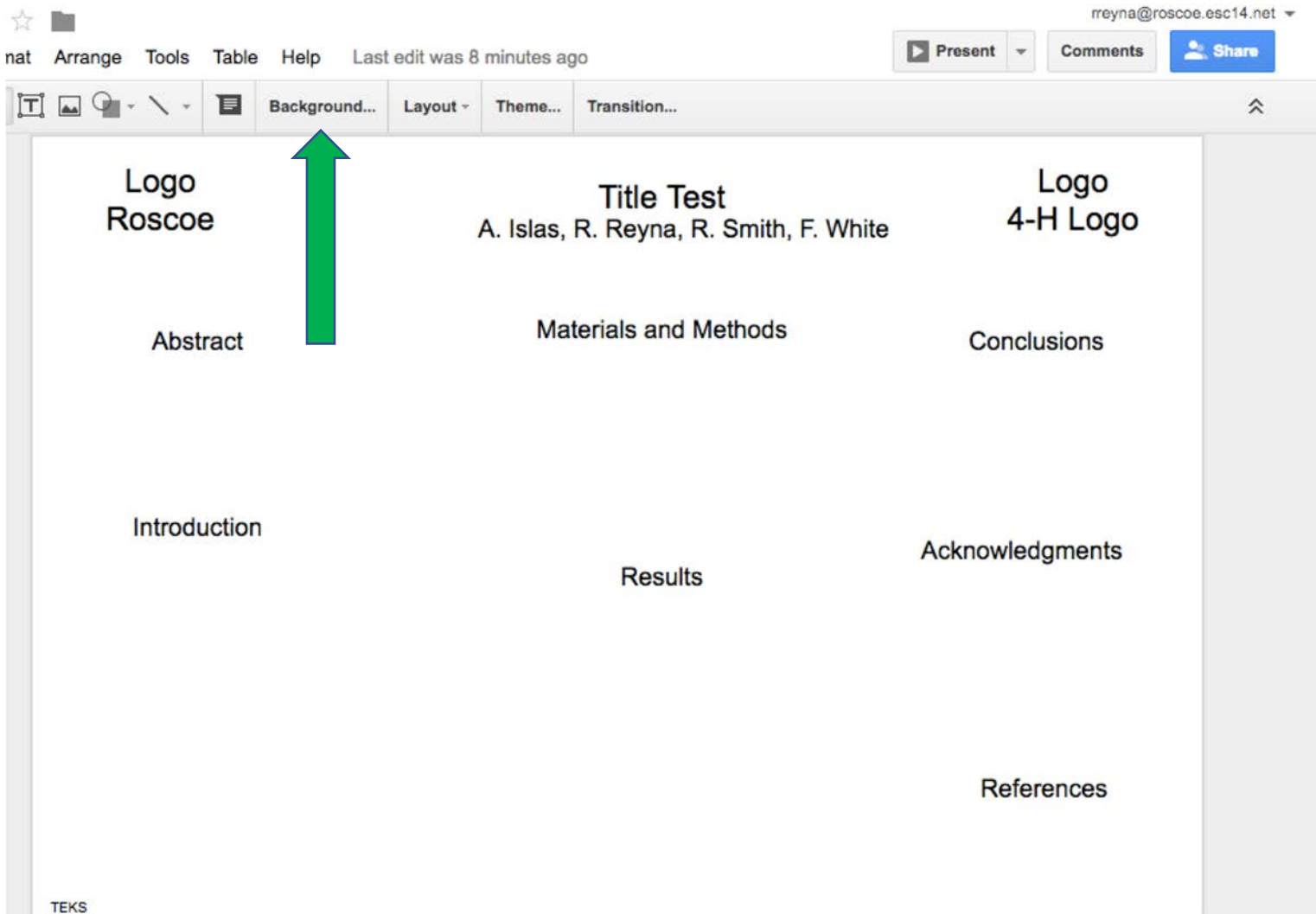
Logo Roscoe	Title Test A. Islas, R. Reyna, R. Smith, F. White	Logo 4-H Logo
Abstract	Materials and Methods	Conclusions
Introduction	Results	Acknowledgments
		References

