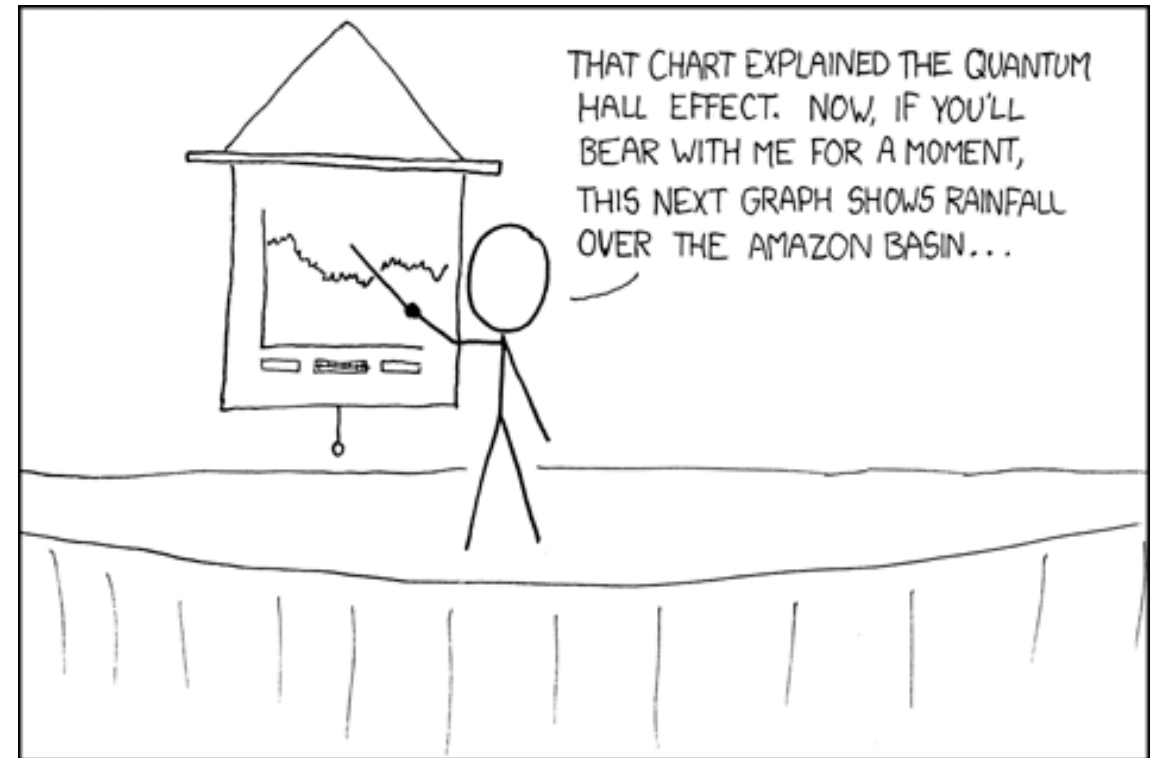# Giving a Presentation in Class

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Clinical Instructor

Credit to: Prof. Dan Larremore (University of Colorado, Boulder) and Dr. Laney Strange (Northeastern University)

THAT CHART EXPLAINED THE QUANTUM HALL EFFECT. NOW, IF YOU'LL BEAR WITH ME FOR A MOMENT, THIS NEXT GRAPH SHOWS RAINFALL OVER THE AMAZON BASIN...

IF YOU KEEP SAYING "BEAR WITH ME FOR A MOMENT", PEOPLE TAKE A WHILE TO FIGURE OUT THAT YOU'RE JUST SHOWING THEM RANDOM SLIDES.

https://xkcd.com/365/

1

Why are you giving your presentation?

- A presentation is **information transfer** and **performance**

  - **demonstrate** that you've done the project that you're working on

  - **teach** your teachers and peers about your idea

  - **excite** your teachers and peers about the topic you're presenting

Step 1: Identify your goal and *write it down*

What is the story?

- A talk should focus on **an idea, not a homework assignment**

- What will your audience say when asked what your talk was about?

Step 2: Identify that idea and *write it down*

Budgeting your slides

- 1 slide = 1 minute

- Start with this.