TEKS



# 4. Change Background color

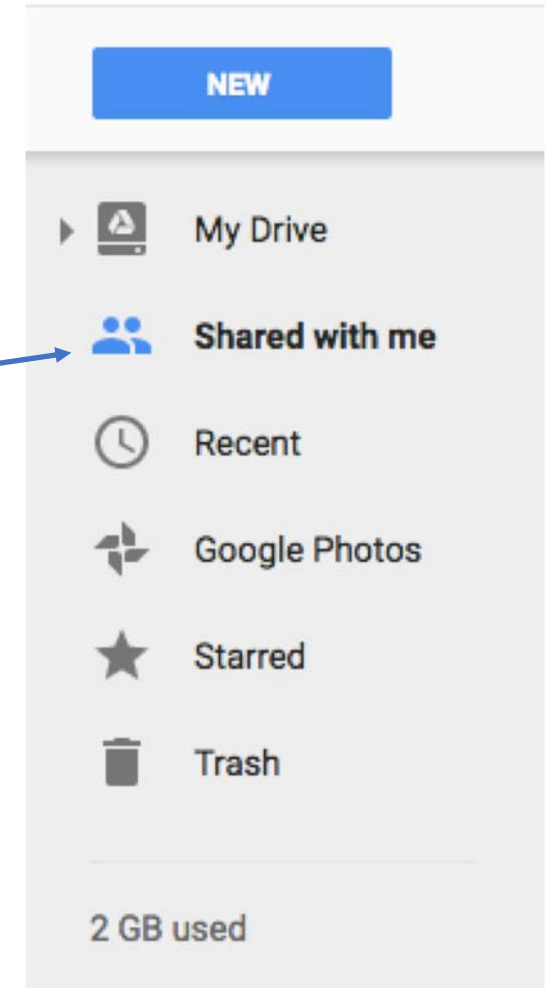
Go to Background, a new window will appear, then you can select a color



# Sharing a document that is saved on Google Drive

- When a document was created using any of the google apps, it is automatically saved to your Google Drive.
- Also the documents that were shared with you can be accessed from your Google Drive by selecting “Shared With Me”.
- The documents that were shared with you, can be shared by you as well

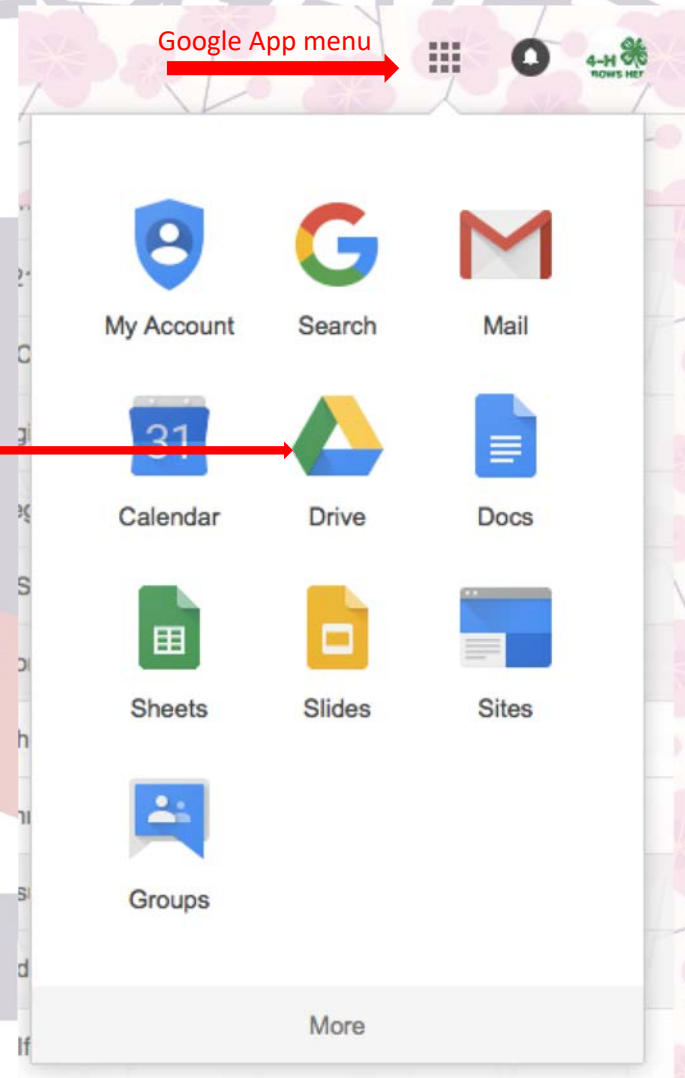
Google Drive



# How to share a document using google slides, docs, or sheets?



From the google app menu, select Drive



On google drive,  
select the file to be  
share and click on  
share button



Google Drive interface showing a file list. The file 'LOGOS' is selected. A red arrow points to the share button (person icon) in the top right of the file list.

Name	Owner	Last modified	File size
7th Grade Data	me	Oct 5, 2016 me	-
7th Grade PBL Resources	me	Sep 13, 2016 me	-
<b>LOGOS</b>	me	Sep 2, 2016 me	-
Pics	me	Aug 16, 2016 me	-
Classroom	me	Aug 2, 2016 me	-
Untitled presentation	me	10:32 AM me	-
Untitled presentation	me	9:59 AM me	-
Sugarcane Aphid 2016.pdf	me	Sep 20, 2016 me	1 MB
SCA (Mathew)PDF.pdf	me	Sep 20, 2016 me	1 MB
7th Grade Research Project Timeline	me	Sep 15, 2016 me	-
SCA (Mathew)PDF.pdf	me	Sep 15, 2016 me	1 MB



After clicking on the share button this box will appear and you can select can edit or can view. Then, type the e-mail address of the person you would like to share the file with.

Share with others Get shareable link

People

Enter names or email addresses...

Can edit

Can edit

Can view

Done

Advanced

Share with others Get shareable link

People

rr

rreyna@roscoe.esc14.net

rreyna@roscoe.edu14.net

"Roxanna Reyna-Islas" <rreyna@roscoe.esc14.net>

Send Cancel

Advanced

Click send, and the person will received an email invitation to see the file.

# Using Google apps!

## Benefit 1

### Version History



8th Grade Group 1 Poster ☆ 📁 📄

File Edit View Insert Format Slide Arrange Tools Add-ons Help Last edit was made on March 8, 2017 by Georgia Bowers

Present Share

Background Layout Theme Transition

Share

New

Open

Import slides

Make a copy

Email

Download

Version history

Rename

Move

Add shortcut to Drive

Move to trash

Publish to the web

Document details

Language

**TEXAS A&M AGRILIFE EXTENSION**

**The Hatchability Rate of *Gallus gallus domesticus* in Different Incubators!**  
 B. Beal, G. Bowers, Z.Parrott

**Abstract**

If the different incubators are related to the hatchability of the fertilized eggs, then the IncuView will produce a higher hatchability rate of fertilized eggs. The incubators work as a helpful process for farmers or for people in the egg industry to produce more eggs in less amount of time. 180 fertilized Single Comb White Leghorn chicken eggs were then checked for imperfections and randomly assigned to Little Giant 9300 Forced Air Incubator(41 eggs), IncuView All-in-One Incubator(26 eggs), Genesis Hovabator(41 eggs), Brinsea Octagon 20 Advanct(25 eggs).The groups candled the eggs checking the embryonic development, or how far along the eggs were. The incubator that performed the best was the Genesis Hovabator. There was also a low hatch percentage on other incubators besides the Genesis Hovabator. If

**Materials and Methods**

Four incubators were set at recommended settings: Little Giant temperature- 37.5 degrees Celsius, humidity- 60-80%, IncuView- temperature- 37.5 degrees Celsius, humidity-40-60%, Hovabator- temperature- 37.5 degrees Celsius, humidity- 45-55%, Brinsea- temperature- 37.39- 37.5 degrees Celsius, humidity-40-50%. 180 fertilized Single Comb White Leghorn chicken eggs were then checked for imperfections and randomly assigned to Little Giant 9300 Forced Air Incubator(41 eggs), IncuView All-in-One Incubator(26 eggs), Genesis Hovabator(41 eggs), Brinsea Octagon 20 Advanct(25 eggs). Day, date, time, temperature, humidity, water level, timer, Embryonic Development (every seven days), person checking the incubators, and autocountments were collected on a log sheet daily for 21-23 days. The groups candled the eggs checking the embryonic development, or how far along the eggs were. The groups used incubators, candling, a breaker, heat lamps, bedding, water, and housing.