- Give 5 presentations, then adjust according to your individual cadence

- 10 minute talk = 10 slides

Budgeting your slides

- 10 minute talk = 10 slides

  - General Structure:

    - Tell them what you'll tell them

    - Tell them

    - Tell them what you told them

  - Anything worth saying is worth repeating

1	Title
2	
3	
4	
5	
6	
7	
8	
9	
10	Thanks & Acknowledgements

Budgeting your slides

- 10 minute talk = 10 slides

  - General Structure:

    - Tell them what you'll tell them

    - Tell them

    - Tell them what you told them

  - Anything worth saying is worth repeating

1	Title
2	Intro. Entice them!
3	Intro. Hook them in!
4	Outline—what you'll tell them
5	
6	
7	
8	
9	What you told them
10	Thanks & Acknowledgements

Budgeting your slides

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  - General Structure:

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1	Title
2	Intro. Entice them!
3	Intro. Hook them in!
4	Outline—what you'll tell them
5	[Result]
6	[Result]
7	[Result]
8	[Result]
9	What you told them
10	Thanks & Acknowledgements

Budgeting your slides

- 10 minute talk = 10 slides

  - General Structure:

    - Tell them what you'll tell them

    - Tell them

    - Tell them what you told them

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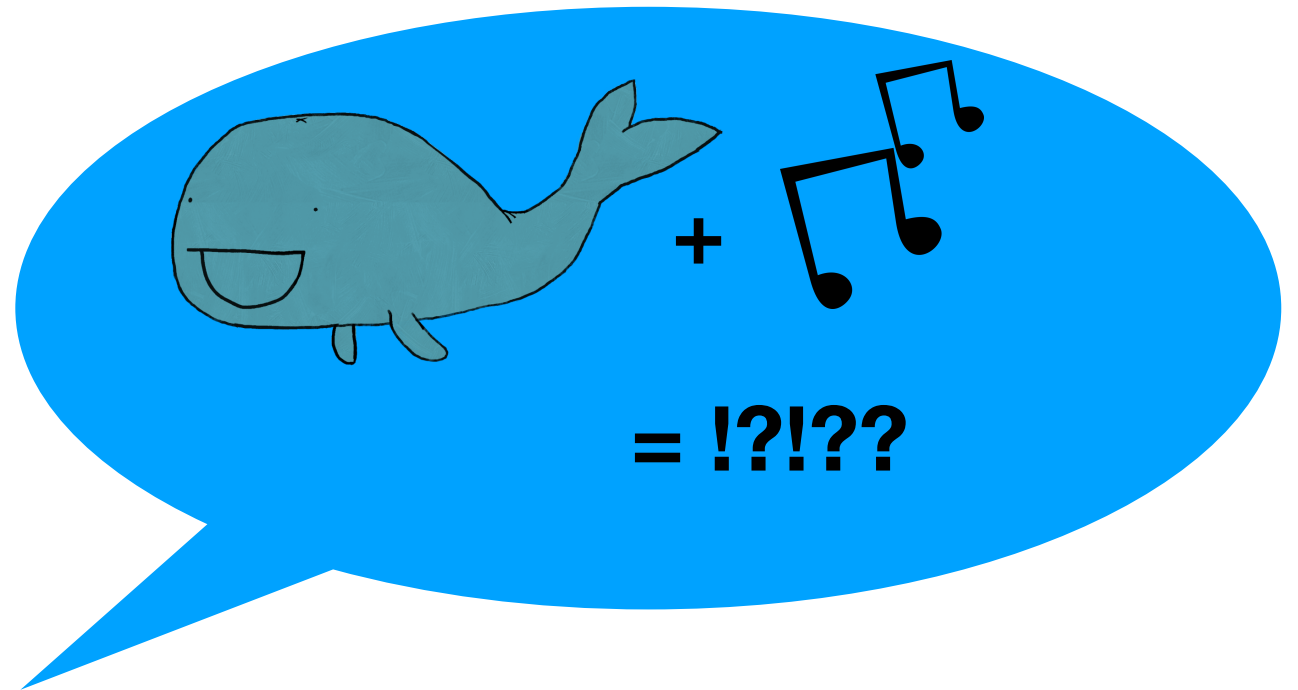| 1	Title
2	Intro. Entice them!
3	Intro. Hook them in!
4	Outline—what you'll tell them
5	[Result]
6	[Result]
7	[Result]
8	[Result]
9	What you told them
10	Thanks & Acknowledgements

Only 4 slides of content.

Budgeting your slides

Step 3: Write 1 sentence for each slide that explains what the slide will do or chooses a figure for the slide

Make sure to refine & enhance

- People like **stories**

    - Coherent narratives

    - Personal puzzles

    - Plot twists

- People like to feel smart

    - Take **one hard thing** and **help your audience understand it**

Step 4: refine & enhance with narrative & "Aha!"

Strategy so far

- Step 1: identify your goal and *write it down*

- Step 2: identify your main idea and *write it down*

- Step 3: budget your slides and *write down topic sentences for each one*

- Step 4: refine & enhance with narrative & "Aha!"

At this point, you don't have any slides.
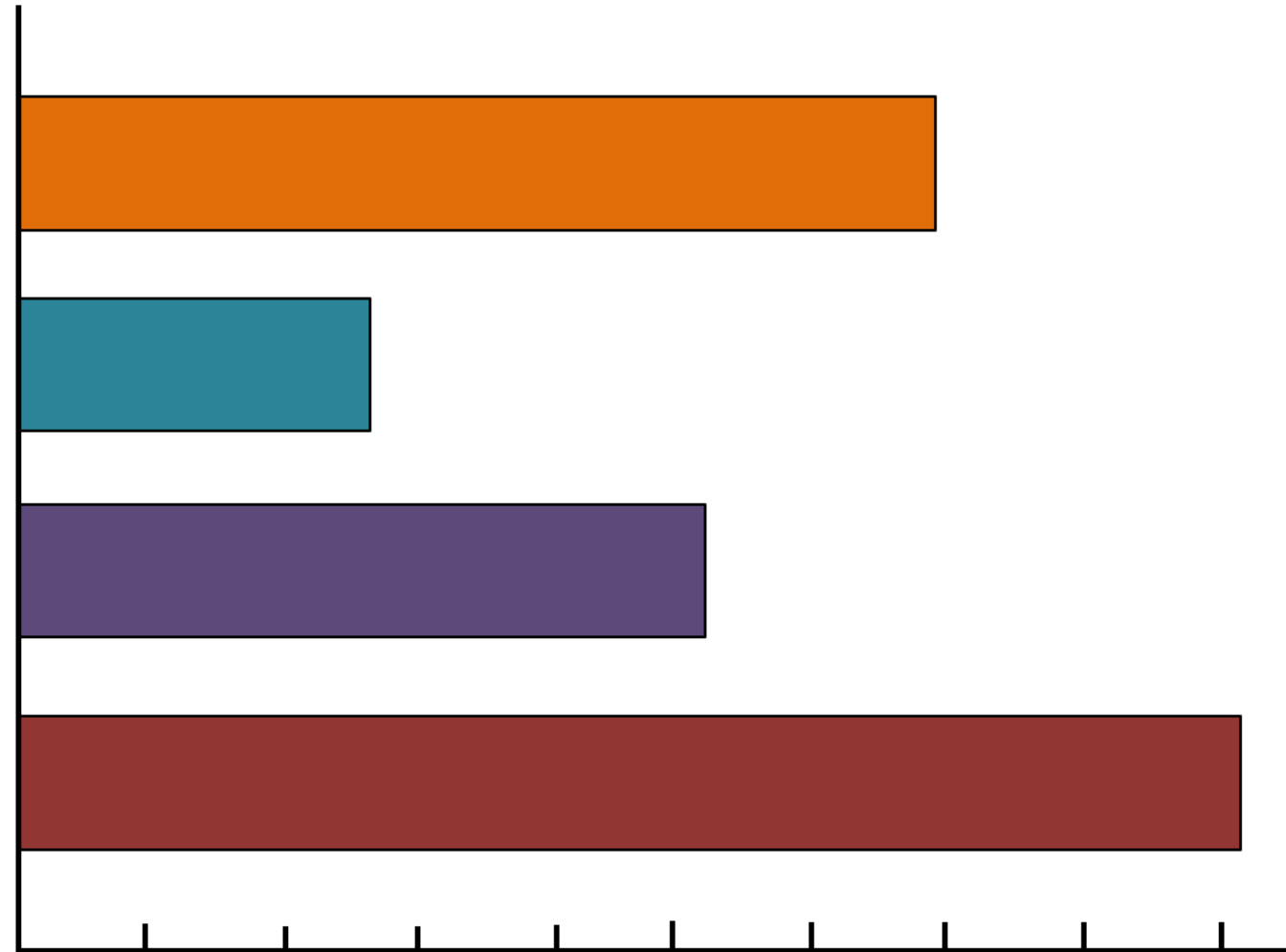
Slide rules