**Results**

Incubator	Day 20	Day 21	Day 22	Day 23
Little Giant	0	0	0	0
IncuView	0	0	0	0
Hovabator	0	0	10	0
Brinsea	0	0	0	0

**Total Percentages of Eggs Hatched**

Incubator	Percentage
Little Giant	11.03%
IncuView	31.21%
Hovabator	60.99%
Brinsea	29.27%

**Conclusion**

If different incubators are related to the hatchability of the fertilized eggs, then the IncuView would produce a greater hatchability rate of fertilized eggs. The hypothesis was incorrect. The Genesis Hovabator performed the best out of all the incubators. More work would be beneficial in the results of the data. What could have affected the result of the data is the fan in the incubator, like with the Little Giant, the incubator was so big that the fan didn't reach the other side which created condensation on the window. The other hand the other incubators it could have been the way the incubator turned, how the humidity and temperature changed, or the amount of water that each incubator had to received. There was also a low hatch percentage on other incubators besides the Genesis Hovabator. The purpose of the experiment is to show the farmers the most efficient incubator. The incubator that performed the best was the Genesis Hovabator. The Little Giant on day 20 hatched zero eggs, day 21 hatched two eggs, day 22 hatched three, and on day 23 hatched two eggs. Seven eggs in total were hatched and 41 eggs were set, 17 percent was hatched. The Little Giant performed the worst out of all the incubators that were tested. The IncuView on day 20 hatched zero eggs, day 21 hatched five eggs, day 22 hatched seven eggs, and day 23 one egg was hatched. 13 eggs in total were hatched and 26 were set, 50 percent were hatched. The Genesis Hovabator on day 20 hatched zero eggs, day 21 hatched 11 eggs, day 22 hatched 12 eggs, and day 23 hatched two eggs. 25 eggs in total were hatched and 41 eggs were set, 61 percent was hatched. The Brinsea Octagon 20 on day 20 hatched six eggs, day 21 hatched one, on day 22 hatched five eggs, and on day 23 zero eggs were hatched. 12 eggs were hatched and 25 eggs were set, 48 percent were hatched.

**References**

Penn State Extension. (2017). *Modern Egg Industry- Poultry* [Brochure]. Old Main, State College, PA. Clauer, P.

Cuteness. (2017). *How Long Does it Take for Chickens to Mature?* Retrieved from the Cuteness website: <https://www.cuteness.com/article/long-chickens-mature>

Usery, H., *Islandic Chickens: A Heritage Breed for Modern Homesteads*. Topeka, KS: Ogden Publications, Inc. Retrieved from Mother earth News website: <http://www.motheartnews.com>

**Acknowledgments**

The group would like to thank the following sponsors for helping further our success with our science project. Our sponsors were Rowce Collegiate ISD Board of Trustees and the Texas AgriLife Extension. Also would like to give a special thanks to our teachers for supporting us in our project.

## Version History

- Being able to see progress by date
- Being able to see who made changes (who added information among team members)

J. Gonzales and C. Gray

## Background Research

According to Clay (2007), "Whether it's crop damage, livestock predation, environmental degradation, or disease transmission, feral hogs play a substantial role.". Feral hogs have become an infestation world wide. In one case in the that happened in California, 200 people became sick and 3 people died by eating fresh spinach that was contaminated by E. coli. The E. coli was traced back to feral hogs manifesting in California. Feral hogs are hogs that came from a domestic background or have escaped, and through generation after generation they have adapted to learn how to survive thus creating feral hogs. "Last year, in Texas alone, our personnel took 14,507 feral hogs – more than the total amount that we had taken throughout the entire county the year before!" The most common methods that are used to get rid of feral hogs are shooting them down, live traps, snares, and field shooting. The problem with this is that hogs adapt quickly and thrive in any environment that they move to. They also can graze on anything because of well fit stomachs for anything as well as following the fact that they are omnivores. According to Clay (2007) "Most landowners, especially farmers and ranches, view them as a real menace that causes damage to fences and deer feeders, kills livestock, and eats farm crops, as well as corn thrown from a deer feeder.". Feral hogs also breed quickly and once the female sow has piglets with minutes the piglets are up and moving around as they are quick to adapt. This creates infestation early on in farms, ranches, and personally owned land. Feral hogs are destructive for mainly two reasons. Feral hogs are tough and thick skinned which allows them to be aggressive with any target. They also travel in packs which creates more damage when you have a litter of 8-10 hogs traveling together trying to survive.



## Introduction

According to Graves (1984) "There is a rising population on feral hogs in Texas. This is becoming problematic for hunters. Feral hogs eat feed delivered by wildlife feeders before targeted wildlife, reducing the amount of feed available for game animals". Research suggests that fences 28-34 inches tall effectively prevent hogs from reaching the feed, while allowing adult deer to gain access to feed (Mapston, 2004). To see if these precautions that hunters take is really affecting. We will be setting up 31 inch panels around the feeder. The distance that the panels will be around the feeder will be determined by how far the wildlife feeder throws the corn around the area of the feeder. The experiment will occur on land in Fisher County in Roby, Texas. A game camera will be placed approximately ten feet from the panels around the wildlife feeder.

The entity, in the study, is the feral hogs. The question is if the infestation of feral hogs will decrease around a wildlife feeder if 31 inch panels are setup. The results should be positive and represent that the feral hogs, will have no limitation to the corn that the wildlife feeder has thrown out for intended wildlife. For this experiment, there must be a better understanding about the feral hogs. Extensive amounts of research on feral hogs and their behavior, eating habits, socialness, amongst other things, with feral hogs should be studied.

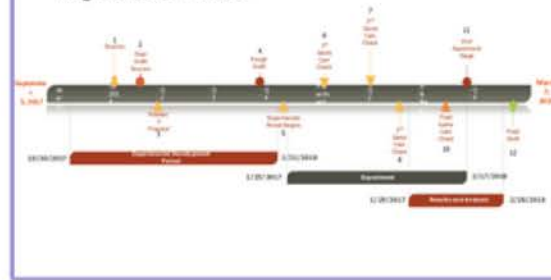
## Proposed Materials and Methods

The Materials used were four 4 ft. x 20 ft. panels, and eight 1-post. Each 1-post was planted at each corner of the panels to keep them upright. The other four 1-post were put in the middle of the panels for vertical support. A feeder with a 25-gallon bucket on top that held the corn. Eight 50-pound bags of corn filled into the feeder. The 25-gallon bucket feeder generally held one and a half bags of corn at a time. A game camera was then set up with a 1-post holding it. The camera took pictures consistently for three weeks.

## Results

As a result, the 4 ft. x 20 ft. panels excluded not only feral hogs, but also excluded the wildlife intended that was planned to hop over the panels to obtain the corn. After conducting the research the conclusion is that the panels were to tall for the intended wildlife to feel comfortable to jump in the panel area to obtain the corn thrown by the feeder. Another variable that the intended wildlife didnt jump over is because of the lack of area given to jump into.

## Hog Exclusion Panels



## References

- Clay, H.C. (2007). Hogs Gone Wild. Retrieved from University of Nebraska-Lincoln website: <http://digitalcommons.unl.edu/cgi/viewcontent.cgi?article=1085&context=hw>
- Graves, H.B. (1984). Behavior and ecology of Wild and Feral Wine (Sus scroff). *Journal of Animal Science*.58,482-492.

## Acknowledgements

We would like to thank Mrs. Parson for letting us have time in class to work on our PBL. We would also like to thank the FFA chapter for giving us the access to the corn feed that we need. I would also like to thank the administration for allowing us to perform this PBL.