- A great presentation can be **enhanced** or **hopelessly derailed** by bad slides

Slide rules

- No unexplained figures

  - And no unexplained axes

Slide rules

```python
def process_file(filename):
    ''' Function: process_file
        Parameter: Name of the file (a string)
        Returns: nested list of strings, the contents
                    of the file
        Does: assumes the file to be read is a CSV file
    '''
    data = □
    counter = 0
    with open(filename) as infile:
        csv_contents = csv.reader(infile, delimiter = ',')
        for row in csv_contents:
            if counter == 0:
                counter += 1
            else:
                data.append(row)
    return data


def speed_only(hurricane_data):
    ''' Function: speed_only
        Parameters: Nested list of strings, from CSV file
        Returns: list of just the speed values (ints)
    '''
    speed = □
    for row in hurricane_data:
        speed.append(int(row[WIND]))
    return speed
```

- Do not include screenshots of code

- Do not include code

14

Slide rules

- no unexplained equations or notation

  - "Yes, but I *need* this notation." .... do you really?

  - Remember, you are not giving a **lecture**, you are giving a **presentation**

$$(a+1)^p - a - 1 = \sum_{k=0}^{p} \frac{p!}{k!(p-k)!} a^k - a - 1$$

$$= a^p + \sum_{k=1}^{p-1} \frac{p!}{k!(p-k)!} a^k + 1 - a - 1$$

$$= a^p - a + \sum_{k=1}^{p-1} \frac{p!}{k!(p-k)!} a^k$$

Slide rules

- No small fonts

  - Nothing less than 48 pt. font* for main text

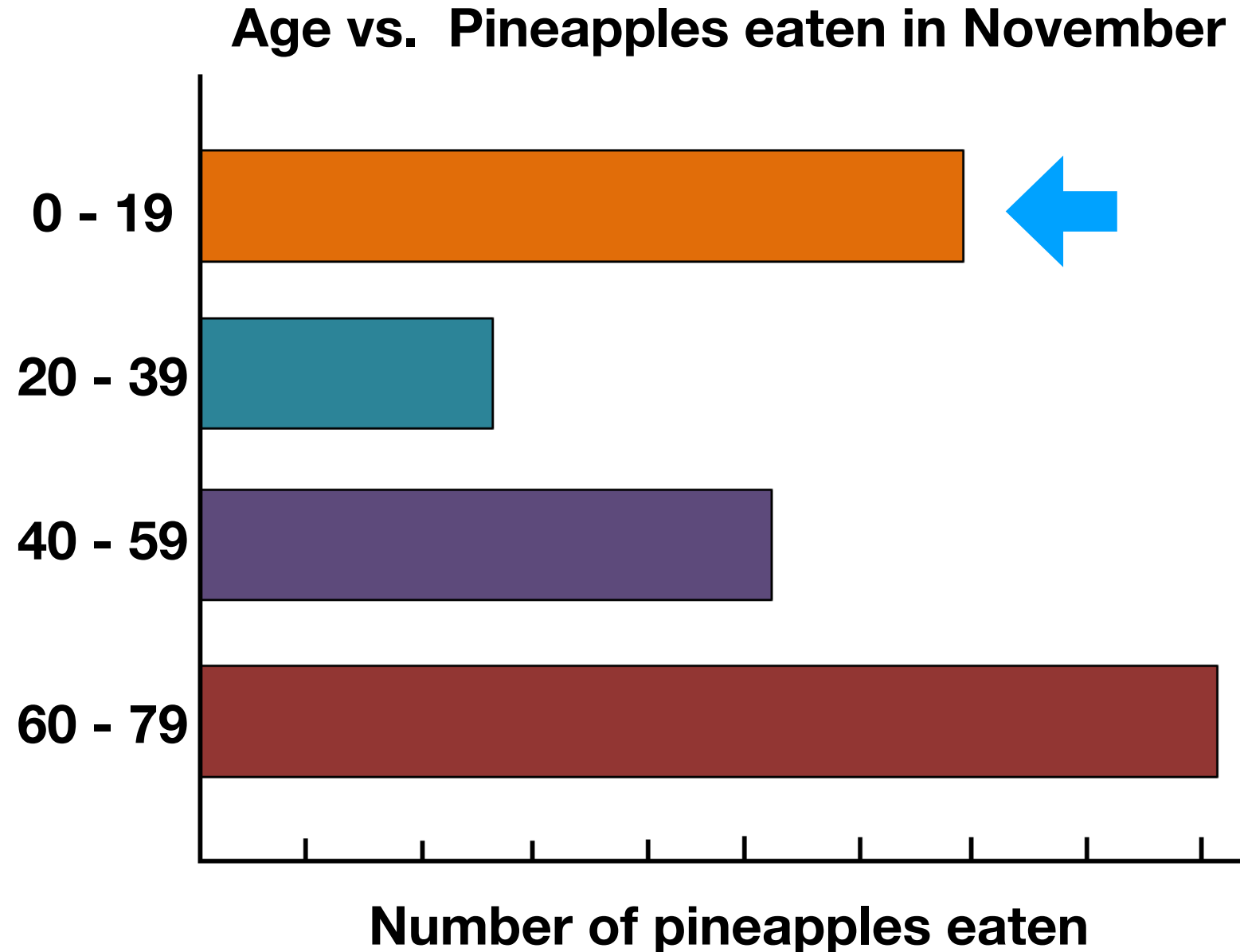 - Nothing less than 30 pt. font for footnotes and citations

* different programs have different interpretations of "48 pt. font" -- you should be able to comfortably fit 3 - 5 sentences per slide with font of this size (depending on how many figures you have as well)

Slide rules

- Prefer pictures and figures over words

  - Make these high resolution and highlight key aspects

  - matplotlib.savefig(): help save high res versions

- If titles/labels are too small, cover them up with new ones!
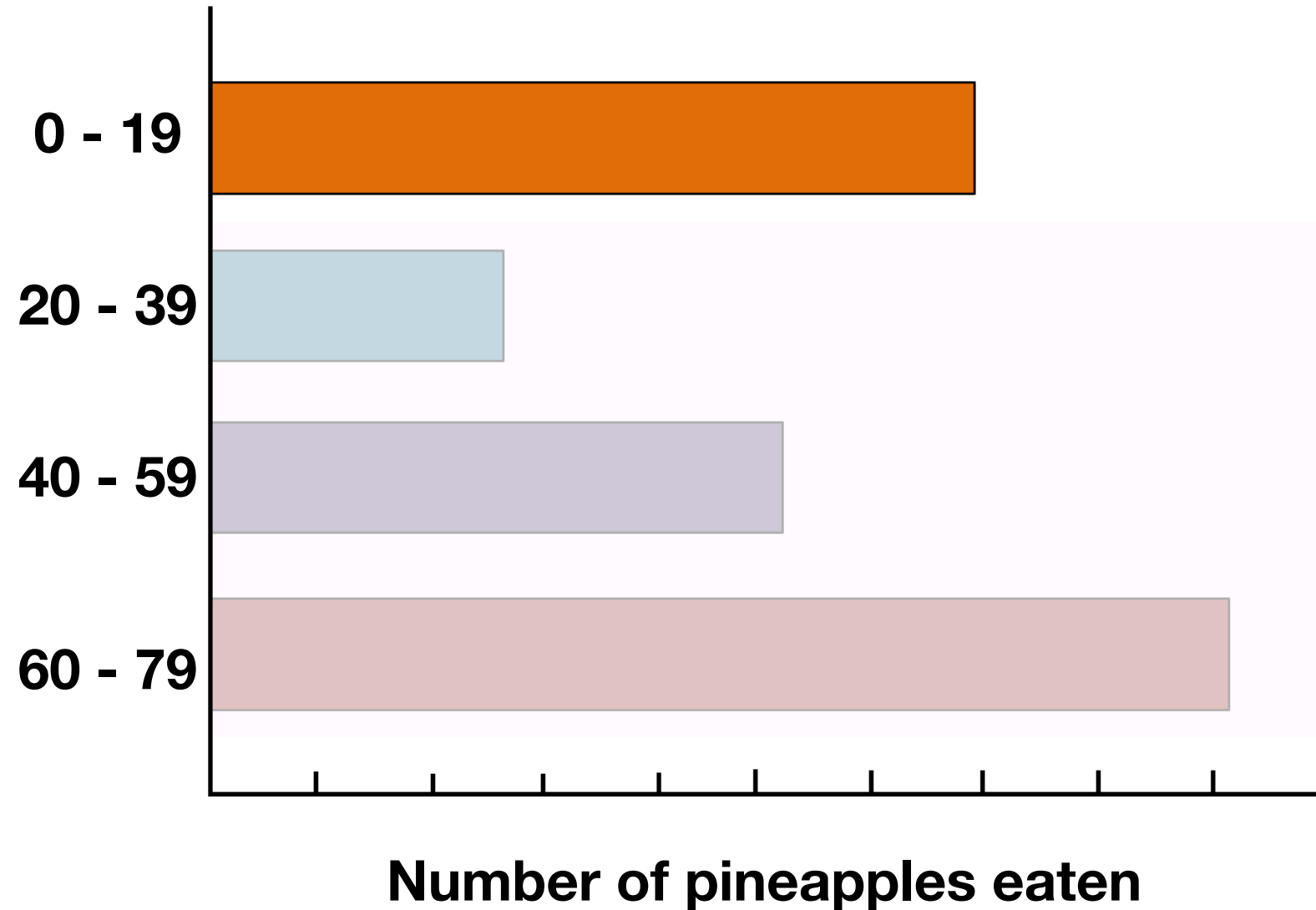
Age vs. Pineapples eaten in November