APRIL 2019

April 18, 2019, 12:04 PM

Current version

● Cynthia Black

▶ April 18, 2019, 11:22 AM

● Jayden Gonzales

▶ April 17, 2019, 2:04 PM

● Jayden Gonzales

● Caleb Gray

▶ April 16, 2019, 1:08 PM

● Jayden Gonzales

MARCH 2019

March 21, 2019, 9:54 AM

● Caleb Gray

MAY 2018

▶ May 3, 2018, 10:02 AM

● Shelley Gunter

▶ May 3, 2018, 9:25 AM

● Caleb Gray

▶ May 1, 2018, 10:51 AM

● Jayden Gonzales

# Using Google apps!

## Benefit 2

### Stored and Saved



Drive

Search in Drive

My Drive

Name	Owner	Last modified	↑	File size
Desktop 2020	me	Aug 3, 2020	me	—
3rd Grade	me	Aug 6, 2020	Cynthia Black	—
Clothing Capers 2	me	Apr 18, 2013	me	—
WP_20130608_001.jpg	me	Oct 21, 2014	me	236 KB
4th grade 1st place .pdf	me	Oct 22, 2014	me	465 KB
WTC Finals Fall 14 (2).docx	me	Dec 1, 2014	me	53 KB
2014 3rd Grade Table Assignments.docx	me	Dec 9, 2014	me	64 KB
2014 Score Tabulations.xlsx	me	Dec 9, 2014	me	17 KB
Table Labels.docx	me	Dec 9, 2014	me	45 KB
Manage_Early_Season_Insects_in_Cotton_Deltapine_S...	me	Nov 2, 2015	me	467 KB
CI-M_Chapter3.pdf	me	Nov 2, 2015	me	26 MB

Storage  
9.4 GB used





Poster  
 Presentations

APPROXIMATE DATES TO WORK ON	EXPERIMENT	DEPARTMENT
March 20 <sup>th</sup> - 24 <sup>th</sup>	Literature Research	AVID
March 20 <sup>th</sup> – 24 <sup>th</sup>	Experiment/Data Collection	Ag
	<b>PAPER COMPONENTS</b>	
April 3 <sup>rd</sup> – 7 <sup>th</sup>	Writing Introduction	AVID
April 5 <sup>th</sup> – 7 <sup>th</sup>	Work Cited or References	S. Study
April 3 <sup>rd</sup> - 7 <sup>th</sup>	Materials and Methods	Science
April 3 <sup>rd</sup> – 7 <sup>th</sup>	Results and Conclusions	Ag
April 3 <sup>rd</sup> – 7 <sup>th</sup>	Graphs and Charts	Math
April 10 <sup>th</sup> -11 <sup>th</sup>	Grammar, Spelling, etc. Check	ELA
April 10 <sup>th</sup> -11 <sup>th</sup>	Abstract	AVID
April 10 <sup>th</sup> -11 <sup>th</sup>	Acknowledgements	Ag
April 17 <sup>th</sup> – 18 <sup>th</sup>	Poster Creation	Science
April 19 <sup>th</sup> – 20 <sup>th</sup>	Poster Editing	ELA
April 21 <sup>st</sup>	Score base on Rubric	Science
April 21 <sup>st</sup>	Poster Final Approval	Ag
April 26 <sup>th</sup>	Poster Printing	Technology
April 24 <sup>th</sup> – 25 <sup>th</sup>	Practice Oral Presentation	AVID
April 27 <sup>th</sup> – 28 <sup>th</sup>	Presentations	

# School Presentations Judge By Community Participants



Grade Level: \_\_\_\_\_ Team Number: \_\_\_\_\_

Poster Title: \_\_\_\_\_

## POSTER LAYOUT

**15 Possible Points**

<b>5</b>	<b>3</b>	<b>1</b>	<b>Total</b>
The poster is exceptionally attractive in terms of design, colors and contrast, and font size	Poster is attractive but seems disorganized, empty or crowded	Poster has a very poor design	
Poster Contains all required elements: Title, Authors names, logo(s), abstract, introduction with literature cited (a minimum of two), materials and methods, results, images, figures, conclusions, references (corresponding with literature cited in introduction), and acknowledgements	Poster contains most required elements	It is missing more than three required elements	
No spelling or grammar errors are present	Few spelling or grammar errors are present	Excessive spelling or grammar errors are present	

Poster Grading  
 Rubric

## POSTER CONTENT

**Abstract**

**10 Possible Points**

<b>5</b>	<b>3</b>	<b>1</b>	<b>Total</b>
It is brief and concisely describes the purpose	It poorly describes the purpose	It is too brief, does not describe the purpose	
Methods, results and conclusion are well summarized	Methods, results and conclusion are not clear	Methods, results and conclusion are not present	

# School Presentations Judge



5	3	1	Total
Description of <b>the problem</b> provides critical background on the need for and importance of the current research study	Description of <b>the problem</b> is weak and/or poorly documented	<b>The problem</b> is not described	
Sufficient background on <b>entity's</b> qualities (and care and safety, if applicable) are well described	Background research on <b>entity</b> is weak and/or incomplete	Background research on <b>entity</b> is absent	
Background research on <b>Independent Variable</b> meets both of the criteria listed: Research (1) supported the manipulation of this variable and (2) indicated that manipulation addressed the hypothesis or research question	Background research on <b>Independent Variable</b> meets only one of the two criteria	Meets neither <u>criteria</u>	
Background research on <b>Dependent Variable</b> meets both of the criteria listed: (1) DV is a good variable to measure or observe in response to IV; and (2) known <u>association</u> of DV with IV are described	Background research on <b>Dependent Variable</b> meets only one of the criteria	Meets neither <u>criteria</u>	
<b>Hypothesis</b> is present (1) written as a testable statement or question; (2) includes IV and DV; and (3) includes prediction that can be supported or rejected	Missing one of the <u>criteria</u>	Missing all three <u>criteria</u>	

Poster Grading  
Rubric

Introduction  
25 Points Total

**Materials and Methods**  
**10 Possible Points**

10	5	3	Total
Description of how the experiment was set up for data collection is detailed enough that another individual could replicate it	Description missing small details that would make it easier for someone to replicate the research	Description is missing <b>critical</b> details necessary for someone to be able to replicate the research	

# Out of school Competitions



**Poster Guidelines:** Poster should be no larger than 48" wide by 30" deep (the distance from front to back) 108" high (from floor to top, includes table if project is on table top). Note that tables are generally 24" wide, but can vary with convention location. Items that do not adhere to the poster must fit on the tabletop within the dimension of the unfolded poster. Avoid lights, banners, shelves, etc. that are outside of the poster dimensions.

**Final written report** – The final written report should chronicle the 4-H member's or team's work on the chosen research topic. Content should be organized with the following headings:



## 4-H Discover Science

## Method Research Poster Contest

- Title Page – Include title of entry, contestant name(s), category, age division, and county.
- Abstract – Brief and concise description of the purpose, hypothesis, research methods, results and conclusions. (Use no more than 5 to 6 sentences)
- Introduction – State the question or problem being studied and why it is important.
- Literature Review – Provide an overview of what research has already been done to address the problem or issue. Be sure to cite references.
- Materials and Methods – Describe the manner in which the study or experiment was conducted. After reading this section, readers should have sufficient information to replicate the study.
- Results – Summarize data and final results obtained from the study or experiment. It is helpful to present results using graphs and/or tables.
- Discussion & Conclusions – Discuss what conclusions you draw from the results. Answer whether your hypothesis was supported or rejected based upon the results. Suggest what further study is needed based on your results.
- References (APA Format) – List significant sources of information used in your final written report. Refer to the following document for help on citing references:



## Project Presentation Regulations

The project presentation replaces the project poster boards used during in-person fairs. You may prepare your Project Presentation for SEFH using any software tools that you desire such as PowerPoint or Google Slides, but the final document submitted for display to the judges must satisfy the following requirements:

### Presentation Format Requirements

1. The file must be a single PDF document limited to no more than 500 MB.
2. The PDF presentation document must be without animation or active hyperlinks.
3. The document must not have instructions to open in "full screen mode." Eliminating this mode automatically precludes page transitions and embedded videos or animations, so do not attempt to include these in your Presentation. (This provision should be reserved in your video presentation video if you need something to move to illustrate your project.)
4. The page background color must be a light color, not affect readability.
5. Text color must be predominantly dark to support readability.
6. All text should be easily readable when viewing the entire page at once. The smallest recommended font size of body text is 14 pt. and an 18 pt. font is recommended. Exception: You may use a smaller font size, down to 10 pt., for figure captions or photo credits.