0 - 19

20 - 39

40 - 59

60 - 79

Number of pineapples eaten

Slide rules

- Prefer pictures and figures over words

  - Make these high resolution and highlight key aspects

Age vs. Pineapples eaten in November

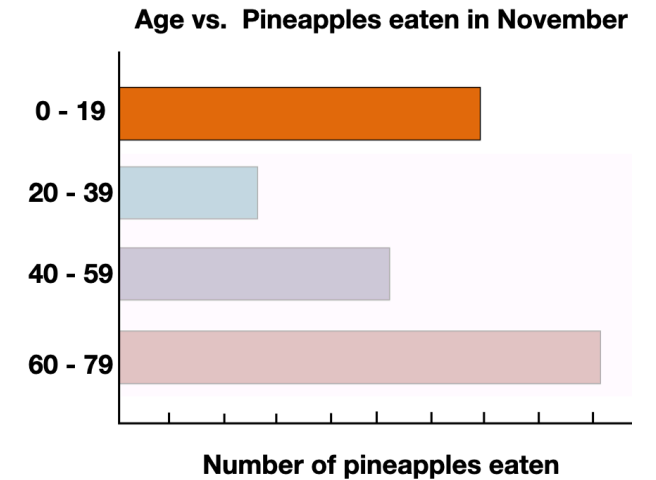| Age	
0 - 19	
20 - 39	
40 - 59	
60 - 79	

Number of pineapples eaten

Slide rules

Age vs. Pineapples eaten in November

- Put mini-figures on your conclusions slide

  - humans have poor memories, help your audience out

Step 5: create slides that *help* you tell your story

Giving your presentation and giving it well

- Public speaking can be intimidating, but it is an **improvable skill**

  - Write down a list of what *you need to say* for each slide

    - Not "every word that you will say"

    - balance sounding natural with *actually knowing what you will say*

Step 6: write down what you *need to say* for each slide

Giving your presentation and giving it well

- Who are you and what are your skills? Play to your **strengths**, focus on practicing your weaker skills

Giving your presentation and giving it well

- Public speaking can be intimidating, but it is an **improvable skill**

  - Practice.

  - Practice out loud.

  - Practice in front of people.

  - Time your practice.

  - Practice again.

Step 7: *practice*. practice again. practice with feedback.

Giving a Presentation

- Step 1: identify your goal and *write it down*

- Step 2: identify your main idea and *write it down*

- Step 3: budget your slides and *write down topic sentences for each one*

- Step 4: refine & enhance with narrative & "Aha!"

- Step 5: create slides that *help* you tell your story

- Step 6: write down what you *need to say* for each slide

- Step 7: *practice*. practice again. practice with feedback.

Logistics

- Always bring an easily accessible back-up for your slides.

  - It's 2021, we're good at uploading material to the cloud

  - ... but not always good at connecting new computers to projection systems ...

Logistics

- And always double check to make sure you've included required components in your presentation :)

- Step 8: *double check* presentation requirements

Giving a Presentation

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- Step 7: *practice*. practice again. practice with feedback.

- Step 8: *double check* presentation requirements

Further Resources

- Prof. Daniel Larremore's <u>notes</u>, which this presentation is heavily based on

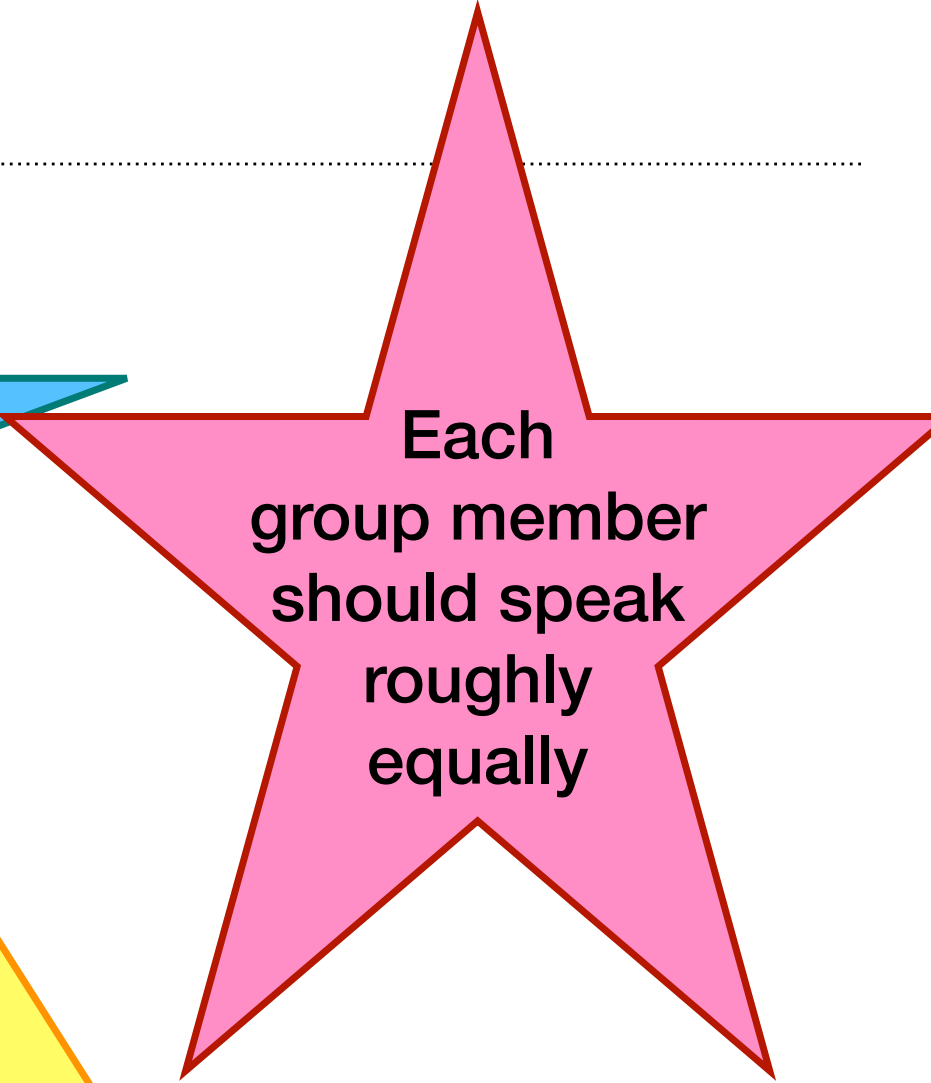- Paul Edwards' notes: <u>pne.people.si.umich.edu/PDF/howtotalk.pdf</u>

- ... and more!

DS 2001: Required components

- Problem Statement

- Data Set

- Methods

- Results, Conclusions, Future Work

Required!

Each group member should speak roughly equally

8 - 10 minutes!

DS 2001: Presentation Schedule

- We will be holding presentations **synchronously over the last two weeks of class**

- We have 7 - 8 groups per session, so we will be **starting exactly on time** and **enforcing time limits**

  - (please arrive 5 minutes early!)

Presentation Schedule

- You will be expected to attend the entire session (support your peers, see the fantastic variety of all the projects that you are working on!)

  - (You'll also be doing a peer review that makes up part of your **final project grade**)

DS 2001: Project Submissions

- Project code (1 submission per group), report (1 submission per group), individual reflection (1 submission per individual): 11/30 @ 9pm (Tuesday)

- Peer Review: completed during your presentation session, **must be completed synchronously**