## Voiceover Video Presentation

Participants are asked to create a voiceover presentation will replaces the student's verbal presentation for SEFH 2021.

### Requirements

- a. The video must not exceed 7 minutes. Including any introductory concluding remarks.
- b. This video must be submitted as a YouTube link.
- c. The use of plain language is encouraged as judges may not be a direct content expert of your field of study.

### Additional Information

1. The video presentation is a replacement of the judge interview component of face-to-face judging. As such, be sure to structure your voiceover presentation utilizing the same structure as your Presentation. However, avoid reading directly from your Presentation. Instead, use the Presentation as a guide to highlight important key aspects of your project.
2. If you feel a video clip is necessary to demonstrate your project, it would be appropriate to include short clips during your voiceover video presentation. Ensure that your video presentation is within the D&S guidelines.
3. It is highly recommended that you do not include anyone in your video other than the student researchers of the project. Any additional individual(s) would require a consent form, if the individual is under age, parental release is also needed.
4. Do note, once a video is submitted, SEFH will not edit or alter any video.



## About the Fair

The Fair plays an important role in the lives and future careers of many students as they learn the critical thinking skills that necessary to thrive in any field. The science fair is more than creating a science project; it is a complete educational process through which students learn:

- To follow directions and complete the scientific process
- To gain knowledge outside a classroom setting
- To work with mentors and peers
- To hone their presentation skills
- About competing honestly and fairly

## Goals

Provide a setting where outstanding students showcase their research projects in the fields of science, technology, engineering, and mathematics.

## By the Numbers

- 2-day event
- Hosted by Texas A&M Engineering since 2019
- 21 project categories between life and physical sciences
- 1,200+ projects between two divisions
- 100 volunteers
- 350+ judges



## Student & Teacher Accountability

Develop accountability in the classroom is imperative! The expectation for the Collegiate Edu-Nation School adopters is that each student from 3rd to 12th grade will participate in a research project or 4-H Project Base Learning. Establish a grading system to stimulate students is a great way to hold them accountable. Also, general evaluations (Through AgriLife Extension) will be used to determine; basic concept understanding, program satisfaction, public spiking, and teamwork confidence.



MARKING INSTRUCTIONS

CORRECT: ● INCORRECT: ✘ ☒ ☒ ☒



1. How satisfied are you with the following things about the School Science & Engineering Project?

	Not at all	Slightly	Somewhat	Mostly	Completely
The extra activities offered by the school 4-H program.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The STEM education I am receiving.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

2. As a result of participating in the School Science & Engineering Project lessons and activities . . .

	Yes	No	Unsure
I understand how to create and test a hypothesis.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the difference between Independent Variable and Dependent Variable.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the value of good data collection.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I understand the basic elements that a scientific poster should have.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I am excited about conducting more research projects in the future.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

3. As a result of participating in the School Science & Engineering Project lessons and activities . . .

	Strongly Disagree	Disagree	Agree	Strongly Agree
I feel more comfortable speaking with others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel more willing to listen to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel more comfortable giving a speech to a group of people.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel more confident in my abilities as a leader.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I feel more confident in explaining and defending my research to others.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

4. What is the most significant thing you have learned in the project?

5. Gender:  Male  Female

6. I consider myself to be:  African American  Asian American  Native American  White  Other

7. I consider myself to be:  Hispanic  Non-Hispanic

8. Grade:  3rd  4th  5th  6th  7th  8th  9th  10th  11th  12th

9. Where I live:  On a farm or ranch  In a suburb of a city  
 In a town with less than 10,000 people  Central city/urban center  
 In a Town/city with 10,000 - 50,000 people

